

PROPOSED BROWSE TO NORTH WEST SHELF PROJECT

Environment Review Document - Response to
Submissions (EPA Assessment No. 2190)

Under Part 4 of the Environmental
Protection Act 1986 (WA)

November 2023

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LIST OF ACRONYMS

Acronym	Meaning
°C	Degrees Celsius
2TL	Second trunkline
ACCU	Australian Carbon Credit Unit
ACEC	Albany Community Environment Centre
ACT	Australian Capital Territory
AIMS	Australian Institute of Marine Science
AFZ	Australian Fishing Zone
AHO	Australian Hydrogeographic Office
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMP	Australian Marine Parks
AMSA	Australian Maritime Safety Association
ANZG	Australia New Zealand Guidelines
APPEA	Australian Petroleum Production and Exploration Association
AUV	Autonomous Underwater Vehicle
B	Billion
BIA	Biologically Important Area
BJV	Browse Joint Venture
BP	BP Developments Australia Pty Ltd
BTL	Browse Trunkline
CCS	Carbon Capture and Storage
CCUS	Carbon Capture Use and Storage
CCWA	Conservation Council of Western Australia
CDP	Carbon Disclosure Project
CER	Clean Energy Regulator
c/kWh	Cents per kilowatt hour
cm	Centimetres
CMP	Conservation Management Plan
CO ₂	Carbon Dioxide
CO ₂ CRC	Cooperative Research Centre for Greenhouse Gas Technologies
CO ₂ -e	Carbon Dioxide Equivalent
COP	Conference of the Parties
cP	centipoise
CSIRO	Commonwealth Scientific and Industrial Research Organisation

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Acronym	Meaning
DAS	Distributed Acoustic Sensing
DAWE	Department of Agriculture, Water and the Environment
DMIRS	Department of Mining, Industry Regulation and Safety
DNP	Director of National Parks
DoEE	Department of the Environment and Energy
DP	Dynamic Positioning
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EISG	Environmental Impacts Statement Guidelines
e.g.	For example
EMBA	Environment that May be Affected
EP	Environment Plan
EP Act	<i>Environmental Protection Act 1986</i>
EPA	Environmental Protection Authority
EPBC	Environment Protection and Biodiversity Conservation
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EQMP	Environmental Quality Management Plan
EQP	Environmental Quality Plan
ERD	Environmental Review Document
ERM	Environmental Resources Management
ESD	Environmental Scoping Document
ESD	Ecologically Sustainable Development
FARA	Friends of Australian Rock Art
FCTV	Fast Crew Transfer Vessels
FLNG	Floating Liquefied Natural Gas
FPSO	Floating Production Storage and Offloading
FY	Fiscal Year
GCF	Green Climate Fund
GDP	Gross Domestic Profit
GHG	Greenhouse Gas
GHGe	Greenhouse Gas emissions
GHGMP	Greenhouse Gas Management Plan
GWA	Greater Western Alpha
GWP	Global Warming Potential
Hg	Mercury
HFC	Hydrofluorocarbon

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Acronym	Meaning
i.e.	in other words
IEA	International Energy Agency
IMMR	Inspection, maintenance, monitoring and repair
IMS	Invasive Marine Species
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
IRPCS	International Rules for Preventing Collisions at Sea
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for the Conservation of Nature
JRCC	Joint Rescue Coordination Centre
JV	Joint Venture
KEF	Key Ecological Feature
Kg/l	Kilograms per litre
KGP	Karratha Gas Plant
KLC	Kimberley Land Council
Km	Kilometre
KRCI	Kullari Regional Communities Incorporated
LAU	Local Assessment Unit
LCA	Life Cycle Assessment
LEP	Levels of Ecological Protection
LNG	Liquefied natural gas
Ltd	Limited
m	Meter
m ³ /hr	Cubic metres per hour
MARPOL	The International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
MDO	Marine Diesel Oil
MEG	Monoethylene Glycol
MeHg	Methyl-mercury
mg/L	Milligrams per litre
MIMI	Japan Australia LNG (MIMI Browse) Pty Ltd
MMscfd	Million standard cubic feet per day
MMSI	Maritime Mobile Service Identity
MNES	Matters of National Environmental Significance
MODU	Mobile offshore drilling unit
MoU	Memorandum of Understanding
MP	Management Plan

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Acronym	Meaning
MPPE	Macro Porous Polymer Extraction
MRU	Mercury Recovery Unit
MSI	Maritime Safety Information
Mt	Million tonnes
Mt CO ₂ -e	Metric tonnes of carbon dioxide equivalent
MTOe	Million tonnes of oil equivalent
MTPA	Million tonnes per annum
MW	Megawatt
MWh	Megawatt hour
NCMIP	National Carbon Mapping and Infrastructure Plan
NDC	Nationally Determined Contributions
NGER	National Greenhouse and Energy Reporting
NGERS	National Greenhouse and Energy Reporting System
NGO	Non-governmental Organisation
nm	Nautical miles
NO _x	Oxides of nitrogen
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NPAT	Net profit after tax
NRC	North Rankin Complex
NTM	Notice to Mariners
NWBF	Non-water Based Fluids
NWMR	North-west Marine Region
NWS	North West Shelf
NWSJV	North West Shelf Joint Venture
OOO	Oil-on-cuttings
OPGGS Act	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OPGGS (E) Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
PetroChina	PetroChina International Investment (Australia) Pty Ltd
POB	Persons onboard
PSV	Platform supply vessel
PTS	Permanent Threshold Shift
PW	Produced Water
Ramsar	Ramsar Convention on Wetlands of International Importance
SDS	Sustainable Development Scenarios
SGM	Safeguard Mechanism
Shell	Shell Australia Pty Ltd

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Acronym	Meaning
SURF	Subsea umbilicals, risers and flowlines
t	tonne
tcf	Trillion cubic feet
TCFD	Task Force for Climate Related Financial Disclosure
TTS	Temporary Threshold Shift
TWh	TeraWatt hours
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USD	United States Dollars
VHF	Very High Frequency
VSP	Vertical Seismic Profiling
WA	Western Australia
WAFIC	Western Australian Fishing Industry Council
WBDF	Water-based drilling fluid
WEL	Woodside Energy Limited
WEO	World Energy Outlook
Woodside	Woodside Energy Limited

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1. INTRODUCTION

1.1 Proposed Browse Project overview

The Browse hydrocarbon resource is located in the Brecknock, Calliance, and Torosa reservoirs, approximately 425 km north of Broome and approximately 290 km off the Kimberley coastline of Western Australia (WA). These three fields will be collectively referred to as the Browse hydrocarbon resources. Hydrocarbon resources contained in these fields are predominately gas, with contingent resources (2C, 100%) of 13.9 trillion cubic feet (tcf) of dry gas, and approximately 390 million barrels of condensate (Woodside resource estimate).

Woodside Energy Ltd (Woodside) is Operator for and on behalf of the Browse Joint Venture. The participants in the Browse Joint Venture are:

- Woodside Browse Pty Ltd
- BP Developments Australia Pty Ltd (BP)
- Japan Australia LNG (MIMI Browse) Pty Ltd (MIMI)
- PetroChina International Investment (Australia) Pty Ltd (PetroChina).

The Browse Joint Venture proposes to develop the Browse hydrocarbon resources using two 1100 million standard cubic feet per day (MMscfd) (annual daily export average) floating production storage and offloading (FPSO) facilities. The FPSO facilities will be supplied by a subsea production system and will transport gas to existing North West Shelf (NWS) Project infrastructure via a pipeline which will tie in near the existing North Rankin Complex (NRC) in Commonwealth waters (Note: the NRC is owned by the North West Shelf Joint Venture).

At the time of preparation of this document, the Australian and global environment has been impacted by COVID-19 which has resulted in a delay to the targeted final investment decision (FID) for the proposed Browse to North West Shelf Project (hereafter, referred to as the proposed Browse Project). Subject to market conditions, all necessary regulatory approvals, joint venture approvals and commercial agreements, execution of the proposed Browse Project would be targeted to commence mid-2020s with operations expected for up to 44 years.

1.2 State waters component

As described in Chapter 2 of the draft EIS/ERD, the Project Area (encompassing both State and Commonwealth components) comprises:

- the proposed Browse Development Area (in which the Brecknock, Calliance, and Torosa fields, the FPSO facilities and the subsea production systems, including wells, will be located) (Figure 2-1 of the draft EIS/ERD)
- the pipeline corridor within which the proposed Browse Trunkline (BTL) and inter-field spur line will be located (Figure 2-2 of the draft EIS/ERD).

The State Proposal Area, is located within the Browse Development Area and comprises areas within 3 nm of the territorial sea baseline, as shown in **Figure 1-1**.

Activities in the State Proposal Area comprise a subset of infrastructure and activities of the proposed Browse Project. Within State jurisdiction, activities include the development of up to an estimated 20¹ wells and associated subsea infrastructure targeting the hydrocarbon resources within the Torosa reservoir. The remaining facilities and infrastructure will be located in Commonwealth waters.

¹ Proposed maximum well count within the State Proposal Area reduced from 24 proposed in Environmental Referral Document to 20 as described in **Section 2**.

Extracted hydrocarbons will be transferred via subsea infrastructure, including Christmas trees, manifolds and flowlines, to the Torosa FPSO facility, located in Commonwealth waters.

The highest intensity of activities within the State Proposal Area is likely to occur during the drilling and completion activities, installation activities and future decommissioning phases. During this time, a mobile offshore drilling unit (MODU) and approximately ten vessels may be present. As all permanent infrastructure within the State Proposal Area is subsea, the operation of the wells will be controlled remotely via the FPSO facilities that are located in Commonwealth waters. Outside of drilling and completion and installation periods, surface activities in the State Proposal Area will comprise periodic inspection, maintenance and repair activities involving one or two vessels and later phase well construction and decommissioning (including well plug and abandonment).

Project infrastructure within the State Proposal Area is proposed to comprise the following:

- 20¹ production wells
- subsea infrastructure
- temporary moorings for MODU anchoring.

The BTL, inter-field spur line and FPSO facilities will be located entirely in Commonwealth waters.

Development activities within the State Proposal Area will include:

- pile installation
- development drilling and completions
- subsea umbilicals, risers and flowlines (SURF) installation and commissioning.

Activities within the State Proposal Area during operations will be limited to:

- hydrocarbon extraction
- inspection, maintenance, monitoring and repair (IMMR) activities
- environmental monitoring.

At the end of the proposed Browse Project life, the infrastructure will be decommissioned in accordance with good oilfield practice and relevant legislation and practice at the time. This is likely to include well suspension, plugging and abandoning wells and removing the subsea infrastructure. All infrastructure installed above the seabed will be designed to allow removal.

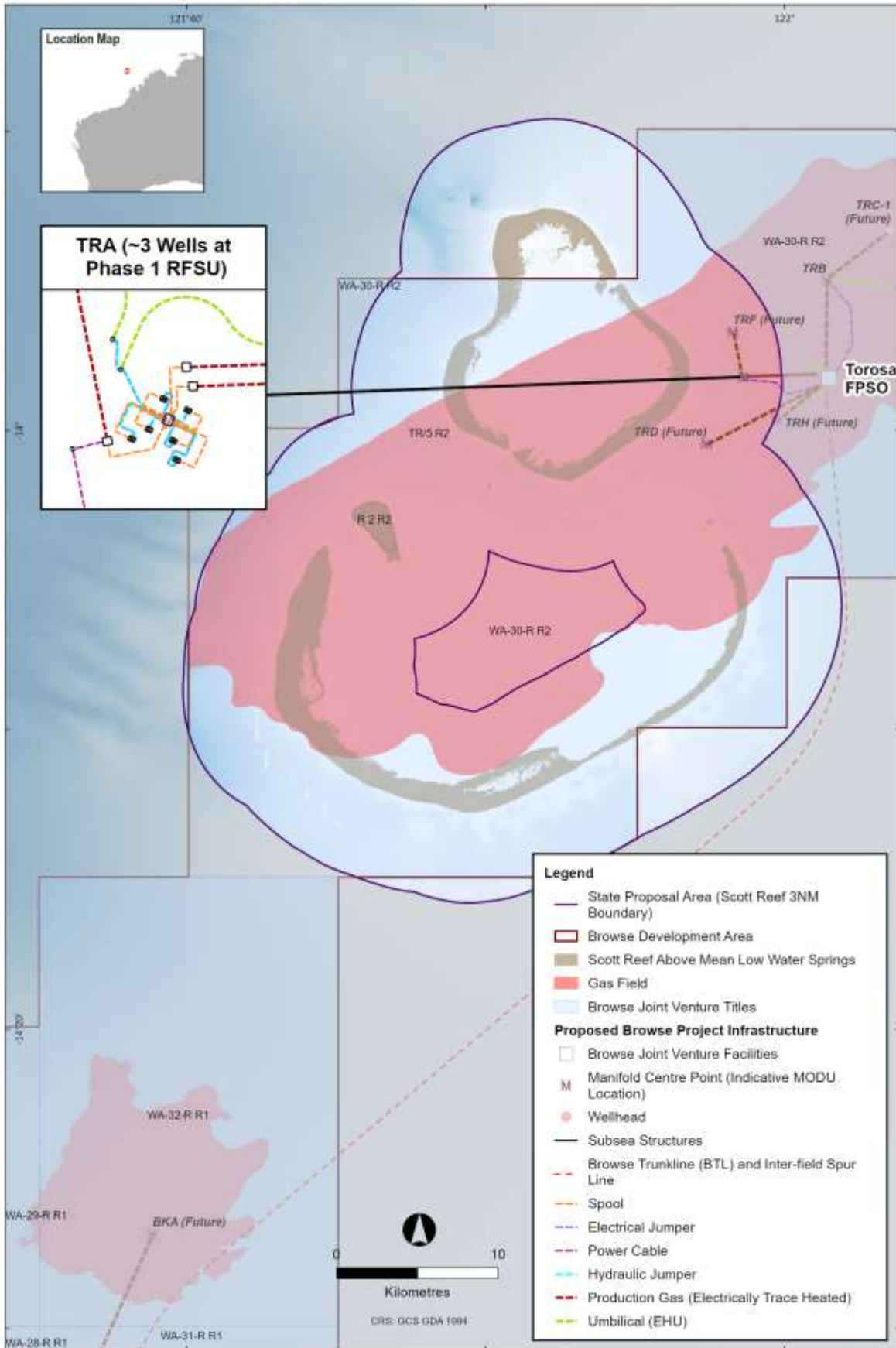


Figure 1-1 State Proposal Area

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1.3 EP Act assessment process

The Proposal was referred to the Western Australian Environmental Protection Authority (EPA) under the EP Act in October 2018. On 22 January 2019, the EPA determined the Proposal required assessment under the *Environmental Protection Act 1986* (EP Act) and set a Public Environmental Review (PER) level of assessment with a six-week public review period. The determination identified these EPA Environmental Factors as being relevant for the Proposal:

- Marine Environmental Quality
- Benthic Communities and Habitats
- Marine Fauna
- Air Quality.

Woodside prepared a draft Environmental Impact Statement / Environmental Review Document (draft EIS/ERD) which conformed with the EIS Guidelines/Environmental Scoping Document (EISG/ESD) approved by the Department of Agriculture, Water and the Environment (DAWE) (then Department of Environment and Energy (DoEE)) on 5 July 2019 and EPA on 4 July 2019, respectively (Chapter 10, Appendix A of the draft EIS/ERD). Following the finalisation of various supporting technical reports and the draft EIS/ERD, the draft EIS/ERD (including the State ERD) was released for public review on 18 December 2019 for a period of eight weeks (note - as the public comment period ran over the Christmas period, it was extended by two weeks from the originally planned 6 weeks). The public comment period concluded on 12 February 2020.

Public submissions were received through both the EPA and Commonwealth DAWE. The EPA and the DAWE advised that the EPA would coordinate the State and Commonwealth consultation processes via its Consultation Hub.

This document presents the submissions received relating to the Proposal within State waters (State ERD) as provided by the EPA and provides Woodside's responses to submissions and EPA Service's comments. Note that a Supplement Report to the draft EIS/ERD has also been prepared separately which provides Woodside's response to submissions and agency comments relating to the Commonwealth environmental impact assessment process.

1.4 Summary of submissions

1.4.1 EPA Services

On 6 March 2020, following their review of the draft EIS/ERD (including the State ERD) and the public submissions, EPA Services issued Woodside with a response which included the following key issues:

- management of marine discharges to prevent impacts on areas of high conservation value including Scott Reef²
- marine management planning including requirement for an Environmental Quality Management Plan (EQMP) and Environmental Quality Plan (EQP)
- management of discharges, including noise, to prevent impacts on marine fauna, in particular marine mammals.

² For the purpose of the environmental impact and risk assessment presented in the draft EIS/ERD, Scott Reef, which encompasses the reef system including all coral habitats and communities, is considered as the area "above the 75 m bathymetric contour within the 3 nm State waters boundary and the Scott Reef and Surrounds - Commonwealth Area which comprises the Commonwealth Marine Area wholly within the WA coastal waters surrounding North and South Scott Reef".

EPA Service's comments on the State ERD and Woodside's response are presented in **Section 3**.

1.4.2 Decision Making Authorities

As part of the public review period, decision making authorities (DMAs) were invited to provide submissions in relation to the draft EIS/ERD (including the State ERD). The following DMAs were invited to provide submissions:

- Department of Jobs, Tourism, Science and Innovation
- Department of Mines, Industry Regulation and Safety (DMIRS)
- Department of Planning, Lands and Heritage
- Department of Biodiversity, Conservation and Attractions (DBCA)
- Major Projects West Section, Environmental Standards Division Department of Energy and the Environment (DoEE) (now DAWE).

1.4.3 Public submissions

A total of 19,911 submissions on the draft ERD were received from the public. These comprised of:

- Five proforma submission with a total number received of 19,789. Within these submissions, 545 submitters made additional comment to standard proforma text. The proformas related to both the Commonwealth Proposed Action and State Proposal.
- 112 standard submissions were received through the EPA consult hub comprising (including 76 uploaded documents. Uploaded documents are appended in Error! Reference source not found.)
- 10 submissions via other pathways.

The principal issues raised in the submissions and advice received included environmental and social concerns as well as issues focussed on questions of factual accuracy and technical aspects of the Proposal. Although not all of the issues raised in the submissions are environmental, EPA Services asked Woodside to address all issues, comments and questions.

2. PROPOSAL CLARIFICATIONS AND REFINEMENTS

The proposed Browse Project continues to be subject to detailed design and refinement. In addition, in responding to the public submissions, Woodside has identified some aspects of the Proposal where further clarification may assist the reader. These clarifications, and refinements that have occurred since the commencement of the public comment period for the Proposal are provided in **Table 2-1**. These have been detailed within this document to provide transparency on the progression of the Browse Project design; and demonstrate that with these clarifications and refinements, the Proposal remains within the environmental impact envelope and environmental risks presented in the draft EIS/ERD.

Woodside has reviewed these clarifications and refinements with respect to the key characteristics of the Proposal as presented in **Table 5-1** and **Table 5-2** of the State ERD. This review concluded that with the exception of the removal of the TRE drill centre and associated sub-sea infrastructure, the proposed Browse Project clarifications and refinements presented in **Table 2-1**, do not alter the key characteristics of the Proposal. The removal of the TRE drill centre and associated sub-sea infrastructure alters the key characteristics by:

- reducing the number of wells to 20 and reduce the extent of the flowlines
- reducing marine discharges, noise and light emissions associated with the drilling and completion of the wells
- reducing the extent of seabed disturbance.

Table 2-1 Proposed Browse Project clarifications and refinements

Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
<p>Removal of TRE drill centre and associated sub-sea infrastructure.</p> <p>Further review and engineering refinement has identified that the proposed Browse Projects objectives can be met without the TRE well centre and associated flowlines. This reduces the potential environmental impacts of the project. No reduction to predicted GHG emissions or project life has been made</p>	<p>Seabed disturbance</p> <p>Light</p> <p>Underwater noise</p> <p>Drilling and completions discharges</p> <p>Marine discharges</p>	<p>State Proposal Area</p>	<p>The removal of TRE drill centre and associated sub-sea infrastructure results in:</p> <ul style="list-style-type: none"> • Reduces number of wells by 4 to up to 20 and reduces flowline length • Reduces seabed disturbance as a result of the wells (including disturbance related to discharge of drill cuttings and cement during development drilling activities) to 2.36 km² (including contingency). • Reduces seabed disturbance as a result of the subsea infrastructure footprint to 0.24 km² (including contingency). • Reduces overall seabed disturbance in the State Proposal Area to 3.12km² (including contingency). • Removal of construction light emissions at TRE. The TRE drill centre was the closest drill centre to the green turtle nesting habitat at Sandy Islet, so the removal of these emissions reduces risks to nesting female turtles and hatchling. The nearest potential light impacts are now associated with temporary construction activities at TRD, approximately 18 km from Sandy Islet. • Removal of construction and operational underwater noise emissions at TRE. The TRE drill centre was located with the pygmy blue whale possible foraging biological important area (BIA), so the removal of these emissions reduces the risk of displacing foraging pygmy blue whales from the possible foraging BIA. • Removal of drilling and completions discharges at TRE. This reduces water quality impacts resulting

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
			<p>from the discharge of cuttings and reduces the risk of cutting fines impacting Scott Reef.</p> <ul style="list-style-type: none"> Minor reduction in marine discharges, light and noise emissions associated with construction vessel, minor reduction in hydrotest fluid discharge and a minor reduction in produced water (PW) discharged from the MODU.
<p>The draft EIS/ERD identified the maximum distance at which direct light may be visible from any of the FPSO facilities under routine operational conditions, based on modelling of the previously proposed FLNG facilities (Jacobs and SKM, 2014). The modelling was based on a FLNG flare tip height of approximately 154 m above the waterline. Section 6.3.3.3 of the draft EIS/ERD stated that “The FPSO flare at the Brecknock location was estimated to be visible from a portion of south Scott Reef, but not from Sandy Islet (Figure 6-6).” It has since been recognized the total flare tower height, including the height of the forecastle deck, is currently designed such that the flare tip will extend up to 181 m high above MSL. The design height is determined by the distance required to ensure that gas can be flared safely, however this estimate also accounts for the effect of a light vessel draught (when the FPSO is lightly loaded and so sits relatively high in the water). This would represent the approximate</p>	<p>Light</p>	<p>Commonwealth waters activity with indirect impact to the State Proposal Area</p>	<p>This clarification results in the flare tip being visible from slightly longer distances according to line of sight modelling (an increase from 47.7 km to 51.9 km according to Young’s method, based on 181 m flare height above MSL).</p> <p>Line of sight estimates are typically made using Young’s Method, a formula which estimates the maximum distance a height above MSL can be visible from, given that a point will eventually be hidden behind the curvature of the earth. This distance is given by:</p> $d \approx 3.86\sqrt{h}$ <p>For a height h of 181 m above sea level, maximum observable distance $d = 51.9$ km.</p> <p>For clarity, the only effect of this clarification is that the height above MSL that the flare tip will extend up to. No changes have been proposed that would affect the intensity of light received at the current identified receptors. This clarification has been incorporated into the impact assessment presented in both section MF-2 and into the proposed Browse Project Desktop Lighting Assessment (Error! Reference source not found.) and Turtle Management Plan (Appendix B.4).</p> <p>This slight increase in the line of sight distance during routine operations does not reach any additional</p>

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
<p>height of the flare as a light source under routine operational conditions.</p>			<p>receptors that were previously outside of the line of sight of the facility flare. Direct light from the Brecknock/Calliance FPSO flare tip is still not expected to be visible from Sandy Islet during routine operations. Given the slight increase in line of sight does not reach any additional receptors, the small increase in line of sight distances is not considered material with respect to the environmental impact assessment.</p>
<p>The draft EIS/ERD describes that during the drilling and completions activity, the well will then be flowed to the MODU or a suitable vessel. This first production is known as unloading and typically lasts approximately 1-2 days per well. Flaring is typically required throughout the unloading activity.</p> <p>A new additional control is proposed to mitigate potential light impacts on Sandy Islet Green Turtles:</p> <p>“During Sandy Islet Green Turtle peak nesting and hatchling emergence period (January- April), planned flaring at TRD will only occur during daytime (excluding flaring for safety reasons).”</p> <p>Due to not being able to flare at night, flaring associated with well unloading at TRD may extend over a total period longer than 1-2 days per well.</p>	<p>Light</p>	<p>State Proposal Area</p>	<p>For clarity, the estimate of total flaring duration associated with unloading “well flow” time is still expected to be approximately 24-48 hours.</p> <p>However, as the activity at TRA, TRD and TRH during this specific time will not continue at night, it is possible that the 24-48 hours flare period may be spread over more than 1-2 days.</p> <p>Given the proposed additional control, this is anticipated to reduce the overall lighting impact from flaring associated with well unloading.</p>
<p>The draft EIS/ERD Section 6.3.8.1 describes the FPSO as having thrusters which are used for 'dynamic positioning' (DP). Dynamic positioning (DP) is a computer-controlled system to</p>	<p>Underwater noise emissions</p>	<p>Commonwealth waters activity with indirect impact to the State Proposal Area</p>	<p>This clarification is that the FPSO thruster system should not be referred to as a 'DP' system as the FPSO system is moored as described in Chapter 3 of the draft EIS/ERD. The underwater noise impact and subsea</p>

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
<p>automatically maintain a vessel's position and heading by using its own propellers and thrusters.</p> <p>Each FPSO will be moored via a turret mooring system and will weathervane around the turret. They will be equipped with two thrusters at the stern of the vessel to control the heading of the facility for operational reasons.</p>			<p>disturbance impact as predicted in the draft EIS/ERD does not change.</p>
<p>Due to ongoing engineering refinement, the FPSO thruster sizes may increase up to 2 x 3.5 MW, from 3 MW, noting that the draft EIS/ERD conservatively presented modelling for 2 x 5 MW thrusters.</p>	Underwater noise emissions	Commonwealth waters activity with indirect impact to the State Proposal Area	<p>While the FPSO thruster size has increased from that described in the draft EIS/ERD, the modelling presented in the draft EIS/ERD assumed a thruster size of 2 x 5 MW. As such the potential impact remains within that predicted in the draft EIS/ERD.</p>
<p>An error has been identified in Section 6.3.8.1 of the draft EIS/ERD which provides a description of McCauley's (2002) findings on wellhead noise.</p>	Underwater noise emissions	State Proposal Area and Commonwealth waters activities	<p>Woodside notes that the draft EIS/ERD described that McCauley's (2002) estimated the broadband source level noise of wellheads associated with the Cossack Pioneer FPSO to be 161.5 dB re 1 µPa·m (SPL). This estimate was actually developed by Duncan (2010) using the source spectra in McCauley's (2002) in a modelling study. The estimated source level for Browse wellheads remains 161.5 dB re 1 µPa @ 1m (no change from the draft EIS/ERD).</p>
<p>Section 3.7.9.2 of the draft EIS/ERD states that If helicopters are used, it is anticipated that up to five personnel transfers a week per FPSO facility will be required during normal operations. If fast crew transfer vessels are used, it is anticipated that one transfer per day would occur during normal operations, with additional transfers during shut downs and major maintenance. This</p>	Atmospheric Noise	State Proposal Area and Commonwealth waters activities	<p>For clarity, more helicopter transfers and fast crew vessel transits may be required during installation and commissioning, shut downs and major maintenance.</p>

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
is also reflected in Section 6.3.7 of the draft EIS/ERD.			
<p>Woodside provides a clarification with respect to a mitigation measure presented in Table 141 of the draft EIS/ERD which read:</p> <p>“Project vessels will not travel at speeds greater than 12 knots within the State Proposal Area, or 6 knots in the Scott Reef channel”.</p> <p>Woodside wishes to clarify that operational vessels may travel faster than the proposed speed restrictions in an emergency event, where Safety of Life at Sea (SOLAS) may be in jeopardy.</p>	Unplanned vessel interactions with marine fauna	State Proposal Area	<p>The proposed mitigation measure reads:</p> <p>“Project vessels will not travel at speeds greater than 12 knots within the State Proposal Area, or 6 knots in the Scott Reef channel unless required for SOLAS (i.e. in situations where the vessel master considers that complying with the requirement would adversely affect the safety or security of the vessel or its passengers or crew, or in situations where the vessel master is bound to provide assistance (under SOLAS Chapter V) upon receiving a distress signal from any source that persons are in distress at sea).”</p> <p>Given the infrequent occurrence of such an event, it is not considered that this clarification affects the outcomes of the assessment provided in the draft EIS/ERD.</p>
<p>Section 3.7.2.1 and Section 6.3.15.3 of the draft EIS/ERD, and Section 8.2.4.8 of the State ERD includes a table of indicative cuttings volumes and fluid type for a typical Browse well. As a result of further engineering the “indicative fluids volumes” have been updated for the 16”, 12¼” and 9^{7/8}” hole sections, as well as “indicative fluid type” for the 16” hole section. Note that this fluids volume represents both fluids (WBF/NWBF) on cuttings, as well as WBF fluids discharged via the mud pits.</p>	Drill cuttings and fluids	State Proposal Area and Commonwealth waters activities	<p>The change in drilling fluids volume from ~4,435 m³ to ~5,757 m³ is within the bounds of the potential impact predicted within the draft EIS/ERD and State ERD. This is largely due to the following:</p> <ul style="list-style-type: none"> • Clarification relates to a refinement of indicative fluids volumes, while there is no change to the indicative cuttings volumes, which is the primary impact pathway for potential smothering of deepwater receptors. • <i>Management approach for Torosa wells in the State Proposal Area</i>, as defined in the Appendix A of the proposed Browse Project EQMP, applies and hence no increased risk to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
			<p>Note, for Torosa wells in the State Proposal Area the volume of fluids (and associated fine solids) on cuttings discharged within the State Proposal Area remains similar. This is because the increase is primarily related to the volumes within the mud pits, which for WBF will be managed (i.e. discharged at depth (>200m), at the seabed, or retained for offshore disposal in Commonwealth waters in accordance with a Sea Dumping Permit), while for NWBF will be backloaded for onshore transport.</p> <p>The “indicative fluid type” for the 16” hole section has been updated from Weighted Gel (Bentonite) WBF to WBF broadly, to allow flexibility as this section may be drilled riserless or with a riser.</p> <p>The updated table of indicative cuttings volumes and fluid type for a typical Browse well is presented in Table 2-2.</p>
<p>The draft EIS/ERD described that if a well is underperforming, or surveillance indicates debris is contained within the well, the contents of the wellbore may be flowed to a MODU. This displaces the well fluids (i.e. suspension/completion fluids). These are discharged overboard, as potential gas content makes it too dangerous for personnel to filter or treat them.</p> <p>Woodside wishes to provide clarification that:</p> <ul style="list-style-type: none"> • should there be wellbore fluids contaminated with hydrocarbons or Non-water based fluids (NWBFs), they will be captured and stored on the 	<p>Drill cuttings and fluids</p>	<p>State Proposal Area and Commonwealth waters activities</p>	<p>During drilling and completion activities (including planned and unplanned contingencies), it may be necessary to circulate wellbore fluids to the MODU or flow them to a temporary production system. Wellbore fluids typically contain completion fluids which are usually brines (i.e. a mixture of seawater or formation water) with additives that can include chlorides (often sodium, potassium or calcium), bromides, hydrate inhibitor (MEG), biocide and/or oxygen scavenger. They are designed to have the proper density and flow characteristics to be compatible with the reservoir formation. Completion fluids may also include solids-free fluid, gravel pack carrier fluid and loss circulation material. In a well intervention and/or repair scenario, the wellbore fluid may be contaminated with</p>

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Clarification and/or Refinement and rationale	Aspects	Jurisdiction	Significance of clarification and/or refinement
<p>MODU for discharge if oil concentration is <1% by volume, or returned to shore if discharge requirements cannot be met.</p> <ul style="list-style-type: none"> should there be wellbore solids contaminated with hydrocarbons, they will be treated as hazardous waste as per draft EIS/ERD Section 6.3.14. 			<p>hydrocarbons from the reservoir or NWBF that were used during well construction.</p> <p>The clarification made here confirms that untreated contaminated wellbore fluids and contaminated wellbore solids will be treated as hazardous waste as per draft EIS/ERD Section 6.3.14. This provides a better environmental outcome than previously indicated.</p>

Table 2-2 Proposed Browse Project refinement: Indicative cuttings volumes and fluid type for a typical Browse well (update to Table 3-3 and Table 6-119 of the draft EIS/ERD; and Table 8-3 of the state ERD)

Indicative Well Section Diameter	Indicative Drill Length (m)	Indicative Cuttings Volume (m ³)	Indicative Fluids Volume (m ³)	Indicative Fluid Type
42"	100	89	427	Seawater with bentonite sweeps
26"	440	151	1327	Seawater with bentonite sweeps
16"	2970	385	1892	WBF
12 1/4"	2799	213	1478*	WBF or NWBF
9 7/8"	243	12	633*	WBF or NWBF
Total per well	6,552 m	850 m³	5,757 m³	

*This is the WBF volume, which is the larger volume of the two fluid types

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3. RESPONSE TO STATE AGENCY COMMENTS ON STATE ERD

3.1 EPA comments

Table 3-1 presents the EPA comments on the draft ERD and Woodside’s response.

Table 3-1 EPA comments and Proponent’s response

	EPA comments	Proponent’s response
Factor 1: Air Quality		
1	<p>Details of a quantitative air quality assessment (modelling of NO2 emissions from routine MODU and production platform power generation for an offshore project undertaken by another operator (BP, 2013) has not been provided in the EIS/ERD to support the conclusion that risks are negligible for this component of the project.</p> <p>Provide further details to support the conclusion that the risks are negligible.</p>	<p>The BP (2013) study is considered a good analogue for the proposed Browse Project as it included consideration of two MODUs operating simultaneously, which may occur during the life of the proposed Browse Project (at different drill centres). The proposed Browse Project drilling locations are around ten times further from sensitive receptors (i.e. populated coastal areas) than the BP modelled locations.</p> <p>Further details of the BP (2013) study referenced in Section 6.3.5 the draft EIS/ERD can be found in Chapter 9 (Drilling and Completion Environmental Impact Assessment, Mitigation and Monitoring) of the publicly available “Shah Deniz 2 Project Environmental & Socio-Economic Impact Assessment”, which is available at https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/sd/sd2/9_drilling_eia.pdf</p> <p>To provide further evidence to support this description of the source of aspect, additional modelling considering local Browse meteorological conditions and MODU assumptions has been conducted to further support the impact assessment. The full modelling report is included in Error! Reference source not found..</p> <p>Modelling Scenario</p> <p>Modelling considers a scenario which has been more specifically tailored to the proposed Browse Project:</p> <ul style="list-style-type: none"> • A single MODU has been modelled at TRE (the closest location to Sandy Islet, considered to be the nearest nesting and/or roosting site for seabirds and migratory shorebirds).

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	EPA comments	Proponent's response
		<ul style="list-style-type: none"> The MODU has two emissions sources – the diesel engines (used to provide power to the MODU) and flaring. It should be noted that power is anticipated to be required continuously while the MODU is present, while flaring is anticipated to be required only during discrete planned events ie well unloading. To ensure a conservative approach, fuel use estimates are based on a vessel with dynamic positioning, however noting that there is potential for a conventionally moored MODU which would require less fuel use. It is assumed for the purpose of modelling that there is an attendant project support vessel in close proximity to the MODU which is typically on standby. While it is on standby it typically maintains its position using Dynamic Positioning, and therefore it is also a (significantly smaller) source of NOx emissions from the diesel engines on board. <p>Noting that no MODU has yet been selected for any drilling and completions activity under the proposed Browse Project, it has not been possible to make the modelling inputs specific to a particular MODU. Therefore, in keeping with a conservative approach, the impact of diesel exhaust NO₂ has been modelled as a volume source. This is considered conservative as in reality diesel exhaust will likely be very warm and is therefore expected to form a buoyant plume, increasing the anticipated dilutions. Further, without specific final MODU specifications to rely upon, the marine diesel consumption has been estimated based on Woodside's experience of diesel consumed in previous drilling campaigns across a variety of metocean conditions and well construction activities while the MODU is on station. The NOx emissions rate from diesel consumption has been estimated based upon the National Pollutant Inventory Emissions Estimation Technique Manual for Engines.</p> <p>The anticipated flaring is related to the proposed well unloading activities and the flaring rate is related to the parameters of the activity, and unrelated to the selected MODU. Based on the current design of the proposed Browse Project, which may be subject to further refinement as engineering progresses, it is anticipated that flaring of the gas associated with the well unloading activity would take approximately 12 hours, with an average flaring rate throughout these 12 hours of up to 70 mmscfd.</p> <p>Typically, a MODU flare is located on a horizontal boom which extends out around 20-30 m from the MODU, depending on the parameters of the activity. For the purpose of modelling, the flaring was modelled as a point source 30 m away from the MODU, which is considered representative of a typical drilling and completions activity.</p>

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	EPA comments	Proponent's response
		<p>The emissions rates assumed, and emissions factors used for the purposes of modelling are presented in Table 3-2.</p> <p>Impact Assessment Approach</p> <p>While there are no established thresholds applicable to seabirds for impacts from NO₂, the draft Air Emissions Guideline published by DWER reference the National Environment Protection Measure (NEPM) air quality standards for NO₂. These air quality standards have therefore been used for the purposes of modelling and impact assessment. This is considered to be a conservative approach, as the NEPM thresholds are intended to ensure that there is adequate protection of human health and the environment under chronic exposure scenarios (ie residents near an industrial facility), whereas drilling campaigns are of limited duration. It should also be noted that atmospheric emissions are not identified as a threat to seabirds in the Draft Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2019) or in the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015a).</p> <p>This is particularly true for the modelled scenario at TRE, as drilling at TRE is constrained through additional controls presented in the Response to Submissions (ie drilling and completions activities at TRE will occur outside of the peak pygmy blue whale migratory periods (May, June and November) and outside the Sandy Islet green turtle peak nesting and hatchling emergence period (January – April). The NEPM air quality standards have both an annual average threshold and a 1-hr max threshold.</p> <p>Modelling Approach</p> <p>Meteorological modelling for Scott Reef was conducted using the CSIRO's 'TAPM' meteorological and air dispersion model (Hurley, 2008a, 2008b; Jacobs, 2019) on the basis that this model provides adequate granularity to screen out potential impacts from NO₂ beyond that currently described in the draft EIS/ERD. TAPM was used to produce 3-dimensional, hourly-varying, simulated meteorology specifically for the Scott Reef study area, with the inner-most modelling grid 25 km by 25 km in area. Twenty vertical layers were included from sea level to a height of 8000 metres (m). The TAPM photochemical module GRS was used to improve the predicted NO₂ concentrations for Scott Reef by including the effects of O₃ more explicitly. Further, TAPM results for predicted wind speed and wind direction for Scott Reef including comparisons with measurements obtained at Scott Reef in 2006-2007 (RPS MetOcean, 2008).</p>

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	EPA comments	Proponent's response
		<p>Model Results</p> <p>Modelling was conducted separately to produce average annual and 1-hr max sea-level concentration results in the ambient environment. Neither current nor future NEPM air quality standards for average annual or one-hour max results were exceeded at Sandy Islet.</p> <p>Average annual results (Figure 3-1) using the TAPM-GRS (photochemical) modelling indicate no exceedance of current NEPM air quality standards at sea level. Future NEPM air quality standards may be exceeded up to 1,025m away from the MODU.</p> <p>One hour max results (Figure 3-2) indicate an exceedance of current and future NEPM air quality standards at sea level further away (up to 7,580 m and 10,400 m from the MODU respectively), extending furthest in a southeasterly and southerly direction. It should be noted that the 1-hour modelling shows the maximum average concentration for a particular cell on the grid over any 1-hour duration in the modelling results over an entire year. Therefore, the image does not represent a single set of metocean conditions (i.e. prevailing wind direction), but rather the metocean conditions that achieve the highest concentration at each individual grid cell.</p> <p>Discussion</p> <p>As discussed within Section 5.3.2.4.1 of the draft EIS/ERD, seabirds around Scott Reef are predominately associated with Sandy Islet, a part of South Scott Reef, and occur in small numbers in comparison to other breeding and roosting sites in the region. Smith et al. (2004) recorded little tern (500 individuals), brown booby (6), ruddy turnstone (50), Australian lesser noddy (200) and the common noddy (30) during a survey at Scott Reef in 2003. Seabird surveys conducted at Scott Reef observed greater numbers of birds during spring than winter (Jenner et al., 2009). Seabird species typically roost on Sandy Islet at night and are presumed to forage in nearby and offshore waters during the day. It is not currently known if any of the observed species are permanently resident on Sandy Islet.</p> <p>The environmental impact assessment for air emissions from offshore activities in the draft EIS/ERD (Section 6.3.5.3) identified that: <i>Atmospheric emissions from the proposed Browse Project have the potential to result in a localized reduction in air quality in the immediate vicinity of the release point. While a slight reduction in air quality on a local scale will occur for the duration of the activities, given the low</i></p>

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	EPA comments	Proponent's response
		<p><i>emissions levels, very low background levels of pollutants and distance from the emissions sources to the nearest environmental sensitive receptors, it is not anticipated that emissions from the proposed Browse to NWS Project will result in lasting effect on air quality locally or regionally.</i></p> <p>Given that the results of NO₂ modelling indicate that NEPM air quality standards are not expected to be exceeded at Sandy Islet, the results of the modelling provide further confidence in the environmental impact assessment presented in the draft EIS/ERD. It is also noted that the TRE drill centre is no longer proposed. It should also be noted that MODU campaigns are of limited duration, and that therefore the above results are inherently conservative. No lasting impact to seabirds and migratory shorebirds as a result of atmospheric emissions is expected. As such, monitoring of bird species present within the Scott Reef complex to assess the potential impacts and risks to seabirds and migratory bird species resulting from air emissions from the proposed Browse Project is not considered warranted.</p>
2	<p>During facility operation, unplanned releases of well fluids could result in significant impacts on local air quality. Provide information on how the releases of well fluids could impact local air quality, and any fauna surveys and other monitoring programs that will be undertaken during operation of the facility as part of hazard management, to provide the basis for ongoing review of operational performance.</p>	<p>During well unloading activities, all completion and reservoir fluids will be flared or discharged to the marine environment via the well test package. The base oil column, completion fluid, hydrocarbons and produced/condensed water will be measured, handled, separated, treated for overboard discharge (non-hydrocarbon) and flared/burned (hydrocarbon) through the temporary production system on the MODU. During well unloading it is expected that condensate, diesel and methanol will be flared. The flare may be extinguished due to water ingress, lack of fuel (propane), weather impact or equipment failure resulting in cold venting of gas from the flare for several minutes. Venting may result in localised and temporary reduction in air quality as the gas vents to the atmosphere.</p> <p>If an unplanned release of well fluids did occur, the extent of any hydrocarbon gas plume to the local air shed with the potential to cause harm to birds is relatively small (tens of metres by hundreds of metres) in the open ocean environment and of a temporary nature, and the likelihood of birds being present in that area is also low. In the event a bird was present in the area of elevated hydrocarbon gas concentrations, there is potential for asphyxiation or sub-lethal effects which may cause long term harm or indirect mortality.</p>

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	EPA comments	Proponent's response
		<p>As discussed in the Section 5.3.2.3 of the draft EIS/ERD, there is low potential for birds to be present in large numbers within the Browse Development Area, there are no recognised aggregation areas nearby and presence of birds is largely limited to migratory sea and shorebird species in small numbers on Sandy Islet. Given the unplanned, small scale and temporary nature of these emissions, it is not considered that air quality monitoring is warranted. Note that in the event of a large unplanned hydrocarbon release, an expansive scientific monitoring program would be initiated (as per the Operational and Scientific Monitoring Program that will be in place as part of the accepted EP for the activities). This monitoring would include monitoring of cumulative impacts to receptors including seabirds and migratory shorebirds.</p>
3	<p>Provide an outline of how potential fauna (seabirds) impacts from the pollutants expected in the emissions will be assessed and/or monitored to ensure that the cumulative impacts are at an acceptably low-level during facility operation.</p>	<p>A detailed description of the planned atmospheric emissions (non GHG) from the offshore activities associated with the proposed Browse Project is provided in Section 6.3.5 of the draft EIS/ERD, which concluded that no material impact to local air quality or sensitive receptors would occur. Emissions to air from the proposed Browse Project will not be materially different to other offshore facilities that have been operating for decades without significant impacts on seabirds or migratory shorebirds being attributed. Further given the majority of offshore emissions from the proposed Browse Project will occur during operations from the FPSO facilities in Commonwealth waters, the emissions planned within the State Proposal Area represent a small portion of the planned emissions. Given the unplanned, small scale and temporary nature of the emissions, it is not considered that air quality monitoring is warranted.</p>
<p>Factor 2: Benthic Communities and Habitats</p>		
4	<p>The EIS/ERD only has preliminary modelling for the major discharges and none of the modelling has been peer reviewed. The EIS/ERD states that the modelling for most of these discharges will be reviewed in the secondary approvals process (during preparation of Environmental Plans) subject to detailed engineering and confirmation of source composition and concentrations. This is not considered acceptable to</p>	<p>The modelling presented within the draft EIS/ERD (Chapter 6 and Chapter 10, Appendix D.4) is not preliminary. Modelling is a predictive tool for the purposes of impact and risk assessment and as such there are assumptions and inherent uncertainties within the process which are addressed through the application of conservatism and sensitivity testing. The modelling presented in Chapter 10, Appendix D.4 of the draft EIS/ERD is considered conservative given the selection of inputs and the overall modelling approach (see Section 3.5) below for more detail). Model inputs are based on the current basis of design, and typically represent the maximum design specifications (e.g. discharge rates, discharge orientation) providing the worst-case scenario. For example, for produced water (PW) the maximum rate was used, however</p>

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	EPA comments	Proponent's response
	<p>accurately assess the potential impacts to State waters and the risks to Scott Reef.</p>	<p>rates will vary over the life of the proposed Browse Project, with increasing volumes later in field life. While refinements to the design may occur as part of the Front End Engineering Design process, the outcomes will be demonstrated to remain within the defined impact envelope described in the draft EIS/ERD to ensure that predicted impacts are not greater than approved.</p> <p>Further, the modelling of marine discharges was undertaken by RPS Group Plc (RPS), an internationally respected provider of high-quality marine environmental modelling services, data forecasting and real-time operational systems to offshore industry. RPS's modelling reports were analysed by subject matter experts both internally at Woodside and via external consultants. Woodside has a high level of confidence in the modelling provider and each of the models used based on:</p> <ul style="list-style-type: none"> • The RPS team in Australia has completed over 1,500 separate modelling investigations since 2001. This includes a significant number of studies that have passed multiple reviews by government regulators within Australia, Western Australia and overseas. • MUDMAP and CHEMMAP, which were used for modelling of the Browse marine discharge scenarios, have undergone a continuous process of verification and improvement since their inception; and have been applied to assist industry and regulators in assessments of the potential environmental effects from operational discharges; and has been extensively applied and validated for discharge operations during hundreds of studies in Australian waters in the last 25+ years. • The models used reliable environmental forcing data, to achieve realistic three-dimensional predictions of the dispersion of hydrocarbon constituents and other contaminants using realistic wind and current conditions. This is sourced from numerous data sources including world-leading global ocean models. • For the proposed Browse Project, hindcast data extracted from the latest iterations of both the HYCOM and BRAN models was validated against site measurements in the proposed Browse Project Area with both models indicating good performance versus measurement.

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	EPA comments	Proponent's response
		<ul style="list-style-type: none"> • The hindcast predictions of the HYDROMAP model were validated against available data sources and tide stations in the proposed Browse Project Area and beyond. • For oil spill modelling, the modelling was undertaken in accordance with ASTM International Standard F2067-13 ('Standard Practice for Development and Use of Oil-Spill Trajectory Models'). • The model used for the proposed Browse Project (SIMAP) has been applied in more than 1,500 spill risk assessments around the world over the past 25+ years and has been continually developed during that time. SIMAP has been explicitly designed to simulate the fate of hydrocarbons in the marine environment, incorporating all relevant transport and weathering processes (advection, spreading, evaporation, entrainment, decay, dissolution and stranding), with the hydrocarbon properties input to the model (density, viscosity, pour point, distillation curve, aromatic/aliphatic component ratios within given boiling point ranges, etc.) being sufficiently detailed to allow a thorough examination of these processes. • The model incorporates the latest knowledge of oil entrainment rates and in-water decay rates of toxic aromatic compounds following extensive research effort by the principal author and development team of SIMAP and OILMAP-Deep (applied by RPS to assess the near-field behaviour of subsurface releases). <p>Given the alignment with design, inherent conservatism, the use of reputable industry proven techniques/contractors, and the independence of EPA review and assessment, additional peer review is not considered warranted.</p>
5	<p>It is recognised that a peer review was not specifically required in the Environmental Scoping Document (ESD) however given the unique biodiversity and conservation values of Scott Reef, the proximity to Scott Reef and the volume and toxicity of the predicted discharges it is recommended as a part of the assessment process.</p> <p>It is recommended that the findings of environmental effects be based on final peer reviewed modelling so</p>	<p>As described in response to comment No. 4, additional peer review is not considered warranted given the alignment with design, inherent conservatism, the use of reputable industry proven techniques/contractors, and the independence of EPA review and assessment.</p> <p>Predicting the transport and fate of any discharges released within the proposed Browse Project Area required representation of large-scale, non-tidal ocean currents spanning multiple years over a wide area. After reviewing the availability and quality of multiple sources, three-dimensional ocean current data from 2006 to 2015 (inclusive) from the BRAN model was selected to represent the non-tidal current flows. BRAN</p>

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	EPA comments	Proponent's response
	<p>that predicted impacts can be accurately assessed. The peer review should also consider the likelihood of the current flowing in a westerly direction towards Scott Reef, potentially resulting much greater incursion of discharges into State waters.</p>	<p>routinely assimilates sea level anomaly data, tide gauge data, sea surface temperature, and in situ temperature and salinity measurements (Oke, et al., 2009). Comparisons of BRAN hindcast outputs to satellite and independent in situ observations found that BRAN was reliably representing the broad-scale ocean circulation, the mesoscale surface eddy field, and shelf circulation around Australia (Oke et al., 2008; Schiller et al., 2008). The consideration of upwelling or downwelling phenomena in the modelling is an implicit effect based on the representation of these processes in the ocean current data used as input to the dispersion models.</p> <p>A stochastic modelling procedure, where the characteristics of a single discharge are simulated many times under randomly-selected samples of environmental conditions selected from a hindcast record of currents and winds, was applied in order to map the potential aggregated spatial distribution of contaminants discharged at any time during a particular season and across the whole year. Current data were sourced from a ten-year hindcast data set of combined large-scale ocean (BRAN) and tidal currents. This methodology ensures that the predicted movement and fate of each discharge is representative of the range of prevailing currents at the discharge location.</p> <p>The effects of westerly currents transporting discharged constituents towards Scott Reef has been assessed. During the 2006-2015 hindcast period utilised in the modelling, drift currents moving in north-westerly, westerly and south-westerly directions comprised approximately 44% of the complete data record in the close vicinity of the FPSO location. The objective selection of time-sequences of currents, relative to the longer-duration data set, will result in a similar proportion of the stochastic simulation set being influenced by such forcing patterns. Although tidal currents have the most influence within the Scott Reef complex itself, drift currents mean that discharged constituents will commonly be transported towards the reefs from the source locations within the proposed Browse Project Area. The model outcomes reflect the influence of these current patterns.</p> <p>Figure 2.10, Figure 2.11 and Figure 2.12 of the modelling report (Chapter 10, Appendix D.4 of the draft EIS/ERD) demonstrate the seasonal distribution of current speeds and directions for the BRAN data points closest to the Torosa FPSO/ pipe line end terminal (PLET), Brecknock/Calliance PLET and NRC tie-in PLET locations, respectively. The data near the Torosa locations (Figure 2.10 of the draft EIS/ERD) shows that current speeds and directions vary between seasons. At the Torosa locations, current flows are</p>

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	EPA comments	Proponent's response
		<p>expected to occur with a reasonably equitable distribution in all directions, but northerly and westerly flows are slightly more prevalent across the year. Accordingly, the dispersion modelling for the FPSO operational discharges (PW and cooling water), discharged in the near surface waters (12 to 14 m below surface), demonstrate the influence from the slightly prevalent northerly and westerly current flows in the annualised results presented in Figure 3.39 of the draft EIS/ERD.</p> <p>Compared to the FPSO operational discharges dispersion modelling, the hydrotest discharge dispersion modelling demonstrates a markedly different north-south dispersion. Given the proposed depths of the hydrotest discharge (approximately 460 m) at the PLET location, the predominately north-south dispersion is largely a function of the seabed bathymetry with the plume staying in deep water (due to its buoyancy being similar to seawater), following the contours at the base of the reef and the prevailing seabed currents. This buffering capacity of the bathymetry is shown in the vertical cross section plots in Figure 3.66 to Figure 3.68. It should be noted that there is no evidence of persistent upwelling or downwelling currents at Scott Reef, but seawater temperature monitoring has recorded some evidence of localised intrusions of cooler water around the western and eastern entrances to the channel between North and South Scott Reef during spring tides (Brinkman et al., 2010; Green et al., 2019). Such cool water intrusions are primarily semi-diurnal in timing, driven by the strong semi-diurnal periodicity in the prevailing internal wave and tide regime in the channel, combined with horizontal shear due to the strong tidal currents that can entrain water from below the sill depth of the channel up into the lagoon. Logger data suggests that the cool water entering the lagoon originates within the thermocline from depths shallower than 160 m, with no evidence of deeper waters entering the lagoon system (Brinkman et al., 2010). Hence, no influence on the hydrotest discharges at depth (>460 m).</p> <p>For FPSO operational discharges an adaptive management strategy will be implemented (and regulated under subsequent Environmental Plans (EPs)) to demonstrate how the FPSO operational discharges will be managed to avoid impacts to the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) where a maximum Level of Ecological Protection (LEP) has been proposed. The strategy is premised on the commitment to meet the 99% species protection or no effect concentrations at the edge of the mixing zone and the State waters 3 nm boundary,</p>

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	EPA comments	Proponent's response
		<p>95% of the time based on dispersion modelling results, which will be verified through monitoring.</p> <p>An overview of the monitoring to support this adaptive management strategy is provided in Table 6-101 and Table 6-102 of the draft EIS/ERD for FPSO PW and Table 6-110 for FPSO cooling water and stated below.</p> <ul style="list-style-type: none"> • <i>During steady state FPSO operations, PW modelling and infield verification will be completed to verify the modelling predictions.</i> This study aims to verify the modelling predictions and in particular the dilutions achieved, which determines the point at which the defined thresholds levels are reached. • <i>Periodic and 'for cause' toxicity testing and characterisation of the physical and chemical composition of the FPSO PW stream prior to discharge will be undertaken.</i> This provides an assessment of the individual constituent chemical concentration and the whole of effluent toxicity at end of pipe. • <i>Baseline and periodic water and sediment quality monitoring at a gradient away from the FPSO facility in the receiving environment will be undertaken to detect changes as a result of FPSO PW discharge.</i> This gradient will extend to the point at which environmental quality meets the guidelines and standards required for the designated LEP in the State Proposal Area are achieved. This monitoring aims to determine no changes in the receiving environment water and sediment quality outside of the defined mixing zone as a result of the FPSO PW discharges. • <i>In the event the PW discharge does not meet the defined thresholds in the range predicted for any constituent concentrations, an adaptive management strategy will be implemented which will be included during the EP process for the Torosa FPSO.</i> This adaptive management strategy will include actions such as reducing the discharge rate, which increases dilutions in the nearfield or reduces an individual chemical concentration through commingling prior to discharge, or the addition of new/additional treatment stages or equipment. It should also be noted that PW will come on slowly over a period of many years so there will be opportunity to sample and adapt before the full rates modelled later in field life are experienced. <p>Note, the infield verification will be completed using proven monitoring techniques to verify the model predictions and confirm that the mixing zone, including at the 3 nm State waters boundary, is met. In the event that the mixing zone is larger than anticipated, posing a significant increase in impact than that described in this draft</p>

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	EPA comments	Proponent's response
		EIS/ERD, then corrective actions will be implemented onboard the FPSOs to reduce the impact. Corrective actions include additional engineering to produce a change in discharge characteristics as described above.
6	<p>Consistent with the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment (EPA 2016), an Environmental Quality Plan (EQP), that identifies the environmental values to be protected and spatially maps the environmental quality objectives and levels of ecological protection that should be achieved, should be included to inform the assessment.</p> <p>The areas proposed in the EIS/ERD as High and Moderate Ecological Protection are large and needs to be justified. For example, a 1000 m radius is proposed for moderate ecological protection around each drill centre. No rationale is provided for the size of this area and it is noted that the modelling predictions for drill cutting discharge at the sea bed are much smaller 1000m. The installation of subsea infrastructure is provided as one justification for part of the area of Moderate Ecological Protection. However, it should be noted that the levels of ecological protection should be defined based on levels of environmental quality that will be achieved, not areas of physical disturbance. Finally, the areas of high level of ecological protection should be consistent with the model outputs for the discharges.</p>	<p>An Environmental Quality Management Plan (EQMP) is provided in Error! Reference source not found.. The EQMP is an operational plan and will be refined following an assessment decision and over the life of the proposed Browse Project. The LEP proposed in the draft EIS/ERD have been reviewed and refined with LEP justifications provided within the EQMP. This refinement has been undertaken in consideration of the levels of environmental quality that are predicted to be achieved as per the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment (EPA, 2016). Given the detailed information provided in the draft EIS/ERD, including proposed LEP and their zonation, it is considered the consultation on the contents of the EQMP has been undertaken via the draft EIS/ERD public comment period and regulator engagements.</p> <p>With respect to the specific example raised (i.e. moderate LEP around drill centres), it should be noted that the actual expected impact around each well is in the order of 200 m radius (based on modelling presented in Section 6.3.15.3 of the draft EIS/ERD and a 6.5 mm thickness threshold for ecological impacts from sediment deposition (IOGP, 2016)). However, given that the precise location of each well within proximity to the drill centre is not known, an area of 1000 m around each drill centre has been proposed with a 200 m low LEP area around each individual well, but the exact location of this LEP will only be known once well locations are chosen.</p> <p>The revised LEP are shown Figure 3-3 (construction), Figure 3-4 (drilling discharges water quality) and Figure 3-5 (operations). The basis of the proposed LEPs is described in Table 3-3.</p>
7	<p>During development drilling up to 24 wells will be drilled and completed in the State Proposal Area. DWER has concerns in relation to the sea surface discharge of drill cuttings and fluids which have the potential to impact on marine environmental quality and Scott Reef. The</p>	<p>The management approach for drilling discharges from Torosa wells in the State Proposal Area (i.e. TRA, TRD and TRF) are outlined in Appendix A of the Browse Project EQMP (Management Approach for Torosa wells in State Proposal Area), with associated monitoring described in Section 3.5.1 of the Browse Project EQMP.</p>

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	EPA comments	Proponent's response
	<p>EIS/ERD currently does not demonstrate how drill cuttings or completions discharges will be mitigated, monitored and managed and does not provide confidence that marine environmental quality will be protected.</p> <p>The EIS/ERD provides preliminary modelling to assess the dispersion and sedimentation of drill cuttings (and residual fluids) at the seabed for the proposed wells in the Torosa reservoir. However, the modelling outputs for sea surface disposal are not provided. This is particularly important given that it has been identified that sea surface discharges will result in incursions of sediment plumes and associated deposition over some parts of the reef at North and South Scott Reef.</p> <p>The assessment of the proposal should be informed by updated modelling for drill cuttings or completions discharges and include a figure demonstrating the modelling outputs for surface water discharges (similar to Figures 6-34 to 6-36 for seabed discharges) so that the extent and intensity of the plume at the sea surface can be understood.</p> <p>The EIS/ERD commits to development of an EQMP in the future, however, given the identified risks, this needs to be drafted to provide confidence that the drill cuttings or completions discharges will be monitored and managed appropriately to ensure that State waters and the values of Scott Reef are protected.</p> <p>The EIS/ERD states that where modelling indicates a potential impact to Scott Reef shallow water benthic communities and habitats (<75 m water depth), then the management of drilling or completions discharges will be addressed by transportation of the discharges to a suitable location (e.g. at a sufficient distance from</p>	<p>As described in Section 6.3.15.2 of the draft EIS/ERD, drilling discharges predominantly occur at two locations, at seabed and near surface. Drill cuttings and unrecoverable WBFs are discharged at the seabed at each well site for the top-hole sections, which are drilled riser-less (i.e. no closed loop with the MODU). This results in a localised area of sediment deposition (known as a cuttings pile) around and in proximity to the well site influenced by prevailing seabed currents.</p> <p>Once the top-hole sections are complete, installation of the riser and blow out preventor provides a conduit back to the MODU, forming a closed circulating system. The bottom hole sections will be drilled with a marine riser in place that enables cuttings and drilling fluids to be circulated back to the MODU, where the cuttings are separated from the drilling fluids by the solids control equipment (SCE) and typically re-used in the closed loop system between the well bore and the MODU. The cuttings (with adhered residual fluids) are, in typical circumstances, discharged below the water line, with their fate and dispersion determined by cuttings particle size and the density of the unrecoverable fluids. In contrast the fluids are recirculated into the fluid system where there are a number of mud pits (tanks) on the MODU that provide a capacity to mix, maintain and store fluids required for drilling activities. The mud pits form part of the drilling fluid circulating system and may be discharged during the drilling of the well where particular criteria is met.</p> <p>In relation to the proposed discharge of bottom-hole drilling discharges at Torosa wells within the State Proposal Area when the riser is in place (i.e. conduit back to the MODU), previous modelling indicated that the surface release of drilling discharges generated at the previously proposed TRE and TRD drill centre locations would potentially result in incursions of sediment plumes and associated increased sedimentation to portions of North and South Scott Reef including within the lagoons. This has been further investigated in the Appendix A of the Browse Project EQMP (Management Approach for Torosa wells in State Proposal Area), which details the discrete surface discharges (i.e. drill cuttings with residual fluids and WBF mud pit bulk discharges) to assess individual risk to the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry), where a maximum LEP has been proposed.</p> <p>Additional management controls are proposed for the management of Torosa wells drilling discharges in the State Proposal Area to demonstrate that the maximum LEP for</p>

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	EPA comments	Proponent's response
	<p>Scott Reef or onshore) for disposal. The criteria for determining impact have not been provided and the location where the drilling or completions wastes will be discharged should be identified and potential impacts to the environment assessed.</p>	<p>Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) can be achieved. For TRA, TRD, and TRF wells on the eastern side of Scott Reef, within the State Proposal Area, drilling discharges at the surface/near surface when drilling with riser, are only being considered for bottom hole cuttings (with residual film of fluids) from the shakers (or equivalents) for WBF, and from the cuttings dryers (or equivalents) for NWBF, due to their inherently lower adhered WBF/NWBF content and the rapid settling velocity of the larger particle size of the cuttings (primary discharge source) and associated dispersion characteristics. As such there is no anticipated credible risk to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) from these drilling discharges. WBF mud pit bulk discharges, which have larger volumes and finer particle distribution and hence wider dispersion, are proposed to be managed and either discharged at depth (>200 m), at the seabed, or retained for offshore disposal in Commonwealth waters in accordance with a sea dumping permit.</p> <p>Note, one of the key mitigative options for the management of drilling discharges from Torosa wells in the State Proposal Area involves the collection and transportation of specific discharges to a location outside of State waters (in Commonwealth waters) for disposal (e.g. skip and ship). This option involves modifications to the MODU which may differ depending on the discharge type and rig selection to allow the storage, potential treatment (e.g. slurrification) and transfer/disposal of the discharge. For drilling fluids, these may be recovered from the mud pits, transferred to storage tanks on the MODU or pumped into storage tanks on a barge/vessel for subsequent disposal. For drill cuttings, this activity may consist of the collection of the cuttings from the MODU into specially designed skips, via a steerable chute. The filled skips are then offloaded via a crane onto a dedicated collection vessel (e.g. barge) or to a standard platform supply vessel (PSV) for disposal. Alternatively, cuttings may be slurried on the MODU and cuttings and/or fluids pumped to the barge/vessel for subsequent disposal. The disposal of such discharges within Commonwealth waters will be subject to further assessment and approval through the <i>Environment Protection (Sea Dumping) Act 1981</i> as required.</p> <p>The management approach for Torosa wells in the State Proposal Area (i.e. TRA, TRD and TRF) are outlined in Appendix A to the EQMP. The approach will also be further described and regulated in future EPs submitted for approval under petroleum legislation.</p>

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	EPA comments	Proponent's response
Factor 3: Marine Environmental Quality		
8	<p>The EIS/ERD has preliminary modelling for the major discharges and none of the modelling has been peer reviewed. The EIS/ERD states that the modelling for most of these discharges will be updated and/or reviewed in the secondary approvals process (during preparation of Environmental Plans) subject to detailed engineering and confirmation of source composition and concentrations. This does not facilitate an accurate assessment of the potential impacts to State waters and the risks to Scott Reef.</p>	<p>Refer to response to comment No.4 above.</p>
9	<p>It is recognised that a peer review was not specifically required in the ESD however given the unique biodiversity and conservation values of Scott Reef, the proximity to Scott Reef and the volume and toxicity of the predicted discharges it is recommended as a part of the assessment process.</p> <p>The EIS/ERD needs to be based on final peer reviewed modelling so that predicted impacts can be accurately assessed. The peer review should also consider the likelihood of the current flowing in a westerly direction toward Scott Reef, potentially resulting much greater incursion of discharges into State waters.</p>	<p>Refer to response to comment No.4 and comment No.5 above.</p>
10	<p>The EIS/ERD does not include an Environmental Quality Management Plan (EQMP) for any of the discharges. The EIS/ERD commits to preparing EQMPs or Environment Plans (EP) in the future as a part of the secondary approvals process.</p> <p>Environmental Plan's (EP) required under petroleum legislation have different objectives and content to an EQMP. An EP identifies monitoring and management</p>	<p>An EQMP is provided in Error! Reference source not found.. The EQMP details the proposed LEPs, Environmental Quality Criteria and management and monitoring provisions for all discharges including those that may occur in Commonwealth waters and incur into the State Proposal Area.</p> <p>More detailed EPs will be required under State and Commonwealth legislation for petroleum activities.</p>

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	EPA comments	Proponent's response
	<p>specifications for activities in Commonwealth waters and is therefore a separate document from an EQMP which is required for State waters.</p> <p>All EQMPs should be included with the EIS/ERD to provide confidence that potential impacts will be suitably monitored and managed to protect the environmental values and management goals for State waters. The Environmental Quality Criteria and monitoring framework should be consistent with the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment (EPA 2016). The EQMP may also need to consider current directions and verification of modelling predictions.</p>	<p>The modelling undertaken to date has been based on a robust hindcast dataset of the Metocean conditions within the Browse Development Area. As described in the response to comment No.4 and No.5 above, for FPSO operational discharges an adaptive management strategy will be implemented (and regulated by subsequent EPs) to demonstrate how the FPSO operational discharges will be managed to avoid impacts to the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) where a maximum LEP has been proposed. The strategy is premised on the commitment to meet the 99% species protection or no effect concentrations at the edge of the mixing zone and the State waters 3 nm boundary, 95% of the time based on dispersion modelling results, which will be verified through monitoring.</p> <p>Refer to comment No.5 for additional details.</p>
11	<p>Consistent with the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment (EPA 2016), an Environmental Quality Plan (EQP), that identifies the environmental values to be protected and spatially maps the environmental quality objectives and levels of ecological protection that should be achieved, should be included to inform the assessment.</p> <p>The areas proposed in the EIS/ERD as High and Moderate Ecological Protection are large and needs to be justified. For example, a 1000 m radius is proposed for moderate ecological protection around each drill centre. No rationale is provided for the size of this area and it is noted that the modelling predictions for drill cutting discharge at the sea bed are much smaller 1000m. The installation of subsea infrastructure is provided as one justification for part of the area of Moderate Ecological Protection. However, it should be noted that the levels of ecological protection should be defined based on levels of environmental quality that</p>	<p>Noted. Refer to response to comment No.6 above.</p>

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	EPA comments	Proponent's response
	<p>will be achieved, not areas of physical disturbance. Finally, the areas of high level of ecological protection should be consistent with the model outputs for the discharges.</p>	
12	<p>The EIS/ERD presents three potential scenarios for the discharge of hydrotest fluid, however, no rationale is provided for the three options. The decision matrix for the different options should be provided in the EIS/ERD. The second option involves a large discharge from the Torosa Floating Production Storage Offloading (FPSO) and is likely to present the greater risk to State waters and Scott Reef.</p> <p>Under both Scenario 2 and Scenario 3, hydrotest discharges from the FPSO will result in impacts to WA State waters. This is reflected in the EQP, with the eastern edge of the State waters designated as a High Level of Ecological Protection.</p> <p>As detailed above, the EQP and EQMP should be completed to inform assessment (and not in the future) to demonstrate that the hydrotest discharges will be adequately monitored and managed to achieve a High Level of Ecological Protection.</p>	<p>As noted in Section 6.3.17 of the draft EIS/ERD, Woodside will continue to pursue dry commissioning of the BTL and inter-field spur line. If deemed technically feasible and acceptable, this is the preferred method for preparing the BTL and inter-field spur line for the introduction of export product. Acceptance of dry commissioning of the BTL and associated inter-field spur line is subject to stakeholder endorsement (most notably relevant regulator(s) and the Classification Society) that the as-installed BTL and associated inter-field spur line complies with relevant engineering standards to provide alternative means to verify its safety and integrity, replacing the traditional hydrostatic system test and associated flood, clean, gauge and dewater. Therefore, final stakeholder endorsement of the dry commissioning approach will only occur after the BTL and associated inter-field spur line has been installed.</p> <p>If dry commissioning of the BTL and inter-field spur line is not deemed technically feasible and acceptable, three discharge options are being assessed for the discharge of hydrotest fluid during dewatering of the BTL and inter-field spur line. The actual hydrotest dewatering scenario may be combination of Scenarios 1 to 3 described, with potential postponement in discrete discharges where required. The chosen scenario will however remain within the bounds of impact and risk assessment presented in the draft EIS/ERD.</p> <p>These include:</p> <ul style="list-style-type: none"> • Base case - scenario 1 (NRC Pipeline end terminal (PLET)): 736,000 m³ hydrotest fluid (BTL and inter-field spur line) is discharged at the NRC PLET location, followed by 110,000 m³ hydrotest fluid (2TL) at least 6 months later. • Alternative scenario 2 (Torosa PLET): 846,000 m³ hydrotest fluid (BTL, inter-field spur line and NWS Project's 2TL) is discharged at the Torosa PLET. • Alternative scenario 3a / 3b (Brecknock/ Calliance PLET and Torosa PLET): BTL and NWS Project's 2TL hydrotest fluid (790,000 m³) is discharged at the Calliance/

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		<p>Brecknock PLET, while the hydrotest fluid from the inter-field spur line (56,000 m³) is discharged at the Torosa PLET.</p> <p>The base case scenario is for all hydrotest fluid (BTL and inter-field spur line) to be discharged at the NRC PLET location as demonstrated in Figure 6-41 in Section 6.3.17.4 of the draft EIS/ERD.</p> <p>The availability of the NRC PLET as a discharge location is dependent on the feasibility of tying in of the BTL to the 2TL when both pipelines are “dry” (nitrogen-filled). Engineering work is currently progressing to demonstrate that the health and safety risk relating to this activity are acceptable, given that diving will be required. If the health and safety risks presented is not considered acceptable, then the BTL will need to be tied in to 2TL when both trunklines are liquid filled. As discharge of liquid can only occur from an end point of the trunkline, the NRC PLET would then become unavailable as a discharge point.</p> <p>If one of the alternative scenarios (Scenario 2 and 3) is required, preference would be to discharge the majority of the combined inventory at the Calliance/Brecknock PLET, while the hydrotest fluid from the inter-field spur line is discharged at the Torosa PLET. The discharge point on the Calliance/Brecknock PLET is the connection point for the tie-in spool to the Calliance/Brecknock riser base manifold, which means if discharge is occurring from the Calliance/Brecknock PLET, tie-in to the Calliance Brecknock riser base manifold cannot occur until hydrotest is completed at the PLET. If the tie-in to the Calliance/Brecknock riser base manifold is on the propose Browse Project's critical path, then hydrotest discharge at the Calliance/Brecknock PLET may significantly impact Project schedule.</p> <p>The rationale for the optionality is therefore to provide flexibility in the execution strategy to:</p> <ol style="list-style-type: none"> a) Allow the engineering design to mature and demonstrate that the activity is acceptable with respect to health and safety. b) Ensure that pre-commissioning activities do not significantly impact Project schedule. <p>As demonstrated in Section 6.3.17.4 of the draft EIS/ERD, hydrotest discharges under Scenarios 2 and 3(b) may result in a temporary and localised decline in water and</p>

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	EPA comments	Proponent's response
		<p>sediment quality within the State Proposal Area as a result of the presence of chemical additives in discharged hydrotest fluids.</p> <p>The modelling also indicates that sufficient dilutions to achieve 99% species protection may not be achieved by the time the plume reaches the State Proposal Area, meaning potential impacts to deepwater benthic biota may occur.</p> <p>Based on the modelling, the hydrotest discharge above threshold levels is predicted to extends into the State Proposal Area for a distance of 800 m for both Scenario 2 and Scenario 3b. The hydrotest plume is predicted to extend into the State Proposal Area a total distance of 1.5 km for Scenario 2 and 1.8 km for Scenario 3b.</p> <p>Modelling of Scenario 2 and 3b (as presented in the draft EIS/ERD), indicated that the hydrotest discharge plume would likely impact extend into the State Proposal Area for a distance of approximately 1.5 to 3 km (depending on the scenario) resulting in a temporary and localised decline in water and sediment quality as a result of the presence of chemical additives in discharged hydrotest fluids. The modelling also indicates that sufficient dilutions to achieve 99% species protection may not be achieved by the time the plume reaches the State Proposal Area, meaning potential impacts to deepwater benthic biota may occur for a distance up to approximately 1 km. No contact with Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) is predicted due to the depth of the discharge (461 m), with the plume staying in deep water, following the contours at the base of the reef and the prevailing bed currents. The modelling predicts the plume will reach no closer than 3.8 km and 3.3 km from the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) for Scenario 2 and Scenario 3b respectively.</p> <p>Further, this hydrotest discharge is planned to occur for pre-commissioning, and while no receiving environment monitoring is proposed, the chemical dosing and discharge rate will be verified infield to ensure it does not exceed that designed and modelled.</p> <p>This activity has been included in the EQMP provided in Error! Reference source not found..</p>
13	The high volumes and concentrations of hydrotest fluid proposed to be discharged in Commonwealth waters is likely to have a large and significant impact on water	As noted in the above response to comment No.12, the hydrotest modelling undertaken to support the draft EIS/ERD (Chapter 10, Appendix D.4) indicates that discharges are not predicted to impact high value benthic habitats within State waters due to the

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	EPA comments	Proponent's response
	<p>quality and marine biota, including in State waters particularly under Scenario 2. This is a significant issue, but regulation is under the jurisdiction of the Commonwealth Government. The preliminary modelling of the hydrotest fluid predicts that the discharge will flow in an NNW direction, along the boundary of State waters with the prevailing current. This is an important assumption because if the current were to take a more westerly direction then there would be greater impacts to State waters and risks to Scott Reef.</p>	<p>distance from key receptors (i.e. 7 km from Scott Reef shallow water benthic communities and habitats (<75 m bathymetry)) and the depth that the discharge would occur (approximately 460 m). Specifically, the modelling indicates that due to the discharge characteristics of the plume (i.e. being treated seawater, it has the same density relative to the surrounding seawater) and the local hydrodynamics on the seabed around Scott Reef, the plume will remain within the deep waters around the reef, following the contours at the base of the reef where the seabed habitat supports sparse benthic biota representative of deeper water habitats within the NWMR (as outlined in Table 5-16 in Section 5.3 of the draft EIS/ERD). The modelling predicts the plume will reach no closer than 3.8 km and 3.3 km from the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) for Scenario 2 and Scenario 3b respectively.</p> <p>In relation to the current flow direction refer to the response to comment No.5. It should be noted that the modelling studies have been based on a robust ten-year hindcast dataset of combined large-scale ocean (BRAN) and tidal currents around the proposed discharge locations. Figure 2.10, Figure 2.11 and Figure 2.12 of the modelling report (Chapter 10, Appendix D.4 of the draft EIS/ERD) demonstrate the seasonal distribution of current speeds and directions for the BRAN data points closest to the Torosa FPSO/PLET, Brecknock/Calliance PLET and NRC tie-in PLET locations, respectively.</p> <p>The data near the Torosa locations (Figure 2.10 of the modelling report) shows that current speeds and directions vary between seasons. At the Torosa PLET location, current flows are expected to occur with a reasonably equitable distribution in all directions, but northerly and westerly flows are slightly more prevalent across the year. Accordingly, all the model outputs, except for the hydrotest outputs, demonstrate an influence from westerly current flows. Given the proposed depths of the hydrotest discharge (approximately 460 m) at the Torosa location, the predominately north-south dispersion is largely a function of the seabed bathymetry with the plume staying in deep water, following the contours at the base of the reef and the prevailing seabed currents.</p> <p>The EQMP (Error! Reference source not found.) details the proposed monitoring that will be undertaken in relation to the BTL hydrotest discharge. This monitoring will be used to confirm the modelling predictions.</p>

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	EPA comments	Proponent's response
14	<p>The EQMP should describe how the currents will be assessed during the planned discharges in addition to how water quality will be monitored and assessed in State waters and what management actions will be undertaken in the event that State waters are impacted.</p> <p>The risks to Scott Reef are significantly greater with Scenario 2 and this should therefore be the least preferred option. The use of Scenario 1 or 3 is encouraged, in that order of preference.</p>	<p>As outlined in the above response, an extensive dataset of hindcast metocean data was used to support the modelling studies. This data was used to support the modelling predictions.</p> <p>This hydrotest discharge is planned to occur during pre-commissioning, and while no receiving environment monitoring is proposed, the chemical dosing and discharge rate will be verified infield to ensure it does not exceed that designed and modelled. It is acknowledged that the presence of chemical additives within discharged hydrotest fluids will result in a temporary decline in water quality; however, these chemical additives are predicted to rapidly degrade (as discussed in Section 6.3.17.2 of the draft EIS/ERD) and decay once released. As described in the response to comment No.5, the mixing and dispersion process is well understood and therefore is a predictable physical process. As such no lasting effect on water quality is predicted. Therefore, water quality monitoring during hydrotest discharging is not planned given the predicted lack of significant impacts on local water quality or the sparse, well represented benthic habitat values.</p> <p>The preferred base case scenario is for dry commissioning if deemed technically feasible and acceptable (refer to the response to comment No.12). If hydrotest is required then the base case scenario is for all hydrotest fluid (BTL and inter-field spur line) to be discharged at the NRC PLET location. Optionality to select the other scenarios is still required to provide flexibility in the execution strategy for the pre-commissioning activities. Further details are provided in the response to comment No.12.</p>
15	<p>The main concern relating to produced waters is the lack of a monitoring and management plan. The EIS/ERD states that produced waters will be monitored prior to discharge from the FPSO and in the event that it does not meet the defined thresholds an adaptive management strategy will be implemented. A commitment has been made to describing the monitoring and management actions in the EP for Commonwealth waters which is to be developed in the future.</p>	<p>Due to the nature, scale and duration of the FPSO PW discharge compared with the MODU PW discharges, the draft EIS/ERD focussed on the FPSO discharge in Commonwealth waters.</p> <p><i>FPSO PW discharge monitoring and verification</i></p> <p>Woodside has made commitments in relation to monitoring, verification and associated adaptive management of the FPSO PW discharge as described in Table 6-101 and Table 6-102 of the draft EIS/ERD including:</p> <ul style="list-style-type: none"> • “For the FPSO PW discharge, the defined threshold values (i.e. 99% species protection or no effect concentrations) will be met at the edge of the mixing zone

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	EPA comments	Proponent's response
	<p>No impacts to State waters from produced water discharge are predicted, but the modelling is only preliminary and not peer reviewed. If this is still the prediction after final modelling of the discharge then an EP is the correct document for defining monitoring and management and a state based EQMP is not required.</p>	<p>and the State waters 3 nm boundary, 95% of the time based on dispersion modelling results.” This is the overarching commitments for which the following monitoring aspects have been committed to verify this outcome.</p> <ul style="list-style-type: none"> ○ <i>During steady state FPSO operations, PW modelling and infield verification will be completed to verify the modelling predictions.</i> This study aims to verify the modelling predictions and in particular the dilutions achieved, which determines the point at which the defined thresholds levels are reached. ○ <i>Periodic and ‘for cause’ toxicity testing and characterisation of the physical and chemical composition of the FPSO PW stream prior to discharge will be undertaken.</i> This provides an assessment of the individual constituent chemical concentration and the whole of effluent toxicity at end of pipe. ○ <i>Baseline and periodic water and sediment quality monitoring at a gradient away from the FPSO facility in the receiving environment will be undertaken to detect changes as a result of FPSO PW discharge.</i> This monitoring aims to confirm no changes in the receiving environment water and sediment quality outside of the defined mixing zone as a result of the FPSO PW discharges. ○ <i>In the event the PW discharge does not meet the defined thresholds in the range predicted for any constituent concentrations, an adaptive management strategy will be implemented which will be included during the EP process.</i> This adaptive management strategy may include actions such as reducing the discharge rate, which increases dilutions in the nearfield or reduces an individual chemical concentration through commingling prior to discharge. It should also be noted that PW will come on slowly so there will be opportunity to sample and adapt before the full rates modelled are experienced. <p>The process of how these commitments will be operationalised, verified and monitored will be further outlined in the EP for Commonwealth waters.</p> <p><i>PW discharge dispersion modelling</i></p> <p>As described in the EQMP, a change in water quality due to the residual hydrocarbons and chemical concentration of the PW discharge will occur in the vicinity of the PW discharge location. The point at which the 99% species protection level is met for oil in</p>

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	EPA comments	Proponent's response
		<p>water (333 dilutions) is a maximum distance of 1,200 m from the Torosa FPSO discharge point, as defined in the modelling as described in Section 6.3.12.3 of the draft EIS/ERD. This modelling indicates that there will be no detectable change to water quality within the State Proposal Area from Torosa FPSO PW discharge. As stated in the response to comment 4, the modelling presented within the draft EIS/ERD (Chapter 6 and Chapter 10., Appendix D.4) is not preliminary, and given the alignment with design, inherent conservatism, the use of reputable industry proven techniques/contractors, and the independence of EPA review and assessment, additional peer review is not considered warranted.</p>
16	<p>Hydrocarbons will be discharged at a concentration of 30 mg/L oil in water (average 24hr period). The 99% species protection level of 0.09mg/L was based on ecotoxicological studies on the Torosa condensate. It is noted that the hydrocarbon fractions in condensate is likely to be quite different to the hydrocarbon fractions in produced water and that the ecotoxicological studies may have limited relevance to the actual toxicity of the discharge. As a result, there is some uncertainty over how many dilutions of the hydrocarbon content are required to achieve the objectives for State waters.</p> <p>Provide a commitment to undertaking ecotoxicological testing of the produced water when it becomes available and at regular intervals for the life of the project to confirm that a 99% species protection level will continue to be maintained in State waters.</p>	<p>As detailed in Section 6.3.12.2 of the draft EIS/ERD and commitment in Table 6-101 of the draft EIS/ERD "periodic and 'for cause' toxicity testing and characterisation of the physical and chemical composition of the FPSO PW stream prior to discharge will be undertaken". This toxicity testing will determine the whole of effluent toxicity used to define the mixing zone, while the chemical characterisation will verify that the discharge limits specified in this draft EIS/ERD are met.</p> <p>In the event the FPSO PW discharge does not meet the defined thresholds in the range predicted for any constituent concentrations, an adaptive management strategy will be implemented as committed to in Table 6-102 of the draft EIS/ERD. This adaptive management strategy may include actions such as reducing the discharge rate, which increases dilutions in the nearfield or reducing an individual chemical concentration through commingling prior to discharge. It should also be noted that PW will come on slowly (i.e. over years) so there will be opportunity to sample and adapt before the full rates modelled are experienced. This will be subject to rigorous assessment by NOPSEMA and acceptance prior to the activity occurring.</p>
17	<p>The EIS/ERD states that there is no 99% species protection limit for ammonia. DWER understand this may be incorrect, as there is a 99% species protection limit of 0.5 mg/L. Furthermore, the EIS/ERD states that the 95% species protection limit is 0.95 mg/L. DWER understand this may be an error and the correct figure is 0.91 mg/L.</p>	<p>Noted. The 99% species protection limit default guideline value for ammonia is 0.5 mg/L, with the 95% species protection limit default guideline value (DGV) 0.91 mg/L.</p> <p>The predicted minimum dilutions within the near-field (<20 m from the discharge point) are 70 for Scenario 1 (FPSO PW maximum processing capacity of the FPSO facilities, which is not expected until late field life) and 323 for Scenario 2 (flowrate of the FPSO facility shortly after start-up or on facility restart when Monoethylene Glycol (MEG) is typically expected to be discharged), based on annualised medium current speeds</p>

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	EPA comments	Proponent's response
		<p>(refer to Chapter 10, Appendix D.4.) Therefore, it is considered that the assessment outcomes in relation to this toxicant are valid given that between 20-25 dilutions are required to achieve the 95% species protection limit guideline value and 40 dilutions are required to achieve the 99% species protection limit DGV. Both below the predicted dilutions demonstrated in the modelling.</p>
18	<p>Cooling water discharged from the FPSO will contain chlorine as a biocide. The preliminary modelling in the EIS/ERD predicts that 125 dilutions will be achieved at the State waters boundary. Residual chlorine would be discharged with the cooling water at concentrations that will vary between 0.2 – 1.0 mg/L.</p> <p>The EIS/ERD does not commit to monitoring cooling water discharges, verifying the model predictions or to a monitoring and management plan at the State waters boundary to ensure that the environmental quality objectives are met.</p> <p>To achieve the proposed chlorine guideline in State waters the dilutions required would be 100 – 500x respectively. This suggests that there may be some level of impact from chlorine in State waters. To provide confidence that the cooling waters are adequately monitored and managed to prevent impacts in State waters the EQMP for this discharge should include verification of model predictions and a monitoring and management plan at the State waters boundary.</p>	<p>The CW modelling demonstrates that for 95% of the time, residual chlorine concentrations meet the defined thresholds values at the 3 nm State water boundary around Scott Reef (Figure 6-32 of the draft EIS/ERD), with a minimum dilution of 125 dilutions achieved at Scott Reef 3 nm State waters boundary. It is noted that the cooling water concentration is expected to range from 0.2 – 1.0 mg/L (Section 6.3.13.2 of the draft EIS/ERD). Woodside has committed to:</p> <ul style="list-style-type: none"> For FPSO cooling water discharges, the defined threshold value (i.e. 99% species protection; 3°C above ambient) will be met at the edge of the mixing zone and the State waters 3 nm boundary, 95% of the time based on dispersion modelling results. <p>Note the defined threshold value differs in consideration of whether it is a continuous or intermittent discharge which allows for the variation in discharge concentration, as follows:</p> <ul style="list-style-type: none"> Chronic chlorine threshold for continuous discharges: 2 ppb (0.002 mg/L) which represents the predicted no effect concentration for chronic exposure at the 99% species protection level (Chariton and Stauber, 2008). Acute chlorine threshold for intermittent/shock dosing: 13 ppb (0.013 mg/L) which represents the predicted no effect concentration for acute exposure at the 99% species protection level (Chariton and Stauber, 2008). <p>As outlined in Section 6.3.13.2 of the draft EIS/ERD, residual chlorine levels will be monitored, and the system routinely maintained so residual chlorine levels at the point of discharge are such that the defined threshold values are achieved at the Scott Reef State waters 3 nm boundary. In addition, it has been proposed and outlined in Section 6.3.13.3 of the draft EIS/ERD that during steady state operations, infield verification will be completed to verify the model predictions and confirm that the mixing zone, including at the 3 nm State waters boundary is met. In the event that the mixing zone is larger than anticipated, then adaptive management will be implemented onboard the FPSOs</p>

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	EPA comments	Proponent's response
		<p>to mitigate the risk. Corrective actions include additional engineering that result in a change in the discharge characteristics.</p> <p>The process of how this commitment will be operationalised, verified and monitored will be further outlined in the EP for Commonwealth waters.</p>
Factor 4: Marine Fauna		
19	<p>Key potential impacts from the proposal to marine fauna are the effects of physical interaction, lighting and noise. Marine fauna management objectives are required to be measurable, achievable and specific to the environmental values impacted.</p>	<p>Woodside has revised the environmental objectives for marine fauna in response to this comment and in response to comments from DAWE on the draft EIS/ERD received through the Commonwealth environmental impact assessment process. The revised environmental objectives are presented in Section 5. Environmental objectives relating to protected fauna include:</p> <ul style="list-style-type: none"> • Undertake the Browse Project in a manner that prevents physical injury to marine fauna (cetaceans, marine turtles, whale sharks, dugongs, seabirds and migratory shorebirds). • Undertake the Browse Project in a manner that will not disrupt the migration and feeding of the East Indian Ocean pygmy blue whale population. • Undertake the Browse Project in a manner that will not displace the East Indian Ocean pygmy blue whale population from the possible foraging area at Scott Reef. • Undertake the Browse Project in a manner that will not disrupt migration, breeding, nesting, internesting and hatchling dispersal of the green turtle population at Scott Reef. • Undertake the Browse Project in a manner that will not displace the green turtle population from habitat critical to the survival of the species at Scott Reef.
20	<p>Clarify and demonstrate potential impacts from the proposal including vessel interactions, noise, light, subsidence and discharges can be managed to support significant marine species conservation management standards.</p>	<p>A further evaluation has been conducted for those aspects of the proposed Browse Project that have the potential to result in significant impacts and risks to significant marine species at Scott Reef, both in isolation and cumulatively:</p> <ul style="list-style-type: none"> • unplanned vessel interactions • underwater noise emissions • light emissions • seabed subsidence.

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	EPA comments	Proponent's response
		The outcomes of this further evaluation are summarised in Table 4-2 (unplanned vessel interactions), Section 4.25 (underwater noise emissions), Error! Reference source not found. (light emissions) and Section 4.27 (seabed subsidence). Additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise these impacts and risks to marine turtles are outlined in the relevant tables.

Table 3-2 Emissions Rates and Emissions Factors used for the purposes of NO2 modelling

Source	Source Data	Emissions Factor	NOx Emissions Rate
MODU – Marine Diesel Consumption	41 m ³ /day	0.053 t NO _x /m ³	25.1g/s
Attendant PSV – Diesel Consumption	3 m ³ /day		1.9 g/s
MODU - Flaring	70 mmscfd (12 hours per well)	1.5 kg NO _x /t ²	25.5 g/s

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¹ Refer Table 43 of the National Pollutant Inventory Emissions Estimation Technique Manual Combustion Engines.

² Refer Table 8 of the National Pollutant Inventory Emissions Estimation Technique Manual Oil and Gas.

Table 3-3 Proposed Limits of Ecological Protection (LEP) for the State Proposal Area

Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
Construction activities			
Drilling and completions discharges – sediment and biota	Activity is predicted to result in sediment deposition above ecological thresholds (6.5 mm in thickness (IOGP, 2016)) for a radius in the order of 200 m from each well, and the discharge of cement for a radius of approximately 50 m from each well. This may lead to the alteration of the physio-chemical composition of sediments, the burial and potential smothering of sessile benthic biota, and potential contamination and	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains) Given the localised area potentially affected by the drilling or completions discharges in the context of deepwater habitats that are well represented both in the State Proposal Area and regionally, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life) Given the localised area potentially affected by the drilling or completions discharges in the context of deepwater habitats that are well represented both in the State Proposal Area and regionally, biodiversity as measured on both local and regional scales remains at natural levels (no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants) The localised smothering of biota associated with deepwater habitats within the State Proposal Area resulting from discharge of drill cuttings and cement is expected to lead to small changes in the abundance and/or biomasses of marine life within</p>	<p>Drilling cuttings and cement discharge – low LEP (sediment and biota) Based on predicted changes to the abundance and biomass of marine life and the quality of water, biota and sediment, a low LEP is proposed within a 200 m radius of each well. It should be noted that given the exact location of each well within the drill centre is currently unknown, the exact locations of these low LEPs are also unknown and not currently depicted on Figure 3-3 or Figure 3-5. Once the decisions on the location of these well is known, the EQMP will be updated to reflect this.</p> <p>Drilling cuttings discharge – moderate LEP (sediment and biota) A moderate LEP is proposed from 200 m from each well, extending to a 1,000 m radius from each drill centre. Note that based on this 1,000 m radius, sediment deposition resulting from drilling wells radiating from TRH drill centre (in Commonwealth waters), may extend into</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
	<p>toxicity effects to benthic biota from drilling fluids.</p> <p>variability as a result of drilling discharges.</p>	<p>approximately 1,000 m radius of each drill centre, depending on individual well locations.</p> <p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity)</p> <p>The deposition of drill cuttings (with residual fluids) may result in the contamination of sediments within approximately 1,000 m radius of each drill centre, depending on individual well locations. The generation of localised and temporary elevated turbidity may result in a small detectable change in water quality beyond limits of natural variation but no resultant effect on biota is predicted.</p>	<p>the State Proposal Area. A corresponding moderate LEP has been proposed.</p> <p>Note that the estimated extent of deposition impacts within the moderate and low LEPs (0.16 km² irreversible due to the discharge of cement and 2.36 km² of reversible loss due to cuttings deposition) still applies within these LEPs. Therefore, while the total area of moderate and low LEPs as a result of drilling discharges is 10.67 km², a total of 2.52 km² only is predicted to be impacted.</p> <p>Drilling discharges – high LEP (sediment and biota)</p> <p>Based on the modelling results presented in Section 6.3.15 of the draft EIS/ERD, TSS levels will be temporarily increased above natural variability, with no impact on biota as a result of drilling or completions discharges expected outside of the moderate LEP. The modelling has been used to define an area of high LEP where a temporary change in water quality (above natural variability) may occur at a point of time during construction as a result of drilling discharges. In defining this LEP, a TSS threshold of 10 mg/l has been adopted based on review of near seabed TSS measurements (as detailed in Section 5.2.9 of the draft EIS/ERD).</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
<p>Drilling and completions discharges – water quality</p>	<p>Modelling indicates TSS levels will be temporarily increased above natural variability as a result of drilling discharges. TSS is predicted to never exceed 1,000 mg/L and is typically less than 10 mg/L within less than 100 m of the discharge point. Concentrations may be above 10 mg/L for short periods for a distance of up to 1,000 m from the well</p>	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains) Given any impacts to water quality will be localised and temporary, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life) Given any impacts to water quality will be localised and temporary, biodiversity as measured on both local and regional scales remains at natural levels (no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants) Given any impacts to water quality will be localised and temporary, abundances and biomasses of marine life is not expected to be vary outside of natural limits (no detectable change).</p>	<p>Drilling cuttings discharge – Moderate LEP (water quality) A moderate LEP is proposed from each well for a radius of 200 m from each well as instantaneous high concentrations of sediment may occur during pit dumps during drilling. It should be noted that given the exact location of each well within the well centre is currently unknown, the exact locations of these moderate LEPs are also unknown and not currently depicted on Figure 3-4. Once the decisions on the location of these well is known, the EQMP will be updated to reflect this.</p> <p>Drilling discharges – high LEP (water quality) A high LEP is proposed based on a TSS threshold of 10 mg/L which Nelson <i>et al.</i> (2016) identified as the no effect or sub lethal minimal effect concentration for TSS. The high LEP will apply from a radius of 200 m from each well to 1,000 m radius from the well centre.</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
		<p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity)</p> <p>The generation of localised and temporary elevated turbidity may result in a small detectable change in water quality beyond limits of natural variation but no resultant effect on biota is predicted.</p>	<p>The 1,000 m radius around each drill centre for the high LEP is proposed to allow flexibility in the final location of the wells.</p>
<p>Hydrotest discharge – flowlines and MODU</p>	<p>Discharge of hydrotest fluid from the flowlines and the temporary production system in the MODU located in the State Proposal Area may result in a temporary and localised decline in water and sediment quality as a result of the presence of chemical additives in discharged hydrotest fluids.</p> <p>Representative modelling indicates that such discharge would dilute to 1 ppm (based on LC50 over 96 hours) within 300 m.</p>	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains)</p> <p>Given any impacts to water quality will be localised and temporary, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life)</p> <p>Given any impacts to water quality will be localised and temporary, biodiversity as measured on both local and regional scales remains at natural levels (no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants)</p> <p>Given any impacts to water quality will be localised and temporary, abundances and biomasses of marine life is not expected to be vary outside of natural limits (no detectable change).</p> <p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity)</p>	<p>Based on predicted changes to the quality of water, biota and sediment, a moderate LEP is proposed.</p> <p>This hydrotest discharge would occur within (and be incorporated within) the areas proposed as a moderate LEP around the drill centres and subsea infrastructure described above for the drilling or completions discharges.</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
		The discharge of hydrotest fluid may result in moderate changes in water quality beyond limits of natural variation but not to exceed specified criteria.	
Hydrotest discharge – BTL	<p>Discharge of hydrotest fluid from the BTL in Commonwealth waters may result in a temporary decline in water and sediment quality as a result of the presence of chemical additives in the discharge.</p> <p>Modelling of such a release at the Torosa PLET (not preferred option) which represents the worst-case option in proximity to the State Proposal Area indicates the discharge plume may enter the State Proposal Area. The modelling also indicates that sufficient dilutions to achieve 99% species protection may not be achieved by the time the plume reaches the boundary of the State Proposal Area.</p>	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains) Given any impacts to water and sediment quality will be localised and temporary, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life) Given any impacts to water and sediment quality will be localised and temporary, biodiversity as measured on both local and regional scales remains at natural levels (no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants) As the plume may not be diluted to a level that achieves 99% species protection at the 3nm State waters boundary, small changes in the abundance and/or biomass of marine life may occur. Once the plume is diluted to a 99% species protection level, no change to the abundance and biomasses of marine life is predicted.</p> <p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity) As the plume may not be diluted to a level that achieves 99% species protection at the 3nm State waters boundary, changes in water quality at a</p>	<p>Based on predicted changes to the abundance and biomass of marine life and the quality of water, biota and sediment, a moderate LEP is proposed in the area where modelling indicates that there are insufficient dilutions to achieve the defined thresholds based on 99% species protection level. Based on the modelling, this area of moderate LEP extends into the State Proposal Area for a distance of approximately 800 m for both Scenario 2 and Scenario 3b.</p> <p>A high LEP is proposed for the area where modelling indicates sufficient dilutions will have occurred to achieve 99% species protection levels, however insufficient dilutions to reach background levels. Based on the modelling, this area of high LEP extends into the State Proposal Area for a distance of 1.5 km for Scenario 2 and 1.8 km for Scenario 3b.</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
		<p>moderate level and beyond the limits of natural variation may occur. Once the plume is diluted to a 99% species protection level, small detectable changes beyond limits of natural variation may occur but with no resultant effect on biota.</p>	
All other areas	<p>A maximum LEP (no detectable change beyond natural variation) is proposed for all other areas within the State Proposal Area. This includes all Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).</p>		
Operations			
Subsea infrastructure - wells	<p>The predicted irreversible loss (approximately 50 m radius of each well) of benthic habitat resulting from the discharge of cement that will occur during construction of the wells will remain throughout the operations phase. Note any reversible loss has not been considered in the operations phase LEP.</p> <p>It is noted that the subsea control fluid discharged as part of the operations of the wells is expected to be rapidly dispersed and diluted by prevailing currents and is expected to be undetectable outside of the proposed low LEP established for the construction phase.</p>	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains)</p> <p>Given the small localised area potentially affected in the context of deepwater habitats that are well represented both in the State Proposal Area and regionally, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life)</p> <p>Given the small localised area potentially affected in the context of deepwater habitats that are well represented both in the State Proposal Area and regionally, biodiversity as measured on both local and regional scales remains at natural levels (i.e. no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants)</p> <p>The localised smothering of biota associated with the deepwater habitats within the State Proposal Area are expected to lead to small changes in</p>	<p>Based on predicted changes to the abundance and biomass of marine life a moderate LEP is proposed.</p> <p>It should be noted that only a portion of the proposed moderate LEP area around the drill centres will be impacted. However, at the time of writing, the location of each individual well around each drill centre has not been confirmed and will be further refined through detailed engineering and design. A 1,000 m radius around each drill centre is proposed to allow flexibility in the final location of the wells.</p> <p>Note that the estimated extent of cement discharge within the moderate LEPs (0.16 km² irreversible due to the discharge of cement) still applies within the moderate LEP. Therefore, while the total area of moderate LEP proposed is 10.67 km², only 0.16 km² is predicted to be impacted irreversibly</p>

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
		<p>abundances and/or biomasses of marine life within 50 m radius of each drill centre.</p> <p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity)</p> <p>No detectable change to water quality during operations is predicted as cement discharge will only occur during construction.</p>	
FPSO cooling water	<p>Discharge of cooling water from the Torosa FPSO (in Commonwealth waters) may result in a temporary and localised decline in water quality as a result of the presence of chemical additives in discharged cooling waters.</p> <p>Modelling of the FPSO cooling water discharge (Section 6.3.13.3 of the draft EIS/ERD) indicates that the discharge plume may enter the State Proposal Area but at concentrations not exceeding the 99% species protection level (95th percentile). The maximum extent of this incursion is approximately 2 km.</p>	<p>Ecosystem processes (e.g. primary production, nutrients cycles, food chains)</p> <p>Given any impacts to water quality will be localised and temporary, ecosystem processes are expected to be maintained within natural variation (i.e. no detectable change).</p> <p>Biodiversity (e.g. variety and types of naturally occurring marine life)</p> <p>Given any impacts to water quality will be localised and temporary, biodiversity as measured on both local and regional scales remains at natural levels (i.e. no detectable change).</p> <p>Abundance and biomass of marine life (e.g. number or density of individual animals, the total weight of plants)</p> <p>Given any impacts to water quality will be localised and temporary (with 99% species protection levels achieved) no change to the abundance and biomasses of marine life is predicted.</p>	A high LEP is proposed for the area where modelling indicates the cooling water plume discharged from the Torosa FPSO in the Commonwealth waters may enter into the State Proposal Area (at sufficient dilutions to achieve 99% species protection levels)

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Activity	Predicted extent and magnitude of impact	Predicted limit of ecological change	Applicable LEP achieved
		<p>The quality of water, biota and sediment (e.g. types and levels of contaminants such as heavy metals, dissolved oxygen content, water clarity)</p> <p>Given any impacts to water quality will be localised and temporary (with 99% species protection levels achieved), small detectable changes beyond limits of natural variation may occur but with no resultant effect on biota.</p>	
All other areas	<p>A maximum LEP (no detectable change beyond natural variation) is proposed for all other areas within the State Proposal Area. This includes all Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).</p>		

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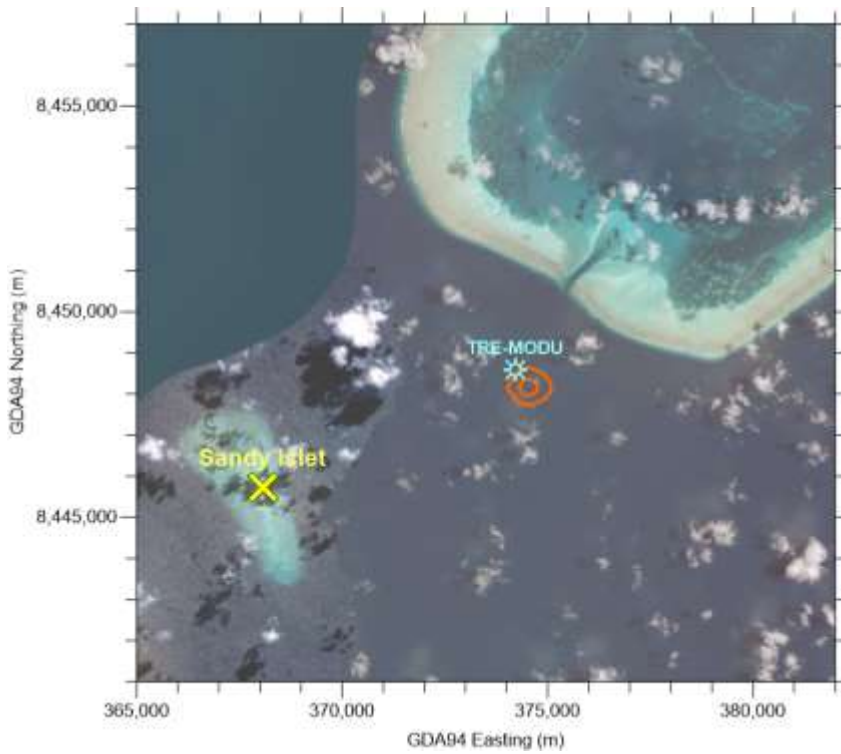


Figure 3-1 Annual average results from MODU NO₂ modelling showing exceedances of current NEPM thresholds (red) and future NEPM thresholds (orange)

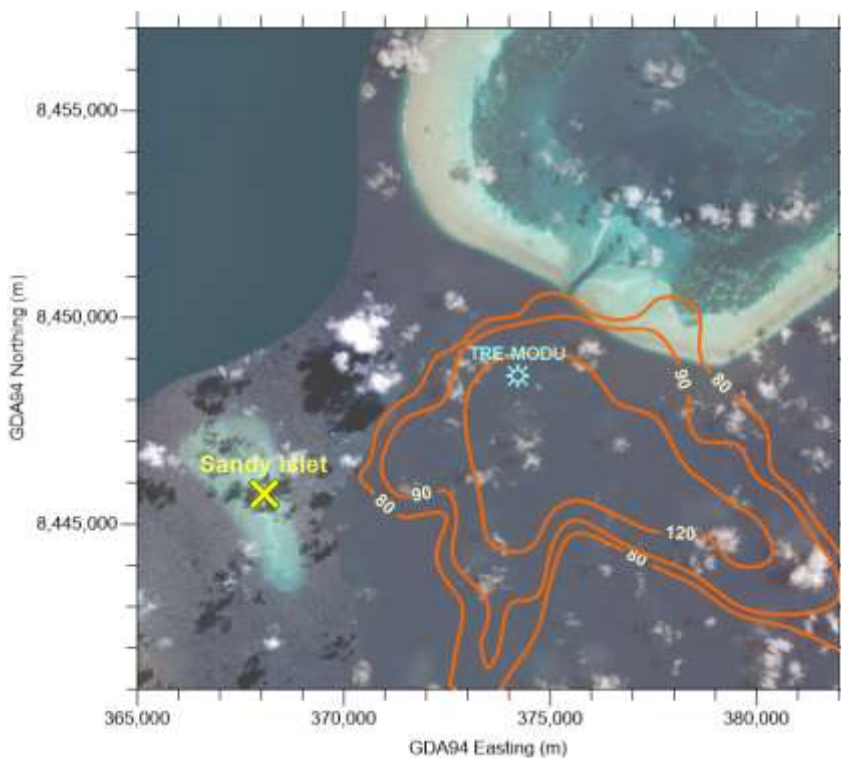


Figure 3-2 One-hour Maximum Results from MODU NO₂ modelling showing exceedances of current NEPM thresholds (red) and future NEPM thresholds (orange)

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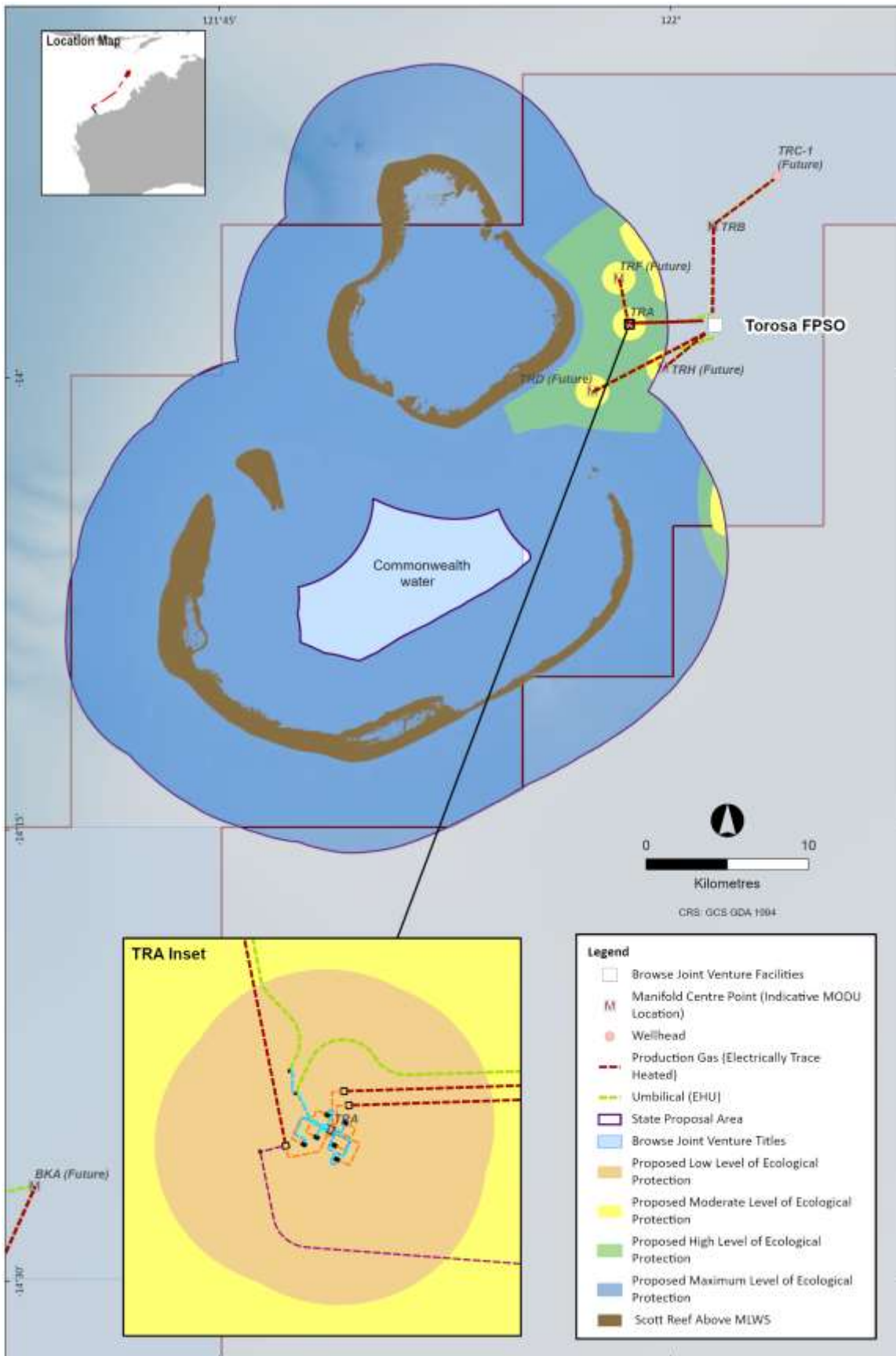


Figure 3-3 Proposed State Proposal Area LEPs – Construction

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Figure 3-4 Proposed State Proposal Area LEPs – Construction (drilling discharge water quality)

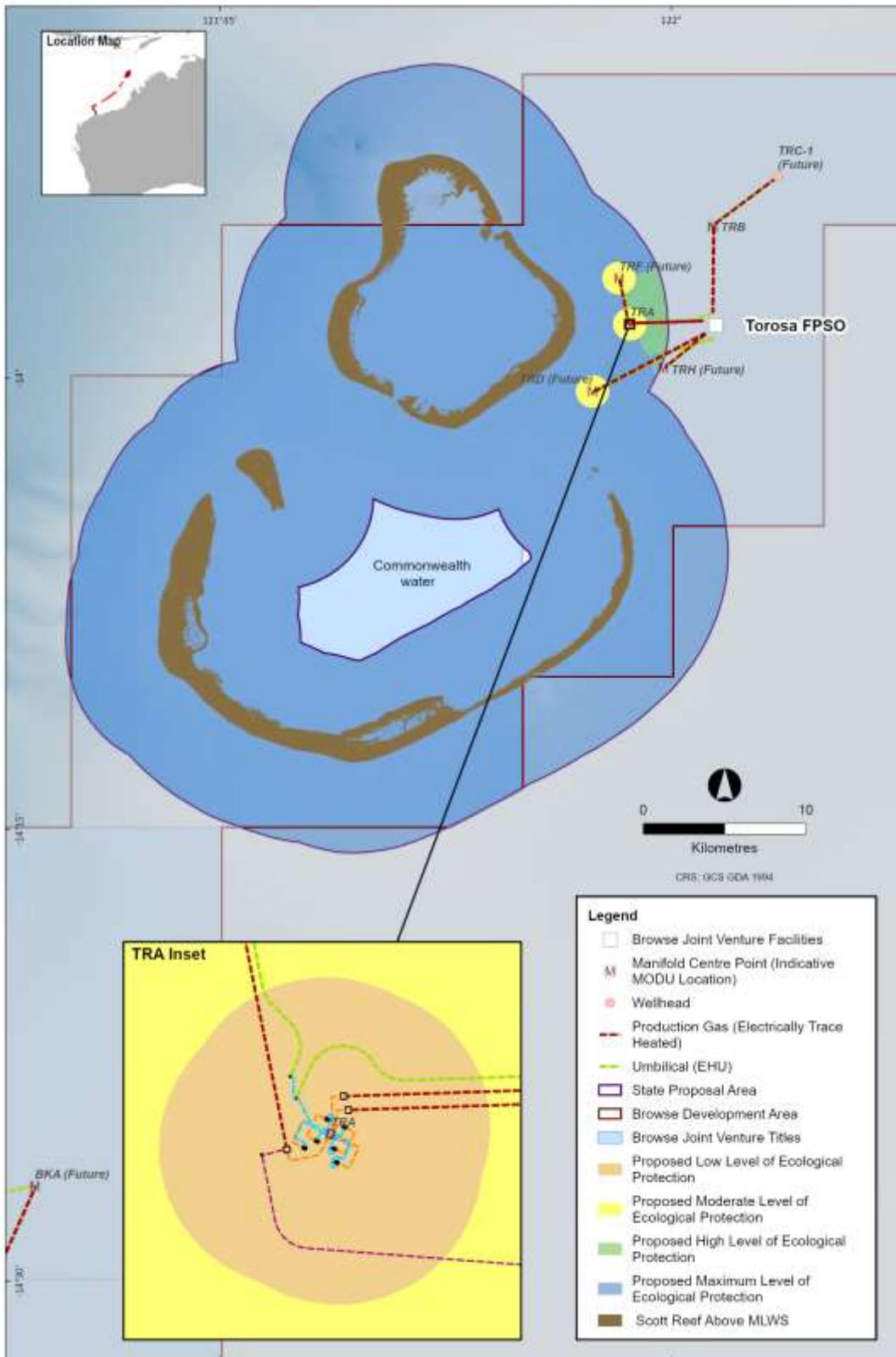


Figure 3-5 Proposed State Proposal Area LEPs – Operations

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3.2 Supplementary comments from EPA

Following an initial review of the Response to Submissions by the EPA Services Unit, the following requests for further information were issued.

Table 3-4 Supplementary Questions from EPA and Proponent’s response.

EPA Comment	Proponent’s response
<p>1 Uncontrolled release of hydrocarbons to the marine environment.</p> <p>Additional information is requested to be provided to detail the measures which can be implemented, at a minimum, to further reduce the likelihood and consequence of impact on Scott Reef and the surrounding values from an unplanned hydrocarbon release. The additional measures proposed are recommended to be representative of current global best-practice, and commensurate with the sensitivities and values of the environment at risk of impact from the proposal.</p>	<p>In response to this request, a document (the Browse Project Hydrocarbon Spill Risk Management Approach – Appendix B.3) has been prepared to outline the approach that will be applied on the proposed Browse Project to reduce the likelihood and consequence of unplanned hydrocarbon release events. This document has been prepared to provide a high-level overview of the key actions that will be implemented in order to reduce the likelihood and consequence of the worst-case credible event associated with the Browse Project, a well loss of containment event. It should be noted that measures pertaining to oil spill response are applicable to other hydrocarbon loss of containment events that were identified as credible within the draft EIS/ERD.</p> <p>Woodside follows an industry leading process in the development of its oil spill prevention, preparedness and response position for its projects and activities. The objective of the process is to mitigate and manage the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, so that they are controlled to As Low As Reasonably Practicable (ALARP) and acceptable levels.</p> <p>The outcomes of the process will be presented in an Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) which, together with the following ‘secondary approval’ documents, meet the requirements of the relevant regulatory regime governing hydrocarbon spill arrangements that is applicable to the Browse Project, namely the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 and the State Petroleum (Submerged Lands) (Environment) Regulations 2012:</p> <ul style="list-style-type: none"> • Activity specific environment plans required under the Commonwealth and State regulations • Oil Pollution Emergency Arrangements (OPEA) • Activity specific Oil Pollution Emergency Plans (OPEP) including: <ul style="list-style-type: none"> – First Strike Plans (FSP)

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EPA Comment	Proponent's response
	<ul style="list-style-type: none"> - relevant Operations Plans - relevant Tactical Response Plans (TRPs) - relevant supporting plans <p>These plans are typically during the detailed design and planning phase of a project lifecycle, which the proposed Browse Project has not yet commenced. These 'secondary approvals documents' that will be prepared in accordance with all applicable regulations, are not yet able to be prepared as many of the critical details required to prepare these documents has not yet occurred.</p> <p>Noting that these detailed documents have not yet been prepared, in order to provide stakeholders a more detailed understanding of the measures that will be in place on the proposed Browse Project to reduce the likelihood and consequence of hydrocarbon releases, the proposed Browse Project Hydrocarbon Spill Risk Management Approach outlines the:</p> <ul style="list-style-type: none"> • measures that will be applied to minimise the likelihood of a well loss of containment event • source control techniques to be applied and maximum response timeframes to be achieved to reduce the consequence (e.g. release duration) of a well loss of containment event • hydrocarbon spill response (remediation) techniques to be applied to reduce the consequence (spill response) of any hydrocarbon release event • process that will be followed as part of secondary approvals to ensure risks from hydrocarbon spills are acceptable and risks are ALARP including relevant approvals that must be obtained • the Operational and Scientific Monitoring frameworks to be applied to inform response activities and monitor the effects of any spill. <p>A summary of key sections of the Hydrocarbon Spill Risk Management Approach is provided below.</p>

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		<p>Reducing the likelihood of well loss of containment events.</p> <p>A well loss of containment event is classified as any release of hydrocarbon (regardless of size or duration) from primary and secondary well control barriers. For a gas well, the probability of blowout during drilling and completion is 0.000293%, based on international benchmark data (SINTEF 2017). The most important step in managing such a release is minimising the likelihood of the event occurring. At Woodside, this process is managed through the Drilling and Completions (D&C) Management System. The D&C Management System Framework is based on international standards, codes and best practices. Woodside regularly conducts activities in Australia and internationally in accordance with this Framework. A description of this framework is provided in Section of the document. In addition, Woodside has provided an overview of the measures that, at a minimum, will be implemented to minimise the likelihood of loss of well containment events from the proposed Browse Project.</p> <p>These measures are the minimum that will be applied and have been identified very early in the lifecycle of the proposed Browse Project, as part of the environmental impact assessment. As project design and planning develops, and as part of the secondary approvals required under the Commonwealth and State regulations, further measures will be identified and assessed to ensure the risk of a significant unplanned hydrocarbon release is reduced to ALARP in accordance with the regulations. The remainder of this Section describes the process that will be undertaken as part of the development of the activity specific Environment Plans (EPs) that will be prepared in accordance with the regulations for acceptance by the Commonwealth and State regulators.</p> <p>Source control techniques to be applied on the proposed Browse Project to reduce the consequence of a well loss of containment event.</p> <p>In the highly unlikely event of a well loss of containment event, source control techniques will be applied to stop the flow of hydrocarbons to the environment from the well.</p> <p>At all times when drilling is occurring, the capacity and capability to implement the following source control techniques, in the specified timeframes, will be maintained.</p> <ul style="list-style-type: none">• A ROV capable of manually operating the Blow Out Preventor (BOP) (in the event of automatic systems failing) will be available in field for immediate response when determined safe to do so.
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EPA Comment	Proponent's response
	<ul style="list-style-type: none"> • A subsea first response tool kit to remove debris and facilitate installation of a capping stack will be available for will be available for deployment at the well loss of containment event site within 11 days of any event. • Access to a suitable capping stack (either through ownership or membership to a response organisation) will be maintained. The capping stack (on a suitable vessel for deployment) will be mobilised to site and the capping stack will be available for deployment at the well loss of containment event site within 11³-16⁴ days of event, with a target of 13 days. • Relief well capability will be monitored and at all times during the proposed Browse Project D&C activities, a suitable MODU capable of commencing relief well activities will be able to be mobilised and arrive in the field within 16 days of any well loss of containment event. <p>The Browse Project Hydrocarbon Spill Risk Management Approach outlines the presents a level of minimum capability and commitment in relation to source control activities, including maximum response times to enacting particular response techniques. The provision of such detailed commitments at such an early stage in the project development lifecycle demonstrates the commitment to ensuring global best practice to minimising the risk to Scott Reef and surrounding environment. The techniques to be applied and response timeframes are considered to be in alignment with industry best practice.</p> <p>These measures were identified in the context of the environmental impact assessment and primary approval process for the proposed Browse Project. As project design and planning matures, and as part of the secondary environmental plans required under the Commonwealth and State regulations, further measures will be identified and assessed to ensure the risk of a significant unplanned hydrocarbon release is reduced to ALARP in accordance with the regulations.</p>

³ 11 days is the mobilisation timeframe for the Singapore-based Wild Well Control Inc. capping stack to Port Hedland as calculated in the Australian oil and gas industry response time model (OSRL-APPEA, June 2021). This timeframe assumes the availability of a suitable vessel in Singapore within 24 hours.

⁴ 16 days is the estimated mobilisation timeframe based on the OSRL-APPEA response time model (11 days) plus transit time to the spill location and contingency if a suitable vessel is not available within 24 hours.

EPA Comment	Proponent's response
<p>2</p> <p>Management of artificial light to prevent impacts on Green Turtle</p> <p>Additional information is requested to be provided detailing additional monitoring and management measures proposed over the life of the project to manage potential impacts to the green turtle from artificial light. The measures are recommended to be in alignment with industry best-practice and/or innovative solutions to manage potential impacts of the proposal during construction and operation, as well as the National Light Pollution Guidelines for Wildlife (Department of Environment and Energy and Department of Biodiversity, Conservation and Attractions, January 2020).</p>	<p>To provide the requested further information, Woodside has prepared a Turtle Management Plan (TMP – Appendix B.4) which provides, in context, the monitoring and management measures proposed to manage potential impacts to green turtles from artificial light.</p> <p>The management plan includes the following key sections.</p> <p>Updated modelling of artificial light emissions</p> <p>Modelling of the artificial light emissions from the proposed offshore facilities, including the Torosa FPSO and MODU, under different operational conditions and locations, was undertaken to support the outcomes of the assessment of light emissions included in the draft EIS/ERD and to inform management and monitoring measures. Based on this modelling an updated impact assessment is provided in the plan. The light modelling shows that potential impacts from the six representative operational scenarios modelled are unlikely to occur with highest light and light glow levels received at Sandy Islet being restricted to “visible but behavioural impact is unlikely (i.e. not biologically relevant) (equivalent to the light output from the first quarter moon to new moon).</p> <p>Management Actions</p> <p>A series of management actions are outlined in the TMP, providing measures that will ensure the Performance Objectives can be achieved, in summary, key management actions include:</p> <ul style="list-style-type: none"> • avoiding potential impacts to Sandy Islet by restricting vessel operations from occurring in proximity to Sandy Islet during sensitive periods (e.g. peak/should turtle nesting season) • outlining requirements or circumstances where vessels will be required to implement a light management plan • designing the lighting on board the Torosa FPSO to be in accordance with National Light Pollution Guidelines for Wildlife • outlining how flaring from the Torosa FPSO will be managed to ensure any impacts associated with the light from flaring is consistent with the performance objectives.

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EPA Comment	Proponent's response
	<p>Monitoring, verification and adaptive management</p> <p>The plan outlines a monitoring and impact verification monitoring program including requirements for:</p> <ul style="list-style-type: none"> • collection of baseline data of turtle population and behaviour prior to activities commencing • monitoring Sandy Islet turtle population for changes over time, which may also inform requirements for potential adaptive management • monitoring of ambient / received light levels at Sandy Islet, including model verification • an adaptive management program to ensure any impacts are aligned to predicted levels and performance standards are being achieved.
<p>3</p> <p>Management of impacts of subsidence to Green Turtles</p> <p>In the context of the Scott Reef Nature Reserve, the Department of Biodiversity, Conservation and Attractions (DBCA) considers that the likelihood and potential severity of subsidence of the reef environment following the depletion of the gas reservoir beneath the reef remains uncertain, and permanent impacts on Scott Reef Nature Reserve (i.e. subsidence and potential inundation of Sandy Islet) would have significant conservation implications, and could be considered unacceptable from a conservation perspective. In particular, the loss of nesting habitat for Green Turtles, which are considered to be a separate genetic stock at this location (nesting on Browse Island Nature Reserve and Scott Reef Nature Reserve only), has uncertain and potentially significant consequences.</p> <p>Additional information is requested to be provided to detail the measures to monitor and manage the risk of subsidence and the loss of green turtle nesting habitat.</p>	<p>To provide the requested further information, Woodside has prepared a Turtle Management Plan (TMP – Appendix B.4) which provides, in context, the monitoring and management measures proposed to manage potential impacts to green turtles from subsidence included from hydrocarbon extraction,</p> <p>The plan presents a management approach that will be implemented in relation to potential risk of seabed subsidence on marine turtles as a result of the proposed Browse Project. This management approach is required to ensure that the aspects are managed so as not to result in an unacceptable impact to marine turtles. The Turtle Management Plan is provided in Appendix B.4 of the Response to Submissions.</p> <p>Key elements of the plan include:</p> <ul style="list-style-type: none"> • A description of measures that will be in place to monitor subsidence. Currently, the most practical method of measuring seabed subsidence of potentially millimetres per year over kilometre scale is considered to involve the use a combination of natural and artificial physical targets (e.g. retroreflector / corner targets) installed near Sandy Islet combined with regular InSAR (see below) data acquisition to establish a baseline of seabed subsidence, to monitor changes in seabed subsidence rates over time. Collection of satellite imagery data will also be used to

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EPA Comment	Proponent's response
	<p>monitor available nesting habitat (e.g. land above LAT) at Sandy Islet and to support interpretation of seabed subsidence monitoring data.</p> <p>Management actions that will be implemented in the event that hydrocarbon is determined to be causing a significant reduction in the availability of nesting habitat, which could include beach nourishment or alteration of hydrocarbon production rates.</p>
<p>4</p>	<p>Management of noise to prevent impacts on Pygmy Blue Whales</p> <p>Additional information is requested to be provided detailing additional monitoring and management measures proposed over the life of the project to manage potential impacts to the pygmy blue whale from noise. The measures are recommended to be in alignment with industry best-practice and/or innovative solutions to manage potential impacts of the proposal during construction and operation.</p> <p>In response this item, a Pygmy Blue Whale Management Plan (PBWMP) has been prepared and forms an attachment to this ERD (Attachment B.5).</p> <p>The primary purpose of the plan is to outline how any underwater anthropogenic noise associated with the Proposed Browse Project will be managed such that it will not be inconsistent with the Conservation Management Plan (CMP) for the Blue Whale, specifically the requirements of Action A.2.3.</p> <p>The objectives of the plan are to:</p> <p>Summarise the significance of the PFA to the pygmy blue whale population, based on existing scientific knowledge (Section 4) and summarise the current understanding of underwater noise generating activities (Section 5) and the extent of ensonification (Section 6).</p> <ul style="list-style-type: none"> • Outline the mitigation approach taken to reduce the potential environmental impact of underwater noise in the PFA to the pygmy blue whale population (Section 7, Section 8 and Section 9). • Outline scientific monitoring to be undertaken to improve confidence in the environmental impact assessment results (Section 10), and adaptive management measures to incorporate the outcomes of scientific monitoring in future mitigation approaches (Section 11). • Provide an environmental impact assessment on the residual sources of underwater noise (once mitigations are applied) (Section 12). <p>Implementation of the plan will achieve the relevant aspects of the relevant Environment Performance Objectives (EPO) of the proposed Browse Project, which are as follows:</p>

EPA Comment	Proponent's response
	<ul style="list-style-type: none"> • 26 - Undertake the Browse Project in a manner that prevents physical injury to marine fauna (cetaceans, marine turtles, whale sharks, dugongs, seabirds and migratory shorebirds). • 27 - Undertake the Browse Project in a manner that will not disrupt the migration and feeding of the East Indian Ocean pygmy blue whale population. • 28 - Undertake the Browse Project in a manner that will not displace the East Indian Ocean pygmy blue whale population from the possible foraging area at Scott Reef. <p>With specific reference to pygmy blue whales, the above EPOs and specific objectives of the plan aim to achieve the following:</p> <p>No significant impact to the pygmy blue whale population (EPBC Act threatened and migratory species) as per EPBC Act MNES significant impact criteria for listed endangered species.</p> <p>Demonstrate the proposed Browse Project is not inconsistent with Action A.2.3 of the Conservation Management Plan for the Blue whale (2015-2025), Commonwealth of Australia (2015), in accordance with the EPBC Act.</p>

3.3 Department of Biodiversity, Conservation and Attractions comments

Table 3-5 presents the Department of Biodiversity, Conservation and Attractions (DBCA) comments on the State ERD and Woodside's response.

Table 3-5 DBCA comments and Proponent's response

DBCA comment	Proponent's response
<p>1</p> <p>Of key interest to DBCA in relation to potential impacts of this proposal, is the close proximity of the proposed activities to Scott Reef Nature Reserve (R42749) and Rowley Shoals Marine Park (M 3).</p> <p>Both reserves were established for the purposes of conserving relatively pristine, unique and geographically</p>	<p>Noted. The Scott Reef Nature Reserve and Rowley Shoals Marine Park are described in Chapter 5 of the draft EIS/ERD. Woodside acknowledges the importance of these reserves which is reflected in the proposed Browse Project environmental objectives to:</p> <ul style="list-style-type: none"> • Undertake the Browse Project in a manner which avoids direct (i.e. physical footprint as a result of infrastructure placement) disturbance to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).

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DBCAs comment	Proponent's response
<p>isolated coral reef formations of exceptional biodiversity conservation significance.</p> <p>The reefs are of international significance as an important global benchmark for the state of Indo-West Pacific reefs. They provide habitat for conservation significant fauna species and are an important source of invertebrate and finfish recruitment to waters further south along the Western Australian coast. The reserves also support recreational and nature-based tourism activities.</p>	<ul style="list-style-type: none"> • Undertake the Browse Project in a manner that prevents changes beyond natural variation in ecosystem processes, biodiversity, abundance and biomass of marine life or in the quality of water, sediment and biota that form part of the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry). • Undertake the Browse Project in a manner that prevents any activities occurring within the Mermaid Reef Marine Park, State marine parks or State nature reserves.
<p>2</p> <p>Based on the available information, potential impacts on conservation reserves associated with the proposal are likely to relate to possible unplanned hydrocarbon releases, and the predicted subsidence of reef and island structures within the Scott Reef Nature Reserve, resulting from extraction of petroleum resources underlying the reserve. DBCA recommends that potential impacts on CALM Act lands and waters (including impacts from activities undertaken in Commonwealth waters) are thoroughly evaluated through the assessment because, based on the conservation significance of these areas, any impacts (especially potentially permanent impacts) should be considered significant.</p>	<p>Noted. Woodside has considered potential impacts from planned activities and risks from unplanned incidents and events on the Scott Reef Nature Reserve and Rowley Shoals Marine Park within the draft EIS/ERD. Within the assessment, these reserves were assigned a receptor sensitivity rating of 'high value'.</p> <p>Section 6.3.20 of the draft EIS/ERD presented the outcomes of an evaluation of the potential impacts of production-induced subsidence during the operations phase of the proposed Browse Project, which included change or loss of nesting habitat at Sandy Islet. This evaluation is based on peer-reviewed modelling of the magnitude of potential subsidence and associated horizontal movements for the Browse reservoirs. The conclusion of the modelling was that any production related subsidence at Scott Reef will be less than 10 cm over field life.</p> <p>As described in Section 6.3.20.4 of the draft EIS/ERD, the assessment of potential impacts of production-induced subsidence are largely based on a study by AIMS to assess the potential impacts on Scott Reef's coral habitats and Sandy Islet in the context of climate change. The study concluded that for the worst-case scenario, given the highly variable nature of sea level rise, cyclone occurrence and sediment dynamics, it is not possible to reliably predict the timing or just how much earlier any major changes to Sandy Islet might occur. The AIMS study concluded that impacts to Sandy Islet from the intermediate and best-case scenarios would be negligible. Given this, no significant change is predicted in terms of available turtle nesting locations or nesting success at Sandy Islet as a result of seabed subsidence. Further discussion of potential subsidence has been provided in Section 4.27. The AIMS (2012) study is provided in Appendix A.4</p>

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DBCA comment		Proponent's response
3	If the proposal is considered acceptable, it is recommended that condition(s) of approval are applied that require no adverse impacts on Scott Reef Nature Reserve and the Rowley Shoals Marine Park resulting from the proposal. Appropriate monitoring and contingency actions should also be required under approval conditions to ensure that indications of potential impacts are detected early and avoided.	Noted.
4	The proposal area (in both State and Commonwealth waters) is also known to support a number of conservation significant marine fauna species (i.e. marine mammals, marine reptiles, seabirds and migratory shorebirds, etc.) listed under the BC Act and the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). It appears that the ERD has identified relevant species, potential impacts and risks associated with the proposed activities and has outlined environmental objectives in relation to impacts on marine fauna. However, the documentation does not include activity-specific monitoring and management measures, possibly because this was not an explicit requirement of the Environmental Scoping Document for the assessment. In the absence of this information it is difficult to determine the extent to which potential impacts can be adequately detected and managed if the proposal is implemented.	<p>Section 9.4 of the draft EIS/ERD describes the specific proposed measures to mitigate and manage unavoidable impacts from planned activities and reduce the environmental risk associated with unplanned events and incidents. In addition, Woodside has prepared a Turtle Management Plan (Error! Reference source not found.) and Whale Management Plan (Error! Reference source not found.) which detail the specific monitoring and mitigation measures that will be applied in relation to these receptors. Both of these management plans have been prepared based on further modelling undertaken to support the assessment of the proposed Browse Project.</p> <p>With regard to conservation significant marine fauna listed under the <i>Biodiversity Conservation Act 2016</i> and the EPBC Act, key management and monitoring commitments for the proposed Browse Project include:</p> <ul style="list-style-type: none"> • Underwater noise monitoring of a ready for start up (RFSU) operational well will be undertaken to inform an adaptive management approach for noise management for the TRD wells if required. • Fast Crew Transfer Vessels (FCTVs) will operate under an approved FCTV Management strategy (to be detailed in subsequent EPs as required) which will describe the appropriate additional control measures to manage vessel strike risk for the FCTV. • Light monitoring will occur during drilling and completion of a well at an initial phase Torosa drill centre and during FPSO operations to verify predicted light emission levels, assess light emissions for comparison with performance standards and inform management response and adaptive management.

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DBCAs comment	Proponent's response
	<ul style="list-style-type: none"> • Application of seasonal based restrictions to activities where the achievement of the management objectives would be compromised should the activity occur at times when green turtles are nesting at Sandy Islet • Subsidence monitoring to verify predicted subsidence levels, assess subsidence for comparison with performance standards (Section 4.3) and inform management response and adaptive management. • A monitoring program will be conducted post-FID to verify and update baseline data through on-going data acquisition at relevant times throughout the proposed Browse Project on the distribution, abundance, seasonality and behaviour of pygmy blue whales within the possible foraging area at Scott Reef. • A monitoring program will be conducted post-FID to verify and update baseline data through on-going data acquisition at relevant times throughout the proposed Browse Project on the distribution, abundance, seasonality and behaviour of green turtles at Scott Reef and within habitat critical to survival for the G-ScBr stock.
<p>5 The cumulative impacts of artificial light on marine fauna in the region associated with the increase in onshore and offshore oil and gas developments is of ongoing concern to the department. DBCA recommends that appropriate monitoring and management of artificial light glow and light spill is developed prior to implementation of the proposal (if approved) to detect, avoid, minimise and mitigate potential impacts on marine fauna listed under the BC Act within State waters (e.g. through the development of management plan(s)). It is understood that the assessment of potential impacts on listed conservation significant species in Commonwealth waters will be covered under the Commonwealth component of the proposal assessment and in relation to the provisions of the EPBC Act.</p>	<p>Section 6.3.3 of the draft EIS/ERD sets out the outcomes of an evaluation of the potential impacts to green turtles from light emissions associated with the physical presence of offshore facilities, MODU and vessels during all phases of the proposed Browse Project. As described in Section 4.24, additional desktop lighting assessment and a light modelling study has been conducted. This includes an assessment of the relevant importance of the turtle nesting beach located in the Browse Development Area (Sandy Islet) to the G-ScBr stock, a further literature review describing potential impacts of offshore sources of artificial light on all life stages of marine turtles, a gap analysis of the assessment completed to date (against the National Light Pollution Guidelines for Wildlife, 2020), modelling of the artificial light emissions from the proposed offshore facilities and an updated impact assessment.</p> <p>This impact assessment was conservatively based on the assumption that light emissions (in the form of either direct light or sky glow) from operational lighting may be visible at intensities resulting in behavioural impacts to marine turtles at 20 km from the source. For flaring, additional conservatism was made based on results of line of sight modelling, with behavioural impacts potentially occurring within 52 km of the drill</p>

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DBCA comment	Proponent's response
	<p>centre and FPSO locations. Key outcomes of the impact assessment are summarised in Section 4.24 supported by updated modelling of potential light impacts.</p> <p>Woodside acknowledges the risk associated with light and proposes to manage this risk by implementing adopted controls (as identified in Section 6.3.3.7 of the draft EIS/ERD) and additional controls described in Error! Reference source not found..</p>

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3.4 Items raised during consultation with EPA

During consultation, the EPA requested further clarification on potential project logistical operations, particularly those required to support the construction phase of the proposed Browse Project.

Support activities and infrastructure are described in Section 3.7.9 of the draft EIS/ERD. Additional activities may be undertaken away from supply chain and logistics bases for short periods in order to support the construction phase. These may include activities such as heavy lift vessel unloading. For safety and logistical reasons, such activities require sheltered waters. The location of these activities is yet to be determined, however Powerful Island and Boonock Bay, as well as Cockatoo and Koolan islands are sheltered with deep water and have been identified as potential logistic activity locations for the FPSO and subsea installation scopes. Coastal locations between Broome and Dampier may also be required to support trunkline installation.

It is noted that the potential locations of such activities may overlap with Biological Important Areas (BIAs) for humpback whales (breeding and calving known to occur, known aggregation areas). To manage potential noise emissions impacts on these important lifecycle activities of humpback whales, no heavy lift activities (which typically requires use of large dynamically positioned vessels) will occur in the humpback whale breeding/calving BIA during the breeding/calving season for humpback whales (August to October to include the peak of the season) thereby making residual vessel movements consistent with general shipping activities in the region. Further, measures to mitigate the risk of unplanned vessel interactions with fauna will be applied as described in Section 6.3.18 of the draft EIS/ ERD and **Table 4-2**.

3.5 Additional information

Modelling conservatism

Marine discharge and hydrocarbon spill modelling

Modelling is a predictive tool for the purposes of impact and risk assessment and as such there are assumptions and inherent uncertainties within the process which are addressed through the application of conservatism and sensitivity testing. The modelling presented in Chapter 10, Appendix D.4 of the draft EIS/ERD is considered conservative given the selection of inputs and the overall modelling approach. Model inputs are based on the current basis of design, and typically represent the maximum design specifications (e.g. discharge rates, discharge orientation) providing the worst-case scenario. For example, for PW the maximum discharge rate was used, however rates will vary over the life of the proposed Browse Project, with increasing volumes of PW generated later in field life. While refinements to the design may occur as part of the Front End Engineering Design process, the outcomes will be demonstrated to remain within the defined impact envelope described in the draft EIS/ERD to ensure that predicted impacts are not greater than approved.

The far-field modelling is considered conservative in its approach. A stochastic modelling procedure is followed, where the characteristics of a single spill or discharge are simulated many times under randomly-selected samples of environmental conditions that are drawn from long term hindcast records representing the current and wind conditions that have occurred in the study area. The stochastic process is designed to capture the largest possible range of environmental forcing conditions that could occur during spill or discharge events, accounting for wide variations in the transport and weathering of marine pollutants, in order to map the potential spatial distribution of contaminants if an event was to occur. Within each simulation, random variations in wind and current forcing are applied to each discrete sub-portion of the overall spill/discharge volume to capture additional variability in potential transport patterns.

Current data are sourced from a ten-year hindcast data set of combined large-scale ocean (BRAN) and tidal currents to capture variations over time scales ranging from hourly to interannual, inclusive of major oceanographic trends (such as the ENSO index). Spill/discharge times within the ten-year span are identified by random selection which ensures that the sequences of environmental

conditions imposed on the simulations are representative of the frequency at which particular environmental forcing conditions occur in the vicinity of the potential spill/discharge sites. This methodology ensures that the calculated movement and fate of pollutants is based on realistic environmental conditions applied within each simulation, and that the collective sample of simulations is representative of the range and frequency that particular environmental conditions occur. The environment that may be affected (EMBA) envelope, and contours indicating higher probabilities of contact within this envelope, are analysed from the collection of replicate simulations. This process is conservative because it ensures that simulations resulting in unusually long or wide migrations of pollutants have a larger effect on the EMBA than those with more common conditions.

The stochastic contours of hydrocarbon spill scenarios are analysed from all replicate simulations to show statistics for locations that might be contacted at greater than 1% probability (i.e. 1% of any possible spill/discharge times) at conservative concentrations, with the thresholds considering concentrations that might result in water quality or socio-economic effects. An allocation of 1% probability of contact to any location follows a conservative approach: a location will be marked as having at least this probability of contact if the threshold concentration is reached at any model time-step during any spill simulation. For a location to be included within the EMBA, such an outcome needs only to be calculated for any single 60-minute time-step during any single multi-week spill simulation. Allowing for 'hits' to be triggered by transient (acute) exposure times is additionally conservative in terms of ecological impact, because the toxicity thresholds that are applied have been calculated as protective levels with an assumption of more sustained (chronic) exposure times (24+ hours). Further conservatism is built into calculations for in-water concentrations (dissolved and entrained hydrocarbons) by analysing for the maximum concentration at any depth level (and, again, at any time-step during any simulation). This includes very shallow depths immediately below the surface. Separate assemblages of stochastic replicates are simulated and analysed to quantify risks associated with a spill commencing during each season. The seasonal EMBA contours are then overlain to represent the annualised EMBA envelope. This process is conservative because it ensures that all locations predicted to be contacted are included, and that any elevation of risk that might occur within a particular season is not obscured by averaging out probability calculations over multiple seasons.

For the continuous marine discharge simulations, very fine spatial resolution (40 m or less) and time-step (60 seconds) have been applied as a conservative approach that avoids artificial dilution of in-water concentrations. While plumes generated by marine discharges will vary in concentration in a patchy manner over time and in three-dimensional space, the presented results quantify the highest patch concentrations (lowest dilutions) calculated over time in each model cell. Calculations will therefore be more conservative than if the average concentration in each cell were taken. The results are summarised for the 95th percentile occurrence, which illustrate the distribution of concentrations expected to occur up to 95% of the time. Given the approach to deriving maximum contaminant concentration/minimum dilutions within the model (e.g. exceedance within an individual grid cell in a modelled 60 second time step), the application of thresholds based on both acute (hours) and chronic toxicity (days) to derive areas of potential impact also has inherent conservatism. This is because the duration of sustained exposure required to cause impact is not necessarily being reached at all locations particularly in the far field, given the varying hydrodynamics and mixing characteristics of a discharge.

Underwater noise modelling

The underwater noise modelling presented in Chapter 10, Appendix D.3 of the draft EIS/ERD has also incorporated various layers of precautionary conservatism.

With the exception of impulsive sound sources, the adopted acoustic source parameters incorporated into underwater propagation modelling represent hypothetical source values that represent the upper limit or maximum source values reported during sound source characterisation monitoring. Source level values are typically presented as values @ 1 m, which provides for a

standardised and comparative approach, however this assumes the sound is radiating from a single point source in space. In reality sound radiates from a much wider area relative to the nature of the source type. Accordingly, the simplification of adopting source values referenced to @ 1 m has the tendency to commonly misrepresent the near field received levels of sound sources.

The sound speed profile incorporated within acoustic propagation models is well known to influence on propagation distance. In the draft EIS/ERD, June was selected as the most conservative sound speed profile month, which is expected to be more favourable for longer range propagation compared to other months; despite peak temporal sensitivity for most species occurring outside this period (pygmy blue whales and green turtles).

Acoustic propagation modelling broadly estimates the propagated sound field in three dimensions (x, y and z). However, for the purposes of simplifying how ranges to defined thresholds are presented and reported, the water column or depth component (z) is simplified and presented as the maximum value predicted across the water column depths modelled (typically seabed to surface). Although this doesn't significantly influence nearfield results (<1 km), for longer propagation ranges, in particular where sound can refract into deeper and relatively narrow slices within the water column, the simplification of maximum over depth can conservatively influence estimated predictions, which is confounded when assessing cumulative sound exposure levels over 24 hour periods (SEL_{24h}), as described further below. A more detailed overview of the propagation modelling methodology is outlined within Chapter 10, Appendix D.3 (Sub Appendices E and F) of the draft EIS/ERD.

The assessment of impacts from underwater noise within the draft EIS/ERD is primarily based upon adoption of the conservative maximum range (R_{max}) results. The presented maximum range (R_{max}) value represents the distance to the farthest occurrence of the threshold level, whereas the 95th percentile range ($R_{95\%}$) encompasses 95% of the sound at levels above threshold (both R_{max} and $R_{95\%}$ values incorporate maximum over depth as described above). Using $R_{95\%}$ values reduces the sensitivity to extreme outing values (the farthest 5% of impact ranges). The assessment of impacts from underwater noise within the draft EIS/ERD are considered conservative as they are primarily based upon adoption of the R_{max} results. For example, within the draft EIS/ERD, the modelled marine mammal behavioural response R_{max} range for impact piling with an IHC S-600 hammer is up to 150% larger than the quoted 95th percentile behavioural response range.

The sound exposure level (SEL_{24h}) thresholds adopted for injury (PTS) and auditory fatigue (TTS) are based upon a time accumulated dosage of sound exposure (up to 24 hours). Accordingly, any elements of conservatism incorporated into the acoustic propagation model described above are compounded due to the cumulative nature of SEL exposure estimates. SEL_{24h} values are inherently conservative by nature as they assume an animal is required to be within the defined impact range for a period of up to 24 hours. Whilst this may be possible for larger PTS or TTS ranges, in environments where animals are known to be resident, it is not credible for sources that have much smaller impact radii. To provide more representative SEL_{24h} values, the incorporation of animal movement and behaviour (ANIMAT) into the propagation model is a useful tool to demonstrate the probability of exposure within these ranges and therefore a more representative estimation of potential impacts.

3.6 Summary of additional Traditional Owner consultation undertaken (Nov 2019 – Oct 2020)

Stakeholder	Date	Topic	Outcome
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	Nov 2019	Proponent: Discussion of the Proposal, and update on environmental approvals process, including likely public comment dates. Stakeholder: No questions or issues raised.	Outcome: Ongoing engagement related to the Proposal. Next meeting scheduled for Feb 2020.
Ngarluma Yindjibarndi Foundation Ltd	Dec 2019	Proponent: Discussion of the Proposal including emissions management particularly in regard to rock art and update on environmental approvals process, including likely public comment dates. Stakeholder: No questions or issues raised.	Outcome: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	Dec 2019	Proponent: Notification of public comment period and provision of draft ERD & EIS which discuss greenhouse gas and emissions management.	Outcome: MAC invited to review and comment on ERD and EIS.
Ngarluma Yindjibarndi Foundation Ltd	Dec 2019	Proponent: Notification of public comment period and provision of draft ERD & EIS which discuss greenhouse gas and emissions management.	Outcome: NYFL invited to review and comment on ERD and EIS.
Ngarluma Aboriginal Corporation	Dec 2019	Proponent: Notification of public comment period and provision of draft ERD & EIS which discuss greenhouse gas and emissions management.	Outcome: NAC invited to review and comment on ERD and EIS.
Murujuga Aboriginal Corporation	Dec 2019	Proponent: Reminder that public comment underway.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation	Dec 2019	Proponent: Reissued invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation	Jan-2020	Proponent: Reissued invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	Jan-2020	Proponent: Issued invitation to clarify or address concerns ahead of public comment submission.	Outcome: Meeting scheduled for 6 February 2020.

Ngarluma Yindjibarndi Foundation Ltd	Jan-2020	Proponent: Reissued invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with NYFL to clarify or address any concerns ahead of public comment submission.
Ngarluma Aboriginal Corporation	Jan-2020	Proponent: Reissued invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with NAC to clarify or address any concerns ahead of public comment submission.
Ngarluma Yindjibarndi Foundation Ltd	Jan-2020	Proponent: Reissued invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with NYFL to clarify or address any concerns ahead of public comment submission.
Beagle Bay Aboriginal Community	Jan-2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Lombadina Aboriginal Community	Jan-2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	Jan-2020	Proponent: Reissue invitation to meet during public comment period as needed.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Djarindjin Aboriginal Corporation	Jan-2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Ardyaloon Aboriginal Community	Jan-2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Yawuru People	Jan-2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	Feb-2020	Proponent: Update on environmental approvals process, noting major themes of comments received (including greenhouse gas and the impact of emissions on rock art) and next steps in responding to comments. Stakeholder: No questions or issues raised.	Outcome: Ongoing engagement related to the Proposal.
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	Feb-2020	Proponent: Update on environmental approvals process, noting major themes of comments received (including greenhouse gas and the impact of emissions on rock art) and next steps in responding to comments. Stakeholder: No questions or issues raised.	Outcome: Ongoing engagement related to the Proposal.

Ngarluma Yindjibarndi Foundation Ltd	Mar 2020	Stakeholder: Confirmation that NYFL had not yet identified any items of concern and indicated support for the Project.	Outcome: Ongoing engagement related to the Proposal. Letter of support to be provided 20 March 2020.
Ngarluma, Yaburara, Mardudhunera and Wong-Goo-Tt-Oo people	Mar 2020	Proponent: Update on environmental approvals process, noting major themes of comments received (including greenhouse gas and the impact of emissions on rock art) and next steps in responding to comments. Stakeholder: Queried what onshore development would occur as part of the Browse project.	Outcome: Ongoing engagement related to the Proposal. No onshore development is proposed as part of the Browse project. Parallel upgrades to the Karratha Gas Plant will allow a reduction in both CO ₂ and NO _x emissions.
Murujuga Aboriginal Corporation	Mar 2020	Proponent: Issue invitation to meet following public comment period.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Kimberley Land Council	Apr 2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	Apr 2020	Proponent: Issue invitation to meet following public comment period.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Murujuga Aboriginal Corporation	May 2020	Proponent: Issue invitation to meet following public comment period.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Ngarluma Yindjibarndi Foundation Ltd	May 2020	Proponent: Discussion of the Proposal. Stakeholder: No questions or issues raised.	Outcome: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	May 2020	Proponent: Issue invitation to meet following public comment period.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Murujuga Aboriginal Corporation	May 2020	Proponent: Issue invitation to meet following public comment period.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Ngarluma Yindjibarndi Foundation Ltd	May 2020	Proponent: Discussion of the Proposal, and update on environmental approvals process.	Outcome: Ongoing engagement related to the Proposal.

Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	Jun 2020	<p>Proponent: Discussion of the Proposal, specifically noting no onshore development. Update on environmental approvals process, including likely timing of response to submissions.</p> <p>Stakeholder: No questions or issues raised.</p>	<p>Outcome: Ongoing engagement related to the Proposal. Next meeting scheduled for 10 Sep 2020.</p>
Ngarluma Aboriginal Corporation	Jun 2020	<p>Proponent: Invitation to meet to address any outstanding concerns.</p>	<p>Outcome: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's responses to NAC's comments.</p>
Murujuga Aboriginal Corporation	Jul 2020	<p>Proponent: Provided copies of intended responses to all MAC comments, addressing impacts to marine fauna, impacts to migratory species, fugitive emissions, climate change, and Indigenous engagement and consultation.</p> <p>Invitation to meet to close out any outstanding issues.</p>	<p>Outcome: Ongoing engagement related to the Proposal.</p> <p>Concerns as listed were addressed and time provided for MAC to produce formal response.</p>
Ngarluma Aboriginal Corporation	Jul 2020	<p>Proponent: Invitation to meet to address any outstanding concerns.</p>	<p>Outcome: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's finalised responses to comments.</p>
Murujuga Aboriginal Corporation	Aug 2020	<p>Proponent: Presented on intended responses to key MAC comments, addressing impacts to marine fauna, impacts to migratory species, fugitive emissions, climate change, and Indigenous engagement and consultation.</p> <p>Stakeholder: No questions or issues raised, but advised a written response would follow.</p>	<p>Outcome: Ongoing engagement related to the Proposal.</p> <p>Concerns as listed were addressed but time provided for MAC to produce formal response.</p>
Ngarluma Aboriginal Corporation	Aug 2020	<p>Proponent: Provided copies of intended responses to NAC comment, greenhouse gas management.</p> <p>Invitation to meet to close out any outstanding issues.</p>	<p>Outcome: Ongoing engagement related to the Proposal.</p> <p>Concerns as listed were addressed but time provided for NAC to produce formal response.</p>
Ngarluma Aboriginal Corporation	Aug 2020	<p>Proponent: Invitation to meet to address any outstanding concerns.</p>	<p>Outcome: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's finalised responses to comments.</p>

Murujuga Aboriginal Corporation	Aug 2020	Proponent: Invitation to meet to address any outstanding concerns.	Outcome: Invitation extended to meet with MAC to clarify or address any concerns ahead of submission of Woodside's finalised responses to comments.
Murujuga Aboriginal Corporation	Oct 2020	Stakeholder: Presented responses on the Proponent's intended responses to key MAC comments on the State ERD	Outcome: Ongoing engagement related to the Proposal.

4. RESPONSES TO COMMON SUBMISSIONS

4.1 Overview

The following sections provide responses to common submissions received during the public comment period. That is, where multiple submissions raise concerns or objections relating to the same aspect, receptor or topic, a common response has been prepared. Responses to common submissions have been prepared for:

- GHG-1: Objections to the proposed Browse Project due to GHG emissions. (**Section 4.2**)
- GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (**Section 4.3**)
- GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (**Section 4.4**)
- GHG-4: Proposed Browse Project GHG emissions estimates (**Section 4.5**)
- GHG-5: LNG as a transition fuel and the displacement of coal (**Section 4.6**)
- GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (**Section 4.7**)
- GHG-7: Lower and zero carbon energy sources (**Section 4.8**)
- GHG-8: The role of gas in the future energy mix (**Section 4.9**)
- GHG-9: Carbon capture and storage (CCS) of Browse gas (**Section 4.10**)
- GHG-10: Climate change impacts on human health and environmental and social receptors (**Section 4.11**)
- ESD-1: Principles of Ecologically Sustainable Development (ESD) (**Section 4.12**)
- AQ-1: Impact of air emissions on public health (**Section 4.13**)
- BCH-1: Potential impacts to Scott Reef (**Section 4.14**)
- MEQ-1: Environmental Quality Management Plan (**Section 4.15**)
- MEQ-2: Unplanned hydrocarbon release (**Section 4.16**)
- MEQ-3: Australian marine parks and State marine parks (**Section 4.17**)
- MEQ-4: Produced Water (**Section 4.18**)
- MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (**Section 4.19**)
- MEQ-6: Management of drilling and completion discharges (**Section 4.20**)
- MEQ-7: Decommissioning (**Section 4.21**)
- MEQ-8: Potential impacts to Wetlands (**Section 4.22**)
- MF-1: Potential impacts to marine fauna (general) (**Section 4.23**)
- MF-2: Potential impacts to marine fauna as a result of light emissions (**Section 4.24**)
- MF-3: Potential impacts to marine fauna as a result of noise emissions (**Section 4.25**)
- MF-4: Vessel - fauna interaction (**Section 4.26**)
- MF-5: Potential impacts to marine turtles (**Section 4.27**)

- MF-6: Presences and abundance of blue whales in Project Area (**Section 4.28**)
- MF-7: Potential impacts to cetaceans (**Section 4.29**)
- MF-8: Potential impacts to sea snakes (**Section 4.30**)
- MF-9: Potential impacts to seabirds and migratory shorebirds (**Section 4.31**)
- MF-10: New species of siphonophores (**Section 4.32**)
- MF-11: Potential impacts to fish (**Section 4.33**)
- SE-1: Displacement of Aboriginal people as a result of project infrastructure (**Section 4.34**)
- SE-2: Socio-economic benefits of the proposed Browse Project (**Section 4.35**).

4.2 GHG-1: Objections to the proposed Browse Project due to GHG emissions

A number of submissions objected to the proposed Browse Project on the basis of GHG emissions and contribution to climate change.

As described in Section 7.4.5.2 of the draft EIS/ERD, the scientific consensus on climate change, and the commitment of global governments to reduce emissions is clear. There is also a need to both improve local air quality in countries that are currently reliant on higher emitting fossil fuels such as coal (which emit higher amounts of pollutants such as particulate matter) and increase access to modern energy sources. Access to clean, affordable and reliable energy improves living standards dramatically and the world's growing population is driving increased energy demand. Woodside supports the United Nations Development Programme's (UNDP) Sustainable Development Goal (Goal 7: Affordable and Clean Energy) to ensure universal access to affordable, reliable and modern energy services by 2030 (UNDP, 2016).

Access to energy

To achieve the 7th UNDP Sustainable Development goal while reducing GHG emissions in line with the Paris Agreement, the world needs more energy, delivered in cleaner ways. Renewables and emerging technologies such as hydrogen have a growing role to play. Experts agree however that natural gas has a role to play in a lower carbon world:

- The 2014 report of the Intergovernmental Panel on Climate Change (IPCC) said that “GHG emissions from energy supply can be reduced significantly” by switching to gas (Intergovernmental Panel on Climate Change (IPCC), 2014). When combusted in a power plant, natural gas typically emits around half the amount of CO₂ per unit of power generated, compared to coal (IEA, 2019).
- The IPCC's 2022 report on “Mitigation of Climate Change” confirms that “fuel switching from coal to gas” had contributed to a lower carbon intensity of energy over the period 2010-19 (paragraph B2.4). The report further projects the continued use of natural gas in modelled pathways that limit warming to 1.5°C, at median levels in 2050 45% below 2019 levels (i.e. remaining at 55% of 2019 levels). In modelled pathways that limit warming to 2°C, the equivalent levels are 15% below 2019 levels (i.e. remaining at 85% of 2019 levels) (paragraph C.3.2)⁵. The Browse Joint Venture proposes to target this ongoing demand.
- Australian Chief Scientist Alan Finkel has observed that “natural gas is already making it possible for nations to transition to a reliable, and relatively low emissions, electricity supply” (Australian

⁵ IPCC (2022). Summary for Policymakers. In: Climate Change 2022, Mitigation of Climate Change, the Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Government, 2020). (<https://www.chiefscientist.gov.au/news-and-media/national-press-club-address-orderly-transition-electric-planet>)

- The IEA reports that “coal-to-gas fuel switching for power generation avoided 100 Mt of CO₂ in advanced economies” in 2019, helping avoid an increase in global energy-related CO₂ emissions (IEA, 2020). (<https://www.iea.org/articles/global-co2-emissions-in-2019>). Further, in its March 2022 “Global Energy Review: CO₂ Emissions in 2021”, the IEA found the reverse was also true, and that in 2021 “Spiking natural gas prices resulted in gas-to-coal switching, increasing emissions by 250 Mt⁶.”
- Under the IEA sustainable development scenario, which suggests a pathway that could see global temperature rises limited to well below 2°C this century in line with the Paris Agreement, demand for natural gas in the Asian markets that Woodside supplies is modelled to increase by 70% from 2018 to 2040 (from 519 million tonne of energy (mtoe) to 884 mtoe).
- Existing gas fields are in decline. New gas fields will need to be developed to continue to provide the natural gas that, along with renewables, can advance the global energy transition. Projects like the proposed Browse Project help get the global energy mix shifting in the right direction.

A partner to renewables

It should also be noted that the growth of renewables may also be constrained by the need to ensure grid stability; that is, grids need to be maintained at the correct frequency during fluctuations in demand. This can be readily done with readily dispatchable energy sources such as gas but more difficult with renewable sources such as solar and wind. This intermittency issue cannot currently be resolved via the use of large-scale battery storage as the technology is not currently available at sufficient scale. For example, the battery storage system built in South Australia by TESLA in 2017 (the largest of its type at the time) is capable of powering around 30,000 homes for just over an hour. Whilst this is hugely beneficial during peak demand, given the costs currently involved with battery storage, this is clearly not sufficient to solve intermittency issues on the scale required. This constraint can be supported by the use of gas partnering to address intermittency and enable deeper penetration of renewables into grid mixes. To have reliable energy and lower emissions, natural gas is the optimal complementary fuel. As a readily dispatchable power source, gas-fired power is an ideal partner with renewables to provide the necessary system stability.

Contribution to climate change impacts

It is important to acknowledge that anthropogenic climate change impacts cannot be directly attributed to any one project, as they are instead the result of global GHG emissions, minus GHG sinks, that have accumulated in the atmosphere since the industrial revolution started.

The more relevant consideration is the contribution that a project makes to net emissions, as it is the overall global atmospheric concentration of emissions that causes climate change. Browse gas processing and consumption results in GHG emissions, but these emissions have the potential to displace emissions from other sources. Where the use of Browse gas displaces energy from more emissions-intensive fuels, then there will be a net reduction in global GHG emissions.

ERM undertook a life cycle assessment (LCA) of the proposed Browse Project and Scarborough Development. ERM’s independent expert analysis, critically reviewed by CSIRO, shows Woodside’s Browse and Scarborough projects could avoid 650 Mt of CO₂ equivalent (CO₂-e) emissions (392 Mt for the proposed Browse Project) between 2026 and 2040 by replacing higher emission fuels in countries that need our energy (note that this includes anticipated minimum CO₂-e offsets (estimated at the time of the draft EIS/ERD publication), in the form of Australian Carbon Credit Units (ACCUs)

⁶ IEA (2022), Global Energy Review: CO₂ Emissions in 2021, IEA, Paris <https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2>

estimated to be required for the proposed Browse Project for above baseline emissions pursuant to the Safeguard Mechanism (SGM)). This means for every tonne of GHG emitted in Australia from these proposed Woodside operated projects, this equates to about 4 tonnes in emissions reduced globally (ERM, 2020).

The LCA (Error! Reference source not found.) describes in detail the methodology and assumptions used to assess the modelled impact the proposed Browse Project would have on global emissions over the 2024-2040 time period. The LCA compares the estimated emissions from power generation using gas from the Proposed Browse Project with the modelled grid mixes estimated emissions resulting from other fossil fuels in the context of different energy demand scenarios. These scenarios include the IEAs Current Policy Scenario (CPS), Stated Energy Policy Scenario (STEPS) and Sustainable Development Scenario (SDS).

IEA STEPS represents a case where countries implement their public policies and targets - even if there is not yet a clear path for them to do so. IEA SDS is a goal driven scenario that is essentially 'reverse engineered' to meet a predetermined sustainable future which achieves the Paris Agreement's climate change goals, eradicates energy poverty by 2030 and reducing the health impacts of poor air quality (ERM 2020).

Figure 6-6 of the LCA (Error! Reference source not found.), shows that if Browse gas is used to generate power in the target markets, it will release between 591 Mt CO₂e and 595 Mt CO₂e over the 2026-2040 period. If other fossil fuels are used to generate electricity under the IEA STEPS during the same period, then emissions would be 936 Mt CO₂e over the 2026-2040 period. As such, if Browse gas is used to generate electricity, avoided emissions are 936-594 = 342 Mt CO₂e, even when excluding any offsets required under the SGM. If the same calculations are conducted for the IEA SDS, avoided emissions would be 181 Mt CO₂e for the Browse Project (excluding any offsets under the SGM).

While the LCA presents the modelled avoided emissions from 2024-2040, Woodside also expects the potential for emission avoidance through the use of Browse gas to extend beyond this period and for the life of the Browse Project (31 years). **Section 4.9** describes the role of gas in the future energy mix in more detail.

A 650 Mt CO₂ reduction is equivalent to:

- cancelling out all emissions from WA for over eight years, or
- cancelling out the energy emissions of more than 5 million households over the 15-year period covered by the LCA.

ERM's LCA report (ERM, 2020) is attached as Error! Reference source not found..

Comparison with the Adani Project

A number of submissions noted a claim that Woodside's Burrup Hub will have four times the emissions of the Adani Project. These claims don't take into account the full life cycle of natural gas or the alternatives to it. The potential lifecycle contribution of natural gas in pathways consistent with limiting global warming has been addressed in the section above.

Socio-economic considerations

Given the above, Woodside considers that the proposed Browse Project presents an opportunity to realise significant local and international economic and social benefits while contributing to the reduction of net global GHG emissions as the world transitions to a lower carbon future. According to economic modelling by ACIL Allen in 2019, the proposed Browse and North West Shelf Extension projects are estimated to boost Australia's GDP by \$289 billion between 2019-2063, of which 99% will be in Western Australia. It is also expected to generate direct taxation and royalty payments to

the Commonwealth and State Governments of \$63 billion, indirect taxation payments of \$30 billion and are estimated to create an average of more than 2,700 jobs per annum (direct and indirect) nationally between 2019-2063 (ACIL Allen Consulting, 2019).

ACIL Allen released a series of public brochures that outline the results of their assessment and are available on ACIL Allen's website. The brochures relevant to Browse and the Burrup Hub are attached as Error! Reference source not found..

Assessment process

Woodside has progressed the environmental referral and impact assessment of the proposed Browse Project in accordance with the relevant State and Commonwealth legislation. Woodside continues to progress the environmental impact assessment by providing responses to submission and further information as requested by the decision making authorities. This includes the development of a Greenhouse Gas Management Plan (GHGMP) (Error! Reference source not found.).

In accordance with the EISG/ESD, Woodside has provided the proposed Browse project's predicted GHG emissions, considered local, Australian and global emissions and their potential for cumulative impact, and has actively sought to manage and mitigate these emissions by increasing energy efficiency and applying emissions reductions measures. Woodside has also estimated minimum reductions anticipated through offsets under the SGM for above baseline emissions, noting that these are likely to continue to change with ongoing regulatory reforms. (refer to Section 7.7 of the draft EIS/ERD). This includes measures outlined in the response GHG-3 below (Section 4.4). It should also be noted that mitigation and management measures associated with anticipated processing emissions (which will potentially include processing of Browse feed gas subject to regulatory and joint venture approvals and commercial agreements) for the NWS Project Extension are described in the NWS JVs 'North West Shelf Project Extension ERD' (EPA 2186, EPBC 2018/8335).

Overall, even without consideration of the potential net global GHG emissions avoidance described in the LCA, it is considered that in the context of Australia's international commitments and local legislation and policy, given the proposed mitigation of emissions, safeguard mechanism obligations and the importance of gas as a clean and reliable source of energy in the current and future energy mix, GHG emissions from the proposed Browse Project are acceptable. The LCA, while supplementary to the response to the specific issues raised in the public responses, further supports this position.

Woodside will continue to assist the State and Commonwealth decision making authorities with respect to determining the acceptability of all aspects of the proposed Browse Project.

4.3 GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments

A number of submissions raised concerns with regards to the proposed Browse Project GHG emissions consistency with Australia meeting the Paris Agreement signed in 2015 and the WA State Greenhouse Gas Emissions Policy for Major Projects (State GHG Policy). Respondents expressed the view that the proposed Browse Project does not contribute to meeting net zero emissions targets (net zero by 2050). Within this theme, some submissions included claims that *"the Burrup Hub would be the most polluting project ever to be developed in Australia, with estimated total emissions of over 6 billion tonnes (gigatons) of carbon pollution across its lifetime, the proposal has profound implications for the global climate across generations and will inhibit efforts to address climate change"*. These submissions refer to the various and separate Burrup Hub projects, rather than the proposed Browse Project specifically (see also GHG-6).

Woodside as Operator for and on behalf of the BJV acknowledges that the Australian Government has signed the Paris Agreement and notes their aspiration of global carbon neutrality by 2050, that is implicit in the Paris Agreement. We also acknowledge the State Government’s aspiration of net zero emissions by 2050. It should be noted that net zero emissions by 2050 does not prohibit emissions from industrial activities; rather, it means a reduction and balancing levels of CO₂ emissions with carbon removal beyond natural processes, through carbon offsetting, or removing or sequestering CO₂ from the atmosphere to make up for emissions elsewhere.

In 2020, Woodside announced targets for near- and medium-term emissions reduction below the gross annual average equity Scope 1 and 2 greenhouse gas emissions over 2016-2020. These targets are to reduce net equity Scope 1 and 2 greenhouse gas emissions by:

- 15% by 2025
- 30% by 2030
- Towards an aspiration of net zero by 2050 or sooner ⁷.

See **Section 4.4** GHG-3 for further information regarding Woodside’s corporate initiatives.

Further to the information outlined above regarding Woodside’s approach in the context of local and international climate change commitments, please note that each of the BJV Participants detail their respective corporate approach, initiatives and memberships on their websites.

Paris Agreement

In October 2021, Australia updated its Nationally Determined Contribution to include (i) a target of net zero emissions by 2050; (ii) seven low emissions technology stretch goals; and (iii) reaffirm its economy wide target (26-28% reduction below 2005 levels by 2030), which it expects to exceed by up to 9%⁸.

In 16 June 2022, Australia again updated its NDC to note a target to reduce greenhouse gas emissions by 43% below 2005 levels by 2030. As part of this update, it was indicated that the Government would introduce legislation to enshrine this target in law.

As noted above, global carbon neutrality by 2050, that is implicit in the Paris Agreement, does not prohibit emissions from industrial activities; rather, it means a reduction and balancing levels of CO₂ emissions with carbon removal beyond natural processes, through carbon offsetting, or removing or sequestering CO₂ from the atmosphere to make up for emissions elsewhere.

Proposed Browse Project contribution to achieving Paris Agreement aspirations

As a cleaner and reliable energy source (described in Section 7.7.1 of the draft EIS/ERD), gas is expected to play a role in the future energy mix with the potential to contribute to a reduction in global GHG emissions by displacing higher carbon intensive power generation (e.g. oil and coal burning). Independent expert analysis by ERM, and critically reviewed by CSIRO, shows Woodside’s Browse and Scarborough projects could avoid 650 Mt of CO₂ equivalent (CO₂-e) emissions (392 Mt for the proposed Browse Project) between 2026 and 2040 by replacing higher emission fuels in countries that need our energy (refer to **Section 4.2** for further details on how the potential emission avoidance has been calculated). Given this, by focusing on the challenge of providing clean, affordable and reliable energy, Woodside can contribute to achieving the aspirations of the Paris Agreement.

ERM’s LCA report (ERM, 2020) is attached as Error! Reference source not found..

⁷ Target is for net equity Scope 1 and 2 greenhouse gas emissions, relative to a starting base of the gross annual average equity Scope 1 and 2 greenhouse gas emissions over 2016-2020 and may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with an FID prior to 2021.

⁸ <https://unfccc.int/NDCREG> (See: Australia)

In preparing the draft EIS/ERD, Woodside has ensured the proposed controls and impact and risk levels have had regard to national and international standards, law and policies including Australia’s implementation of the Paris Agreement on climate change through domestic legislation. Woodside will actively manage and mitigate Scope 1 GHG emissions associated with the Browse Project, in accordance with relevant legislation. Examples of how this may be achieved are provided in Section 7.7 of the draft EIS/ERD and discussed in **Section 4.4**. Mitigation and management measures associated with anticipated processing emissions for the NWS Project Extension are described in the NWS JVs Environmental Review Document’ and ‘North West Shelf Project Extension Environmental Review Document – Response to Submissions’ North West Shelf Project Extension ERD’ (EPA 2186, EPBC 2018/8335).

Mitigation will include offsetting of CO₂ emissions in accordance with the SGM requirements. This mechanism will ensure proposed Browse Project emissions meet regulatory requirements, including as implemented to achieve Australia’s international aspirations and commitments.

GHG emissions arising from third party consumption of the proposed Browse Project gas along with other feed sources are to be managed and mitigated through relevant domestic and international emissions control frameworks.

For many countries, greater use of natural gas (both as a lower carbon fossil fuel, and as dispatchable power source to partner with renewables) is likely to be an important option. The IPCC’s 2022 report on “Mitigation of Climate Change” confirms that “fuel switching from coal to gas” had contributed to a lower carbon intensity of energy over the period 2010-19 (paragraph B2.4). The report further projects the continued use of natural gas in modelled pathways that limit warming to 1.5°C, at median levels in 2050 45% below 2019 levels (i.e. remaining at 55% of 2019 levels). In modelled pathways that limit warming to 2°C, the equivalent levels are 15% below 2019 levels (i.e. remaining at 85% of 2019 levels) (paragraph C.3.2)⁹.

Moreover in the IEA’s World Energy Outlook 2021, the Sustainable Development Scenario (which the IEA describes as a “gateway to achieving the outcomes targeted by the Paris Agreement”) natural gas demand in the Asia Pacific region is modelled to increase to 37% above 2020 levels by 2030, and to remain higher than 2020 levels in 2040.

The Browse Joint Venture proposes to target this ongoing demand.

Under the Paris Agreement and global GHG accounting conventions, each signatory party (country) is responsible for accounting for, reporting and reducing emissions that physically occur in its jurisdiction. This means that the Paris Agreement is the current international framework, under which countries manage Scope 3 emissions associated with customer consumption of Browse gas. The Paris Agreement requires parties to publish NDCs, reflecting their commitment towards agreed global goals. The countries where likely major users of the proposed Browse Project gas are located, have made the following commitments as part of their current NDCs, which are designed to be successively tightened over time through future periodic NDC updates. In accordance with the Paris Agreement, these countries are required to update their NDCs, to “reflect its highest possible ambition”, by 2025. These measures constitute examples of how third-party emissions targets associated with the combustion of proposed Browse Project gas will be managed and mitigated in customer nations, as described further below.

Japan¹⁰

⁹ IPCC (2022). Summary for Policymakers. In: Climate Change 2022, Mitigation of Climate Change, the Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

¹⁰ [Nationally Determined Contributions Registry | UNFCCC](#) [See: Japan]

Japan updated its First Nationally Determined Contribution on 22 October 2021. It states: “Japan aims to reduce its greenhouse gas emissions by 46 percent in fiscal year 2030 from its fiscal year 2013 levels, setting an ambitious target which is aligned with the long-term goal of achieving net zero by 2050. Furthermore, Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50 percent.” (Page 1)

Japan also published an “Outline of Strategic Energy Plan” in October 2021¹¹. This plan assumes that LNG, while reducing from 37% in 2019, still makes up 20% of Japan's electricity generation mix in 2030. Renewables double from 18% to 36-38% and nuclear power increases from 6% to 20-22% (page 12). Outside the electricity sector it says in respect of heating “We will pursue the shift to natural gas on demand side and decarbonization of gas through methanation and other means, which play a significant role in decarbonizing heat demand. We will also work to further strengthen the resilience of gas.” (Page 11)

China¹²

The People’s Republic of China updated its First Nationally Determined Contribution on 28 October 2021. It states: “On September 22, 2020, President Xi Jinping declared, at the General Debate of the 75th Session of the United Nations General Assembly, that China would scale up its Nationally Determined Contributions (NDCs) by adopting more vigorous policies and measures, and aims to have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060.” (Page 5)

“China will stringently curb coal-powered projects, set strict limitation on the increase in coal consumption over the 14th FYP period and to phase it down in the 15th FYP period. The large scale development of wind and solar power will be accelerated, hydro power in accordance with local condition will be developed, nuclear power will be advanced in an ordered manner with the premise of ensured safety, and peaking power including energy storage and gas-powered electricity will be stepped up rapidly.” (Page 34)

“China will push forward technological breakthroughs in various fields to support the green and low-carbon transition, such as renewable energy, hydrogen energy, smart grid and energy storage, CCUS, circular economy, low-carbon transportation and smart cities, climate change impact and risk assessment.” (Page 48)

Republic of Korea¹³

The Republic of Korea updated its First Nationally Determined Contribution on 23 December 2021. It states: “The Republic of Korea declared to move towards the goal of carbon neutrality by 2050 in December 2020 and has finalized its 2050 carbon-neutrality scenarios as a follow-up measure.” (Page 1)

“The Republic of Korea is seeking to dramatically phase down coal-fired power generation while ramping up renewable power. Aged coal power plants will be shut down or shift their fuels from coal to Liquefied Natural Gas (LNG). The uptake of solar and wind power will be scaled up as well.” (Page 2)

“The Republic of Korea has markedly raised its 2030 target on the deployment of zero-emission vehicles such as the ones powered by electricity and hydrogen.” (Page 3)

Western Australian Government’s GHG Emissions Policy for Major Projects

GHG emissions associated with the proposed Browse Project in the State Proposal Area will arise from activities in the Torosa field. Installation and construction are expected to form a minor

¹¹ Government of Japan, Agency for Natural Resources and Energy (METI) 2021. "Sixth Strategic Energy Plan."

¹² [Nationally Determined Contributions Registry | UNFCCC](#) [See: China]

¹³ [Nationally Determined Contributions Registry | UNFCCC](#) [See: Republic of Korea]

component of the overall emissions associated with the proposed Browse Project. Total installation emissions across the life of the proposed Browse Project within the State Proposal Area are estimated to be ~0.4Mt CO₂-e over the life of the Project. Due to the position of the FPSOs outside of the State Proposal Area, operational emissions in the State jurisdiction will be limited to IMMR activities on subsea infrastructure and contingent drilling and completions activities on installed wells.

The Western Australian Government’s GHG Emissions Policy for Major Projects includes an aspirational target of net zero GHG emissions by 2050 (Section 7.3.3 of the draft EIS/ERD). It should be noted that the WA aspirational target of net zero emissions by 2050 does not prohibit emissions from industrial activities; rather, the target refers to net zero emissions State-wide, via means of reduction and balancing levels of CO₂ emissions with carbon removal beyond natural processes, through renewables, technology innovation, carbon offsetting, or removing or sequestering CO₂ from the atmosphere to make up for emissions elsewhere.

LNG is not incompatible with achieving an economy-wide net zero emissions target by 2050. Indeed, while the primary product from the proposed Browse Project will be LNG, under the Western Australia’s recently updated domestic gas reservation policy, the proposed Browse Project will be expected to make gas equivalent to 15 percent of exports available for WA consumers in accordance with the policy. The emissions intensity of gas relative to the aggregate of WA electricity generators can be determined using data published by the Clean Energy Regulator (CER, 2019). This includes all ‘designated generation facilities’ that report under NGER. **Table 4-1** shows that gas-generated electricity in WA is approximately 15% less emissions intensive than the average electricity generated in the 2018 financial year. If the availability of proposed Browse Project domestic gas results in an increase in the proportion of electricity generated using gas, the average emissions intensity of WA power generation could be reduced.

Table 4-1 Western Australian electricity emissions intensity (Source: CER (2019))

Primary fuel	Total Generation (million MWh)	Scope 1 and 2 (emissions Mt CO ₂ -e)	Emissions intensity (tCO ₂ -e/MWh)
Natural gas	13.1	7.4	0.57
Black coal	9.7	8.9	0.9
Oil	0.06	0.04	0.7
Solar, wind, landfill gas and hydro	2	0.01	0.007
Total	25	16.3	(Average) 0.65

4.4 GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions

A number of submissions raised concerns with respect to mitigation and offsetting of GHG emissions. The submissions generally related to the various proposed Burrup Hub projects, rather than the proposed Browse Project specifically. The following response addresses Woodside’s company-wide approach to limiting GHG emissions, which it applies as Operator through the Woodside Management System, and the proposed Browse Project-specific GHG emissions mitigation and offsetting measures. Mitigation and management measures associated with anticipated processing emissions for the NWS Project Extension are described in the NWS JV ‘North West Shelf Project Extension Environmental Review Document’ and ‘North West Shelf Project Extension Environmental Review Document – Response to Submissions’ (EPA 2186, EPBC 2018/8335).

Woodside

Woodside’s climate strategy is to reduce our net equity greenhouse gas emissions, while investing in the products and services that our customers need as they reduce their emissions.

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We have a portfolio of quality oil and gas assets, and are developing new energy products and lower-carbon services.

We have set near- and medium-term targets to reduce net equity Scope 1 and 2 greenhouse gas emissions¹⁴. We have three ways to achieve these targets: avoiding emissions through design; reducing them through efficient operations; and offsetting the remainder. Avoiding and reducing emissions are our first priority. Offsets, that are scientifically verified and accurately accounted for, also have an important role.

We are a signatory to the Methane Guiding Principles and are actively pursuing methane emissions reduction and measurement opportunities.

We have announced a Scope 3 emissions plan, containing three elements: investing in new energy products and lower-carbon services; supporting our customers and suppliers to reduce their net emissions; and promoting global measurement and reporting.

Management and mitigation measures relating to direct GHG emissions from the proposed Browse Project

Management and mitigation of GHG emissions from the proposed Browse Project are detailed in Section 7.7 of the draft EIS/ERD. A GHGMP, which has been prepared for the proposed Browse Project in accordance with the WA Greenhouse Gas Emissions Policy for Major Projects, is proposed to continuously identify and review measures to mitigate and manage GHG emissions and accommodate NGER/SGM reporting and baseline requirements. The draft GHG Management Plan is provided in [Error! Reference source not found.](#) Further details with regards to management and mitigation of GHG emissions are provided below.

Avoid

Complete avoidance of GHG emissions for the proposed Browse Project is not feasible. GHG emissions will result from all phases of the project and from transport, distribution and consumption of Browse products. Energy efficiency measures have been incorporated into the design of the facilities; these are listed below with an estimate of the annual emissions saving:

- waste heat recovery units on gas turbines, avoiding the combustion of additional gas for heating purposes (0.70 Mt CO₂-e/annum saving)
- active heating system used to prevent hydrate formation in flowlines avoiding the requirement for an energy intensive MEG regeneration plant (0.20 Mt CO₂-e/annum saving)
- batteries for spinning reserve, avoiding an additional turbine from providing the spinning reserve (0.10 Mt CO₂-e/annum saving)
- efficient aero derivative gas turbines (0.02 Mt CO₂-e/annum saving)
- use of nitrogen to purge the flare stack rather than hydrocarbon gas (expected less than <0.1 Mt CO₂-e/annum saving).

By saving approximately up to 1 Mt of CO₂-e on average per year, this has reduced the expected average annual net Scope 1 Project emissions from up to 5.8 Mt CO₂-e to 4.8 Mt CO₂-e per year and saved 31 Mt CO₂-e of Scope 1 emissions over the expected life of the proposed Browse Project. It should also be noted that atmospheric emissions from the proposed Browse Project as a whole are less than or similar to the two former development concepts, as described in Section 3.8 of the draft EIS/ERD.

Further, Figure 7-4 of the draft EIS/ERD provides benchmarking between the processing emissions for the proposed Browse FPSOs and identified comparable facilities in Australia, to demonstrate the

¹⁴ [https://www.woodside.com.au/docs/default-source/investor-documents/major-reports-\(static-pdfs\)/2021-climate-report/climate-report-2021.pdf](https://www.woodside.com.au/docs/default-source/investor-documents/major-reports-(static-pdfs)/2021-climate-report/climate-report-2021.pdf)

effectiveness of the upstream design in consuming energy to process the gas stream and pressurise it for export.

Reduce

- Implementation of Woodside’s energy management requirements for the proposed Browse Project, requiring a facility-specific:
 - energy management plan which will be developed prior to the operational phase
 - fuel and flare analysis, baselining and forecasting throughout operational life
 - annual setting of energy efficiency improvement and flare reduction targets throughout operational life
 - ongoing optimisation of energy efficiency through periodic opportunity identification workshops/studies, evaluation and implementation.
- Emissions from onshore processing of Browse gas will also be regulated by relevant legislation and approval requirements for the onshore LNG plant. These include:
 - As part of the North West Shelf Project Extension approvals process (under assessment) a Greenhouse Gas Management Plan is expected to include key provisions such as: adoption of practicable and efficient technologies to reduce GHG emissions.
 - GHG emissions; annual fuel and flare targets; routine emissions monitoring and reporting; compliance with NGERs and the SGM, and implementation of a facility-specific energy management plan.
- Adoption of the Methane Guiding Principles, including minimising any methane emissions in Woodside operations and the value chain. Operationally, this results in the implementation of a leak detection and repair program and implementing suitable methane emissions reduction projects over the project lifecycle.

Offsets

As detailed in Chapter 7 of the draft EIS/ERD, the BJV is committed to its obligations under the NGER/SGM. Based on current regulatory NGER Act SGM emissions baseline requirements, it is anticipated that emissions from the proposed Browse Project will exceed any anticipated facility baseline. This would likely result in SGM offset obligations, which at this stage are required to be met in the form of ACCUs. This mechanism will ensure proposed Browse Project emissions stay within agreed limits, which are set to ensure Australia meets its commitments under the Paris Agreement.

Since the draft EIS/ERD was published on 18 December 2019, the National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020 has been promulgated. These amendments introduce production variables and some default emissions intensity values into Schedule 2 and 3 of the Rules, but other Schedules and emissions intensities remain to be clarified. Woodside will continue to monitor legislative changes and the proposed Browse Project will comply with the applicable legislative obligations in force throughout the life of field.

The SGM is intended to be periodically adjusted (Australian Government, 2019). This flexibility is designed to allow for an adjustment of the SGM baseline over time to reflect future changes to the NDCs under the Paris Agreement and other changes, such as technological advances.

It is noted that a number of submissions dispute the effectiveness of the SGM. Woodside notes that the proposed Browse Project will be required to comply with regulatory requirements in Australia. If offsets are required under a regulatory scheme, such as the SGM, or taxes are levied, Woodside as Operator for and on behalf of the BJV, or the Joint Venture (JV) participants as required by law, will meet obligations through the required mechanism.

As articulated in **Section 4.3**, gas from the proposed Browse Project is expected to contribute to lower net atmospheric concentrations of GHGs. However, climate change, and the policy response to it, has evolved rapidly and is expected to continue to do so. Therefore, Woodside proposes to adopt a range of management and mitigation measures to mitigate and manage GHG emissions.

4.5 GHG-4: Proposed Browse Project GHG emissions estimates

A number of submissions questioned GHG emissions estimates for the proposed Browse Project suggesting that the calculations have been undertaken using inadequate and old data; these include suggestions that there has been an underestimate of air emissions and GHGs, including methane, the contribution of fugitive emissions and the significance of methane in terms of contribution to climate change. Lack of accounting for Scope 3 emissions was also raised.

Estimating proposed Browse Project GHG emissions

Section 7.4.4 of the draft EIS/ERD provides the carbon emissions estimate for the proposed Browse Project and describes the approach taken to estimate the forecast GHG emissions for the proposed Browse Project, based on the GHG Protocol emissions classification scheme. In estimating expected GHG emissions, Woodside has utilised accepted emissions estimation methods including NGERs methods. This approach is in accordance with the approved EISG/ESD for the proposed Browse Project. The estimate was based on the current level of concept definition and assumptions regarding commercial arrangements, SGM facility and activity scope for emissions intensity purposes, the feed gas composition and the scale, efficiency, interaction and complexity of the extraction, processing, anticipated production and compression of the product stream.

Methane emissions estimate as part of CO₂-e

While CO₂ accounts for the majority of GHG emissions associated with the proposed Browse Project, other related emissions will also occur across the full scope of proposed project activities, including methane and nitrous oxide. All estimates for CO₂-e (all emissions calculated for their CO₂ equivalent contribution to climate change) include both methane and nitrous oxide. The Global Warming Potential (GWP) adopted to determine the amount of CO₂-e contributed from both methane and nitrous oxide aligns to the National Greenhouse and Energy Reporting Regulations 2008, which at time of writing reflected the IPCC's Fourth Assessment Report. A breakdown of the relative contribution of these emissions on a gas-by-gas basis to forecast FPSO GHG emissions by CO₂-e equivalent is presented in Table 7-6 of the draft EIS/ERD¹⁵.

Fugitive emissions estimates

The expected fugitive emissions have been estimated based on the production rate of the FPSO facilities. An emissions factor has been taken from NGERs Method 1.

The IPCC (2014) report qualified the role of gas by pointing to the need to manage fugitive emissions of methane. Woodside is taking action to manage fugitive emissions of methane. Woodside has signed up to the Guiding Principles on “reducing methane emissions across the natural gas value chain” that were developed by a coalition of industry, international institutions, NGOs and academics. Under the principle of transparency (Principle 5), Woodside specifically included methane when reporting our GHG emissions in the 2018 and 2019 Sustainable Development Reports, which reported methane emissions are 4% of our total emissions on a CO₂-e basis across Woodside's

¹⁵ Subsequent to the finalisation of the draft EIS/ERD, the NGER Regulations and National Greenhouse and Energy Reporting (Measurement) Determination 2008 were amended to update emission factors based on updated Global Warming Potentials that convert non-carbon dioxide gases into carbon dioxide equivalent values in order to align NGERs with the Australian Government's implementation of the Paris Agreement. These changes are applicable from 01 July 2020 onwards and will be reflected in NGERs facility reports submitted for the 2020-2021 financial reporting year (due 31 October 2021). The impact on the total emissions forecast as well as the relative gas-by-gas contribution is minimal.

operating facilities. This is predominantly driven by existing older facilities and that it is expected to be significantly lower for new facilities and once implementation of new technologies are implemented. As detailed in Table 7-5 of the draft EIS/ERD, fugitive emissions for the proposed Browse Project are expected to be less than 0.3% of the total facility emissions. As detailed in Table 7-6 of the draft EIS/ERD, methane emissions are expected to account for 1% for Scope 1 CO₂-e emissions.

Scope 3 emission estimates

Estimated Scope 3 emissions are presented in Section 7.4.4.3 of the draft EIS/ERD. Estimated Scope 3 emissions for LNG exports have been calculated using an emissions factor sourced from the Ecoinvent v3.5 database. This emissions factor considers the transport, regasification, distribution and final combustion of LNG. Estimated Scope 3 emissions for Domgas, LPG and condensate have been calculated using emissions factors sourced from Schedule 1 of the National Greenhouse Energy Reporting (Measurement) Determination 2008.

4.6 GHG-5: LNG as a transition fuel and the displacement of coal

A number of submissions disputed the role of LNG as a transition fuel, claiming that LNG is not a valid transition pathway and that the role of LNG has been overestimated when comparing it as cleaner than coal.

As stated in Section 7.4.5.2 of the draft EIS/ERD numerous independent energy and climate bodies agree that natural gas has a significant role to play in achieving both a reduction in net global emissions and an increased access to a reliable modern energy supply that supports a progressive transition to renewable energy sources. The 2014 report of the IPCC said that “GHG emissions from energy supply can be reduced significantly” by switching to gas (IPCC, 2014). When combusted in a power plant, natural gas typically emits around half the amount of CO₂ per unit of power generated, compared to coal (IEA, 2019).

According to the IEA (2019), “coal-to-gas fuel switching for power generation avoided 100 Mt of CO₂ in advanced economies” in 2019, helping avoid an increase in global energy-related CO₂ emissions. Under the IEA’s sustainable development scenario, which suggests a pathway that could see global temperature rises limited to well below 2°C this century in line with the Paris Agreement, demand for natural gas in the Asian markets that Woodside supplies is modelled to increase by 70% from 2018 to 2040 (from 519 mtoe to 884 mtoe).

It should also be noted that the growth of renewables may also be constrained by the need to ensure grid stability; that is, grids need to be maintained at the correct frequency during fluctuations in demand. This can be readily done with controllable energy sources such as gas but is more difficult with renewable sources such as solar and wind. This intermittency issue cannot currently be resolved via the use of large-scale battery storage as the technology does not currently exist at sufficient scale. For example, the battery storage system built in South Australia by TESLA in 2017 (the largest of its type at the time) is capable of powering around 30,000 homes for just over an hour. Whilst this is hugely beneficial during peak demand, given the costs currently involved with battery storage, this is clearly not sufficient to solve intermittency issues on the scale required. This constraint can be supported by the use of gas partnering to address intermittency and enable deeper penetration of renewables into grid mixes.

Further, ERM’s life-cycle analysis of LNG production and utilisation from the proposed Browse and Scarborough projects (ERM, 2020), and critically reviewed by CSIRO, indicated that gas sourced from the proposed Browse Project can help facilitate and accelerate the energy transition, even under transformative decarbonisation scenarios.

Gas can help the energy transition given its flexibility as a fuel and the proximity of the proposed Browse Project to markets that are expected to grow rapidly and are at a relatively early stage of the transition to lower carbon energy. These markets are generally characterized as ‘high carbon’

featuring a large share of coal in the overall energy mix. Adding Browse gas to the power mix would be expected to lead to a decline in CO₂e emissions in each market under consideration until at least 2040 – as further described in the LCA (Error! Reference source not found.). The IEA’s 2020 report “The oil and gas industry in energy transitions” stated that “long-distance gas trade, largely in the form of LNG, remains part of the picture in the Sustainable Development Scenario... The optionality and flexibility of LNG gives it the edge over pipeline supply. The carbon-intensive developing economies, mostly in Asia, in which gas can play a role in energy transitions, are also short of abundant domestic gas resources. For this reason, even as they ramp up deployment of renewables at breakneck speed, they also increase imports of gas¹⁶.”

Woodside considers a variety of internal and external scenarios including the IEA STEPS, APS (announced pledges scenario), SDS and NZE. **Section 4.9** describes the role of gas in the future energy mix in more detail.

ERM’s LCA report (ERM, 2020) is attached as Error! Reference source not found..

4.7 GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula

A number of submissions noted that Woodside operated existing and proposed developments related to the Burrup Peninsula comprise a number of separate projects and that each are subject to separate assessment and approvals processes, and asserted that cumulative GHG emissions from the Burrup Hub Projects may not have been considered.

Proposed projects for which Woodside Energy Ltd is Operator and which are part of the Woodside Burrup Hub vision (proposed Browse Project, NWS Project Extension, Scarborough) are proceeding through separate approvals processes noting separate joint ventures, regulatory requirements and jurisdictional differences. While Woodside is the Operator of each of these proposed projects, each is operated on behalf of different JVs and each is subject to different actual and proposed commercial arrangements (BJV, NWS JV and Scarborough JV). Assessment processes have been coordinated by the State and Commonwealth regulators in accordance with State and Commonwealth legislation. As the proposed Browse Project draft EIS/ERD and the proposed NWS Project Extension ERD have been submitted concurrently, the relevant State and Commonwealth regulator will have oversight of them simultaneously. The individual assessment documents, plus the regulatory assessments, consider the net contribution of the proposed projects in an Australian and global GHG emissions context within modelled scenarios.

It should be noted that the estimated total Scope 1 and 2 emissions from current and future assets operated by Woodside and which form part of the Burrup Hub vision (including the proposed Browse Project) were published on Woodside’s website in parallel to the release of the draft EIS/ERD. These estimates can be viewed at <https://www.woodside.com.au/our-business/burrup-hub/burrup-hub-environmental-topics-and-approvals/greenhouse-gas-emissions>. It should also be noted that each of the proposed Woodside operated projects related to the Burrup Hub vision will operate in accordance with the relevant State and Commonwealth legislative framework (as described for the proposed Browse Project in Chapter 7 of the draft EIS/ERD).

While the other proposed developments (i.e. non proposed Browse Project) are not within the scope of the draft EIS/ERD, it is noted that as per the above website link, forecast Scope 1 and 2 emissions from current and proposed Woodside-operated projects associated with the Burrup Hub vision are estimated to be on average 15.9 MTPA CO₂-e, increasing from the current 9.6 MTPA from the existing Woodside operated facilities on the Burrup (i.e. existing NWS Project and Pluto LNG (Train 1)). As per Table 7-5 of the draft EIS/ERD, an average of 4.0 MTPA of these emissions will arise as a result of the upstream activities associated with the proposed Browse Project. The balance of

¹⁶ IEA (2020). The Oil and Gas Industry in Energy Transitions.

emissions are from Pluto LNG (Train 2) or other offshore facilities (not associated with the proposed Browse Project).

As GHG emissions accumulate globally in the atmosphere (as opposed to regionally), the impact assessment of sources does not take into account proximity – unlike noise impacts for example, which can have magnified cumulative local impacts. As stated above the proposed Browse Project and the NWS Extension Project are being progressed in parallel (including the public comment period and the response to comment period). This allows the relevant regulators to assess the potential impacts of the Proposed Action/Proposals in State and Australian contexts having regard to scenarios forecasting the impacts of the global accumulation of GHG emissions in the atmosphere where relevant. In the context of GHG emissions, the potential net contribution of each proposed Project to Australian and global GHG emissions within modelled global scenarios has been provided.

Finally, the draft EIS/ERD GHG emissions estimates take into consideration third-party downstream processing of GHG emissions (these have been apportioned based on the estimated proportion of NWS plant capacity that processing Browse gas may utilise, subject to commercial arrangements, relative to the GHG emissions footprint currently approved for the NWS facility).

4.8 GHG-7: Lower and zero carbon energy sources

A number of submissions referred to renewables and other low/no carbon energy sources with a preference to develop these sources as opposed to the development of LNG projects.

When comparing gas consumption to other sources of electricity generation it is important to consider the role that gas plays in the electricity mix. Gas is transportable, dispatchable and available at scale today, and competes with other fuel sources with similar characteristics. It is however more expensive than some other sources of electricity, such as renewables, that are often quoted as the cheapest source of electricity in many of the world's energy markets (for example, Hayward and Graham, 2017). Renewables are growing rapidly and experience policy support from governments wishing to decarbonise their electricity system. Where installed, renewable electricity often dispatches at zero marginal cost. Natural gas is primarily expected to compete with other dispatchable energy sources in the portion of the grid not satisfied by renewables.

There are however limits to the growth of renewables (described in response GHG-1 (**Section 4.2**)). Where growth of renewables is constrained, gas is expected to be a particularly important component of efforts to decarbonise energy supply. The growth of renewables may also be constrained by the need to ensure grid stability, but the response to this constraint can be supported by the use of gas partnering to address their intermittency and enable deeper penetration of renewables into grid mixes.

The role of gas will increasingly be to supplement domestically produced renewables. In doing so, it will compete with other transportable, dispatchable fossil fuels such as oil and coal, which along with competing sources of natural gas are therefore the appropriate comparators when considering alternative energy sources to gas from the proposed Browse Project.

Other solutions such as intercontinental high voltage direct current transmission and transportable hydrogen may also play a role in the decarbonising global energy mix, however current forecasts suggest that these contributions will remain negligible in comparison to other sources, even under the sustainable development scenario.

Woodside expects increasing demand for new energy products such as hydrogen and ammonia, and lower-carbon services such as CCUS. These can reduce the emissions arising when our customers consume energy compared to unabated use of fossil fuels.

Our intention is to add these new products and services to our portfolio to support our customers' chosen decarbonisation pathways, taking care to match the pace and scale of our investment to support and meet global demand.

In December 2021, Woodside announced a US\$5 billion investment target by 2030 for these products and services. We recently announced several projects in support of our strategy, summarised in our Climate Report 2021 on pages 28-29.

These projects are supported by research and development, including partnerships for hydrogen refuelling infrastructure in Korea, and substitution of coal by ammonia in Japan.

4.9 GHG-8: The role of gas in the future energy mix

A number of submissions questioned the role of gas in the future pointing to the IPCC Special Report on Global Warming of 1.5°C and the revised World Energy Outlook Report (IEA,2019) projections. This included concerns with respect to the proposed Browse Projects resilience to declining natural gas demand (for example, fears that the proposed Browse Project would become a stranded asset).

Some relevant attributes of natural gas when considering the energy transition are:

- When used to generate electricity, natural gas emits around half the life cycle emissions of coal¹⁷;
- The International Energy Agency (IEA) advises that while renewable, nuclear and other low carbon power sources are expected to meet most additional power demand, gas and coal are expected to compete to fill the gap¹⁸;
- More than half of the world's natural gas supply is used in sectors other than power generation, such as in industrial applications and fertiliser manufacturing, some of which have lower emissions intensity than power generation^{19,20};
- In the form of LNG, natural gas is transportable and flexible between destinations, which is an advantage during an uncertain and potentially volatile energy transition²¹;
- While energy storage technologies (such as batteries) continue to improve, natural gas enables cost-effective and reliable conversion of power grids to renewable electricity because of its ability to 'firm up' intermittent generation (that is, support intermittent renewable generation by quickly ramping up or down to ensure stable electricity supply)²²;
- Natural gas is also used for hydrogen manufacture by steam methane reforming. This process, including carbon capture and storage (CCS), is predicted by the IEA to represent almost half of hydrogen production in 2030 in their Net Zero Emissions by 2050 Scenario (NZE)²³.

These attributes contribute to explaining why the IPCC's 2022 report on "Mitigation of Climate Change" confirms that "fuel switching from coal to gas" had contributed to a lower carbon intensity of energy over the period 2010-19 (paragraph B2.4). The report further projects the continued use of natural gas in modelled pathways that limit warming to 1.5°C, at median levels in 2050 45% below 2019 levels (i.e. remaining at 55% of 2019 levels). In modelled pathways that limit warming to 2°C,

¹⁷ IEA 2019. "The role of gas in today's energy transitions", page 4.

¹⁸ IEA 2021. "Coal 2021 - analysis and forecast to 2024", pages 11, 14 and 27.

¹⁹ IEA 2021. "World Energy Outlook 2021", page 185.

²⁰ Perdaman Urea Project 2019. "Greenhouse Gas Assessment – Final Report", pages 7-8

²¹ IEA 2020. Website accessed 2022. <https://www.iea.org/commentaries/record-year-for-gasliquefaction-investment-lights-a-path-towards-market-flexibility>.

²² Wood, T. and Ha, J. (2021). "Go for net zero". Grattan Institute. Page 30

²³ IEA 2021. "Net Zero 2050 – A Roadmap for the Global Energy Sector", page 76.

the equivalent levels are 15% below 2019 levels (i.e. remaining at 85% of 2019 levels) (paragraph C.3.2)²⁴.

Moreover, in the IEA's World Energy Outlook 2021, the Sustainable Development Scenario (which the IEA describes as a "gateway to achieving the outcomes targeted by the Paris Agreement") natural gas demand in the Asia Pacific region is modelled to increase to 37% above 2020 levels by 2030, and to remain higher than 2020 levels in 2040.

Furthermore, the IEA's World Energy Outlook 2021 also describes the impact of natural production decline in the absence of investment in upstream supply (Figure 6.18), which creates a supply gap which the Browse JV proposes to target.

4.10 GHG-9: Carbon capture and storage (CCS) of Browse gas

A number of submissions raised the potential use of Carbon capture and storage (CCS) as a potential mechanism to mitigate GHG emissions from the proposed Browse Project.

CCS is one of many options considered for Browse. However, geo-sequestration was assessed as presently being a high risk, high cost mitigation option for Browse reservoir CO₂. CCS for an offshore floating facility remains technically challenging, however with time, CCS technology will improve. As such, the BJV is continuing to assess the feasibility of carbon capture and storage opportunities, but these do not form part of the referred Proposed Action. Should an opportunity be considered feasible in future from a technical, commercial and regulatory perspective and be able to be progressed by the BJV in relation to the Browse titles, this will be separately referred by Woodside as Operator for and on behalf of the BJV. The current concept provides space on board the FPSOs to install facilities to reinject reservoir GHG emissions at a future date. As described in Chapter 7 of the draft EIS/ERD, the generation and use of ACCUs through approved and validated carbon farming methodologies (bio-sequestration), is a significantly lower risk and more cost-effective option where required to meet SGM baseline requirements. Offsets can also deliver environmental and social co-benefits, such as biodiversity and regional employment opportunities. More specifically, Australian generated ACCUs can offer potential co-benefits resulting from the additional ecosystem services provided when carbon is bio-sequestered, as well as social, economic and environmental benefits (e.g. improvements to air quality, employment opportunities in remote communities or provision of additional habitat for fauna).

Woodside, as Operator of the proposed Browse Project, will continue to work to reduce net emissions intensity through improvements in energy efficiency, investments in bio-sequestration projects and innovation in production processes.

4.11 GHG-10: Climate change impacts on human health and environmental and social receptors

A number of submissions raised concerns with respect to the impacts of climate change on sensitive receptors including human health. Receptors and receptor sensitivity to global GHG emissions are detailed in Section 7.5 of the draft EIS/ERD. In addition, a recent IPCC Report (Hoegh-Guldberg et al., 2018) summarised the potential impact of human-induced climate change (at 1.5 and 2°C) on a range of climatic variables (e.g. temperature, precipitation, drought, extreme events) and the likely consequence to different ecosystems and ecosystem services, at a range of spatial scales.

In the global context, the use of Browse gas is expected to result in an overall reduction in net global GHG emissions by displacing emissions associated with higher carbon intensity energy sources which are required to complement the development of renewable energy (refer to **Section 4.2** and **Section 4.8** for further details). It is therefore not feasible to link GHG emissions from the proposed

²⁴ IPCC (2022). Summary for Policymakers. In: Climate Change 2022, Mitigation of Climate Change, the Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Browse Project to a measurable increase in global temperature or other climate change impacts to human health and environmental and social receptors.

4.12 ESD-1: Principles of Ecologically Sustainable Development (ESD)

A number of submissions questioned whether the proposed Browse Project (and specifically associated GHG emissions) represented Ecologically Sustainable Development (ESD).

The principles of ESD - in relation to the proposed Browse Project - are addressed in Section 9.5, Chapter 6 (as part of the acceptability assessment for each aspect) and Chapter 7 (the acceptability assessment with respect to GHG emissions). Further information with respect to the principles of ESD is presented below.

Precautionary Principle

The Precautionary Principle states “*where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*”.

Woodside’s position is that approval of the proposed Browse Project will not postpone, but rather provides a credible measure to prevent, environmental degradation resulting from the use of other credible alternative energy sources (other fossils fuels) in the absence of further LNG production.

As described in **Section 4.2** and **Section 4.3**, experts such as the IPCC, the Australian Chief Scientist and the IEA agree that as a cleaner and reliable energy source, gas is expected to play a key role in the future energy mix with the potential to contribute to a reduction in global GHG emissions by displacing higher carbon intensive power generation (e.g. oil and coal burning). Independent expert analysis by ERM, and critically reviewed by CSIRO, shows the Browse and Scarborough projects could avoid 650 Mt of CO₂ equivalent (CO₂-e) emissions (392 Mt for the proposed Browse Project) between 2026 and 2040 by replacing higher emission fuels in countries that need our energy (refer to Section 4.2). The proposed Browse Project therefore has the potential to reduce net global GHG emissions.

It is considered that there is sufficient scientific certainty with respect to the estimated GHG emissions from the proposed Browse project. Woodside has forecast GHG emissions, based on the GHG Protocol emissions classification scheme. This scheme has been adapted and deployed by national and local regulators and represents a globally accepted subdivision of GHG emissions for evaluation and reporting purposes. In estimating expected GHG emissions, Woodside has utilised accepted emissions estimation methods including NGERs methods.

The impact of global GHG emissions on the environment is also acknowledged and a detailed assessment has been made of the likely impacts of global GHG emissions and climate change on the Australian environment and in the vicinity of the proposed Browse project. This threat has been assessed together with potential impacts of the proposed Browse Project which may operate in combination with climate change impacts.

Woodside has ensured the proposed controls and impact and risk levels take into account national and international standards, law and policies including Australia’s implementation of the Paris Agreement on climate change through domestic legislation. Woodside will actively manage and mitigate Scope 1 GHG emissions associated with the proposed Browse Project, in accordance with relevant legislation.

The role of NGER/SGM is to implement Australia’s co-ordinated response to the threats posed by climate change. Woodside is committed to complying with NGER/SGM and meeting any requirement for offsets, likely in the form of ACCUs, required in relation to the anticipated excess emissions over a future facility baseline. Woodside has also detailed its corporate initiatives (**Section 4.4**) and GHG Management Plan (Error! Reference source not found.) commitments in relation to ongoing GHG management and mitigation.

Intergenerational Equity Principle

The Intergenerational Equity Principle states “*that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations*”.

Woodside acknowledges the impacts caused by climate change and the need to reduce these, so as to not prejudice the health, diversity and productivity of the environment, and is actively taking steps to reduce emissions both from the proposed Browse Project and by de-carbonising its overall portfolio (refer to **Section 4.2**). These measures are part of a program which fulfils Woodside’s aspiration to transition to carbon neutrality (Scope 1 emissions) by 2050 in support of State and international policy.

As described in response GHG-1 (**Section 4.2**), access to clean, affordable and reliable energy improves living standards dramatically and the world’s growing population is driving increased energy demand. To achieve the UNDP target while reducing GHG emissions in line the Paris Agreement, the world needs more energy, delivered in cleaner ways. Renewables and emerging technologies, such as hydrogen, have a growing role to play, but are not a complete solution today. However, as described in GHG-8 (**Section 4.9**) numerous independent energy and climate bodies agree that natural gas has a significant role to play in achieving both a reduction in net global emissions and increased access to a reliable modern energy supply that supports a progressive transition to renewable energy sources. Gas can help mitigate the intermittency associated with some renewable energy sources while more carbon-intensive fuel sources are phased out, thus providing increased energy security to future generations.

The mitigation measures and emissions reductions proposed will reduce the risk of potential impacts from the proposed Browse Project to acceptable levels and help maintain the environment and the services it provides for future generations.

As such, Woodside considers that the proposed Browse Project presents an opportunity to realise significant local and international economic and social benefits, while contributing to the reduction of global GHG emissions as the world transitions into a lower carbon world. In displacing more emissions intensive fuels, the proposed Browse Project takes into account the Intergenerational Equity Principle embedded within the EP Act 1986 and the EPBC Act 1999.

Conservation of Biological Diversity and Ecological Integrity Principle

The Conservation of Biological Diversity and Ecological Integrity Principle states “*that conservation of biological diversity and ecological integrity should be a fundamental consideration in environmental planning and decision-making processes. Biodiversity refers to the variety of all life. Environmental and species impact statements are one way that this principle is enacted*”. The proposed Browse Project draft EIS/ERD, Supplement report to the draft EIS/ERD and Response to Submissions on State ERD represent a comprehensive environmental impact assessment enabling this principle to be enacted upon.

As described in Chapter 7 of the draft EIS/ERD, no direct impacts to biological diversity or ecological integrity are predicted to occur as a result of GHG emissions from the proposed Browse Project.

It is not considered credible that as a stand-alone project, GHG emissions from the proposed Browse Project will significantly impact biological diversity or ecological integrity. Global GHG emissions will continue to have an effect on trends in receptor condition and there is potential for significant impacts to environmental receptors to occur as a result of climate change. As a stand-alone project however, taking into account all planned emissions reduction and offsetting measures (Section 7.7 of the draft EIS/ERD), it is estimated that Scope 1 and 3 emissions from the proposed Browse Project will contribute in the range of 0.06% to 0.15% of global GHG emissions depending on the NDC scenario considered (Table 7-13 of the draft EIS/ERD) and will not significantly impact biological diversity or ecological integrity.

Further, as discussed in **Section 4.2** above, gas has the potential to contribute significantly to the reduction in global GHG emissions by displacing higher carbon intensive power generation (e.g. coal-gas energy switch). If this occurs, the Browse Project may potentially have a positive impact by reducing impacts of climate change on biological integrity and ecological diversity.

The impacts of global GHG emissions and climate change on the Australian environment, in combination with the potential or actual impacts of the proposed Browse project, have also been assessed. For the environment in the vicinity of the proposed Browse Project, mitigation and management measures have been proposed (refer to **Section 4.4**) to meet the objectives of this principle in addition to ACCUs proposed to meet the likely requirements of NGER/SGM.

In this way, the proposed Browse Project takes into account the Conservation of Biological Diversity and Ecological Integrity Principle embedded within the EP Act 1986 and the EPBC Act 1999.

Polluter Pays Principle

The Polluter Pays Principle states “*those who generate pollution and waste should bear the cost of containment, avoidance or abatement*”.

As detailed in **Section 4.4**, the BJV is committed to its obligations under the NGER/SGM. Based on current regulatory NGER Act SGM emissions baseline requirements, it is anticipated that emissions from the proposed Browse Project will exceed any anticipated facility baseline. This would likely result in SGM offset obligations, which at this stage are likely required to be met in the form of ACCUs. This mechanism will ensure proposed Browse Project emissions stay within agreed limits, which are set to ensure Australia meets its commitments under the Paris Agreement.

In this way, the proposed Browse Project addresses the Polluter Pays Principle embedded within the EP Act 1986 and the EPBC Act 1999.

Acceptability of impacts

Given the comprehensive environmental impact assessment undertaken in the draft EIS/ERD, Supplement Report to the draft EIS/ERD and Response to Submissions on State ERD together with the planned emissions management, mitigation and offsetting to reduce net GHG emissions, it is considered that the predicted GHG emissions from proposed Browse Project are acceptable. The proposed Browse Project has also taken into account the Principles of ESD embedded within the EP Act 1986 and the EPBC Act 1999.

4.13 AQ-1: Impact of air emissions on public health

A number of submissions raised concerns with respect to impacts on human health as a result of air emissions. It should be noted that these submissions related to all the Burrup Hub projects and were not specific to the proposed Browse Project. Air emissions associated with the onshore processing of the Browse gas by the NWS JV, is addressed within the ERD and Response to Public Submission associated with the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335).

Air emissions from the offshore activities of the proposed Browse Project are addressed in Section 6.3.5.1 of the draft EIS/ERD. These emissions have the potential to result in a localised reduction in air quality in the immediate vicinity of the release point. While a slight reduction in air quality on a local scale will occur for the duration of the activities, given the low emissions levels and very low background levels of contaminants it is not anticipated that emissions from the proposed Browse Project will result in lasting effect on air quality locally or regionally. Further, other than the proposed Browse Project activities, there is no permanent human presence in the vicinity of the emissions sources. As such, no impact to human health from offshore air emissions is predicted.

4.14 BCH-1: Potential impacts to Scott Reef

A number of submissions raised concerns with respect to the proximity of the proposed project infrastructure to Scott Reef and potential impacts and risks to the reef (including impacts on coral

larval production and recruitment) and the ecosystem surrounding it that may occur as a result of the proposed Browse Project.

For the purpose of the environmental impact and risk assessment presented in the draft EIS/ERD, Scott Reef, which encompasses the reef system including all coral habitats and communities, is considered as the area *“above the 75 m bathymetric contour within the 3 nm State waters boundary and the Scott Reef and Surrounds - Commonwealth Area which comprises the Commonwealth Marine Area wholly within the WA coastal waters surrounding North and South Scott Reef”*.

The importance of the marine environment within the Project Area is acknowledged within the draft EIS/ERD. In particular, the draft EIS/ERD acknowledges the proximity of the proposed project infrastructure to the Scott Reef system and provides a detailed description of the dynamics of the Scott Reef system (Chapter 5.3.1 of the draft EIS/ERD). The design of the proposed Browse Project has considered the proximity and includes various commitments and techniques to avoid impacts to the reef system including a commitment to not place any infrastructure on Scott Reef shallow water benthic communities and habitats (<75 m bathymetry), the use of laterally deviated wells which allow access to the reservoir below the reef without drilling wells on the reef itself; and the location of the Torosa FPSO facility ~8 km from Scott Reef. A detailed assessment of potential impacts from planned activities and risks posed by unplanned events or incidents has been undertaken, which included detailed modelling and assessment of aspects such as light emissions, noise emissions, PW discharge, cooling water discharge, hydrotest fluid discharge and drilling and completions discharges. The assessment of these aspects concludes that with the planned controls and mitigation measures, no impacts to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) from planned activities are predicted. Furthermore, studies on the dispersion of coral larvae at Scott Reef (Done et al., 2015; Foster and Gilmour, 2018) demonstrates that while there is significant movement of larvae within the reef system itself (particularly for spawning corals), there is no evidence to suggest the coral larvae travel outside the reef system (i.e. off the reef) before re-settling on the reef. Therefore, given no impacts are predicted within the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry), potential interaction with coral larvae (away from the reef) are not likely to impact the recruitment of corals within the Scott Reef system, as any affected coral larvae would not have been available to resettle on the reef regardless of whether the impact had occurred or not.

The assessment also concluded that while production-related seabed subsidence at Scott Reef may occur, this would be in the order of less than 10 cm over field life and would not result in a reduction in biological diversity or ecological integrity within the State Proposal Area.

The occurrence of unplanned events or incidents that could potentially impact the reef (for example, unplanned hydrocarbon release or the unplanned introduction of IMS) is considered highly unlikely to remote given the controls and mitigation measures proposed.

In response to feedback from DAWE, Woodside has reviewed and revised the environmental objectives presented in the draft EIS/ERD to be more specific and measurable. These revised environmental objectives are provided in **Section 5**. Woodside is committed to achieving these environmental objectives including those relating to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) including:

- Undertake the Browse Project in a manner which avoids direct (i.e. physical footprint as a result of infrastructure placement) disturbance to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).
- Undertake the Browse Project in a manner that prevents changes beyond natural variation in ecosystem processes, biodiversity, abundance and biomass of marine life or in the quality of water, sediment and biota that form part of the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).

- Manage the Browse Project in a manner that limits permanent benthic communities and habitat loss within the Scott Reef local assessment units (LAU) as shown in **Figure 5-1**, to the extent specified in **Table 5-2**.
- Implement the “Management approach – Torosa wells in the State Proposal Area” so that a maximum Level of Ecological Protection (as defined in the EQMP) is maintained within Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).

To achieve these environmental objectives, Woodside has made the following management and monitoring commitments:

- Key outcomes:
 - No infrastructure will be placed on Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).
 - A Maximum Level of Ecological Protection is proposed for Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).
 - PW and cooling water discharges from the FPSO will be managed in Commonwealth waters to ensure the defined threshold values (e.g. 99% species protection or no effect concentrations) are met at the State waters 3 nm boundary, 95% of the time based on dispersion modelling results.
 - Drilling discharges (in particular, bottom-hole well section discharges) at drill centre locations in the State Proposal Area (i.e. TRA, TRD and TRF) will be managed using industry proven techniques to avoid potential impacts to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).
- Key management strategies:
 - FPSO PW will be treated prior to being discharged overboard using a tertiary treatment system, such as a Macro Porous Polymer Extraction (MPPE) system which is considered industry best practice.
 - Project vessels and MODUs will be subject to a risk assessment process to assess the likelihood of introducing IMS when transiting to the Project Area. Based on the outcomes of risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented.
 - Internationally sourced project vessels and MODUs required within 3 nm of Scott Reef (State Proposal Area) for longer than 48 hours will be inspected by an experienced IMS expert/marine scientist for IMS; and cleaned where required^[1].
- Assurance:
 - Periodic and ‘for cause’ toxicity testing and characterisation of the physical and chemical composition of the FPSO PW stream prior to discharge will be undertaken.
 - During steady state FPSO operations, PW modelling and infield verification will be completed to verify the modelling predictions.
 - Baseline and periodic water and sediment quality monitoring at a gradient away from the FPSO facility in the receiving environment will be undertaken to detect changes as a result of FPSO PW discharge.

^[1] Subject to confirmation, vessel/rig may be permitted re-entry within Scott Reef State waters (3 nm) without re-inspection provided its movements outside Scott Reef State waters at stationary or at slow speeds (less than three knots) in waters less than 50 metres deep do not exceed a period totalling greater than seven accumulative days prior to returning to Scott Reef State waters (3 nm).

- During steady state FPSO operations, cooling water modelling and infield verification will be completed to verify the modelling predictions.
- Verification monitoring for seabed subsidence will be outlined within the relevant EP and will be undertaken.
- IMS surveillance program will be undertaken at Scott Reef, consisting of a baseline survey prior to the commencement of activities in the State Proposal Area, and periodic surveys over the life of the proposed Browse Project.
- Verifying science:
 - The Scott Reef long term monitoring program will continue to monitor the status of the reef system, throughout the full lifecycle of the proposed Browse Project.

It should be noted that further environmental review and the implementation of controls will be undertaken in subsequent phases of the proposed Browse Project, such as during the preparation of activity-specific EPs. While the overarching environmental objectives will be carried through to the EPs, controls and corresponding performance criteria will be detailed in the EPs and implemented to reduce risks to As Low As Reasonably Practicable (ALARP).

4.15 MEQ-1: Environmental Quality Management Plan (EQMP)

A number of submissions requested that the proposed Environmental Quality Management Plan (EQMP) be provided as part of the supplementary documentation.

The EISG/ESD required Woodside to “*Outline a commitment to develop and implement a Marine Environmental Quality Management Plan (EQMP) for the State waters which identifies the Environmental Values to be protected and spatially defines the Environmental Quality Objectives and levels of ecological protection that Woodside aims to achieve in State waters*”.

This requirement was fulfilled in the State ERD appended to the draft EIS/ERD which included the purpose and objectives of the EQMP and proposed Levels of Ecological Protection (LEP) within State waters around Scott Reef for both construction and operations of the proposed Browse Project. Given the development stage of the project (pre-FEED) the draft EIS/ERD has focused on presenting acceptable environmental outcomes and demonstrating that feasible and effective management options exist to achieve them. Management detail will be provided in the subsequent approval process under petroleum legislation (i.e. EPs). However, subsequent to the finalisation of the draft EIS/ERD for public comment, Woodside has prepared an EQMP that is expected to be matured and finalised beyond this assessment process. The EQMP is provided in [Error! Reference source not found.](#)

As part of the development of the EQMP the proposed LEPs have been reviewed and refined. This refinement has been undertaken in response to consultation with EPA Services and in consideration of the levels of environmental quality that are predicted to be achieved as per the EPA’s Technical Guidance for Protecting the Quality of Western Australia’s Marine Environment (EPA, 2016). Given the detailed information provided in the draft EIS/ERD, including proposed LEPs, it is considered the consultation on the contents of the EQMP has been undertaken via the draft EIS/ERD public comment period and regulator engagements.

The revised LEPs are shown within the EQMP, **Appendix B.1**.

4.16 MEQ-2: Unplanned hydrocarbon release

Potential impacts of an unplanned hydrocarbon release

A number of submissions raised concerns with respect to the potential impacts of an unplanned hydrocarbon release on local and regional ecosystems including benthic habitats and communities, marine environmental quality, marine fauna and wetlands.

It is acknowledged within the draft EIS/ERD that the Project Area and environment that may be affected (EMBA) by a major unplanned hydrocarbon release (i.e. Scenario 1 - well blow out) overlaps a number of sensitive environmental, social and economic receptors, including protected and culturally significant areas.

Depending on its severity (i.e. volume, hydrocarbon type and location), a hydrocarbon release resulting from the proposed Browse Project would have the potential to impact water and sediment quality and alter habitats. This could subsequently alter fauna behaviour, cause fauna injury or mortality, impact the aesthetic value of an area and alter the function, interests and activities of other users. This would potentially include impacts to the Scott Reef-Browse Island genetic green turtle population, vulnerable marine mammals (including humpback whales and pygmy blue whales) and whale sharks. Potential risks to marine fauna as a result of an unplanned hydrocarbon release is described in Section 6.3.21 of the draft EIS/ERD.

Scott Reef as the closest coral habitat to the wells, subsea infrastructure and FPSO facilities is one of the most vulnerable sensitive receptors with respect to an unplanned hydrocarbon release. Quantitative spill modelling undertaken for the proposed Browse Project predicted that a number of shallower reef and lagoon habitats could be contacted in Scenarios 1 to 4 (refer to Section 6.3.21 of the draft EIS/ERD).

It should be noted however that the occurrence of unplanned hydrocarbon release is considered highly unlikely. Further, the extent of impacts would depend on exposure concentration, duration and degree of weathering of the hydrocarbons. In undertaking this risk assessment of a potential major hydrocarbon release, the spill likelihood was evaluated using blowout and well release frequencies based on SINTEF offshore blowout database 2012 (Scandpower, 2013). This uses data from 1991-2010 to determine likelihood for well blowouts and releases. For a gas well, the SINTEF calculated probability of blowout during drilling and completion is 2.93×10^{-4} . The SINTEF data supports a likelihood of 'highly unlikely' for a well blowout with potential to result in the worst-case credible spill. Furthermore, since the Gulf of Mexico Macondo event, significant improvements in engineering and management controls have been adopted by the industry, further reducing the likelihood of such an event occurring. Prevention and response measures in relation to potential unplanned release of hydrocarbons are detailed in Section 6.3.21.7 of the draft EIS/ERD.

With respect to the hydrocarbon spill modelling, feedback during the public comment period queried the rationale for the location of the modelled release in Scenario 1 (well blowout from the TRA-C well within the State Proposal Area), given the TRA-C well is not the closest proposed well to Scott Reef. The TRA-C well was selected as it is one of the wells located closest to Scott Reef and is expected to have a higher release rate (and therefore total volume over a fixed period of time) compared to the other wells. As such, the TRA-C well was considered to represent the worst-case credible scenario (i.e. the governing scenario that represents the largest potential environmental impact) and as such is the appropriate location for use in the hydrocarbon spill modelling. It is noted that since the release of the draft EIS/ERD, the TRE drill centre is no longer proposed to be developed which further confirms TRA-C well as the worst-case credible scenario.

Measures to reduce the likelihood and consequence of an unplanned hydrocarbon release

In response to stakeholder comments on the draft EIS / ERD, a Hydrocarbon Spill Risk Management Approach (HSRMA) has been prepared to outline the approach that will be applied on the proposed Browse Project to reduce the likelihood and consequence of unplanned hydrocarbon release events (**Appendix B.3**). This document provides a high-level overview of the key actions that will be implemented in order to reduce the likelihood and consequence of the worst case credible event associated with the proposed Browse Project, a well loss of containment event. It should be noted that measures pertaining to oil spill response are applicable to other hydrocarbon loss of containment events that were identified as credible within the draft EIS/ERD.

Woodside follows an industry leading process in the development of its oil spill prevention, preparedness and response position for its projects and activities. The objective of the process is to

mitigate and manage the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, so that they are controlled to ALARP and acceptable levels.

The outcomes of the process will be presented in an Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) which, together with the following ‘secondary approval’ documents, meet the requirements of the relevant regulatory regime governing hydrocarbon spill arrangements that is applicable to the proposed Browse Project, namely the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 and the State Petroleum (Submerged Lands) (Environment) Regulations 2012:

- Activity specific environment plans required under the Commonwealth and State regulations
- Oil Pollution Emergency Arrangements (OPEA)
- Activity specific Oil Pollution Emergency Plans (OPEP) including:
 - First Strike Plans (FSP)
 - relevant Operations Plans
 - relevant Tactical Response Plans (TRPs)
 - relevant supporting plans

The process of preparing this documentation will be conducted throughout the detailed design and planning phase of a project lifecycle, which the proposed Browse Project has not yet commenced. These ‘secondary approvals documents’ that will be prepared in accordance with all applicable regulations, are not yet able to be prepared as many of the critical details required to prepare these documents has not yet occurred.

Noting that these detailed documents have not yet been prepared, in order to provide stakeholders a more detailed understanding of the measures that will be in place on the proposed Browse Project to reduce the likelihood and consequence of hydrocarbon releases, this document outlines the:

- measures that will be applied to minimise the likelihood of a well loss of containment event
- source control techniques to be applied and maximum response timeframes to be achieved to reduce the consequence (e.g. release duration) of a well loss of containment event
- hydrocarbon spill response (remediation) techniques to be applied to reduce the consequence (spill response) of any hydrocarbon release event
- process that will be followed as part of secondary approvals to ensure risks from hydrocarbon spills are acceptable and risks are ALARP including relevant approvals that must be obtained
- the Operational and Scientific Monitoring frameworks to be applied to inform response activities and monitor the effects of any spill.

A summary of each chapter of the HSRMA (**Appendix B.3**) is provided below.

Reducing the likelihood of well loss of containment events.

A well loss of containment event is classified as any release of hydrocarbon (regardless of size or duration) from primary and secondary well control barriers. For a gas well, the probability of blowout during drilling and completion is 0.000293%, based on international benchmark data (SINTEF 2017). The most important step in managing such a release is minimising the likelihood of the event occurring. At Woodside, this process is managed through the Drilling and Completions (D&C) Management System. The D&C Management System Framework is based on international standards, codes and best practices. Woodside regularly conducts activities in Australia and internationally in accordance with this Framework. A description of this framework is provided in Section 3.2 of this Appendix. In addition, Woodside has provided an overview of the measures that,

at a minimum, will be implemented to minimise the likelihood of loss of well containment events from the proposed Browse Project.

These measures are the minimum that will be applied and have been identified very early in the lifecycle of the proposed Browse Project, as part of the environmental impact assessment. As project design and planning develops, and as part of the secondary approvals required under the Commonwealth and State regulations, further measures will be identified and assessed to ensure the risk of a significant unplanned hydrocarbon release is reduced to ALARP in accordance with the regulations. The remainder of this Section describes the process that will be undertaken as part of the development of the activity specific Environment Plans (EPs) that will be prepared in accordance with the regulations for acceptance by the Commonwealth and State regulators.

Source control techniques to be applied on the proposed Browse Project to reduce the consequence of a well loss of containment event.

In the highly unlikely event of a well loss of containment event, source control techniques will be applied to stop the flow of hydrocarbons to the environment from the well.

At all times when drilling is occurring, the capacity and capability to implement the following source control techniques, in the specified timeframes, will be maintained.

- A ROV capable of manually operating the Blow Out Preventor (BOP) (in the event of automatic systems failing) will be available in field for immediate response when determined safe to do so.
- A subsea first response tool kit to remove debris and facilitate installation of a capping stack will be available for will be available for deployment at the well loss of containment event site within 11 days of any event.
- Access to a suitable capping stack (either through ownership or membership to a response organisation) will be maintained. The capping stack (on a suitable vessel for deployment) will be mobilised to site and the capping stack will be available for deployment at the well loss of containment event site within 11²⁵-16²⁶ days of event, with a target of 13 days.
- Relief well capability will be monitored and at all times during the proposed Browse Project D&C activities, a suitable MODU capable of commencing relief well activities will be able to be mobilised and arrive in the field within 16 days of any well loss of containment event.

The document outlines the presents a level of minimum capability and commitment in relation to source control activities, including maximum response times to enacting particular response techniques. The provision of such detailed commitments at such an early stage in the project development lifecycle demonstrates the commitment to ensuring global best practice to minimising the risk to Scott Reef and surrounding environment. The techniques to be applied and response timeframes are considered to be in alignment with industry best practice.

These measures were identified in the context of the environmental impact assessment and primary approval process for the proposed Browse Project. As project design and planning matures, and as part of the secondary environmental plans required under the Commonwealth and State regulations, further measures will be identified and assessed to ensure the risk of a significant unplanned hydrocarbon release is reduced to ALARP in accordance with the regulations.

²⁵ 11 days is the mobilisation timeframe for the Singapore-based Wild Well Control Inc. capping stack to Port Hedland as calculated in the Australian oil and gas industry response time model (OSRL-APPEA, June 2021). This timeframe assumes the availability of a suitable vessel in Singapore within 24 hours.

²⁶ 16 days is the estimated mobilisation timeframe based on the OSRL-APPEA response time model (11 days) plus transit time to the spill location and contingency if a suitable vessel is not available within 24 hours.

New, emerging and innovative hydrocarbon spill response techniques to be considered for implementation on the proposed Browse Project

Woodside continually reviews the latest emerging technical in relation to hydrocarbon spill management and appraises them for applicability to our operations. This document outlines a series of new or emerging techniques that while currently not considered feasible, may be applicable to the proposed Browse Project in the future. In relation to a well loss of containment event, these techniques include (but are not limited to):

- kinetic blow out stopper (KBOS) shut in device, which may have the capability to immediately seal off the flowing well
- use of an offset capping installation technique or dual vessel capping stack deployment to improve operability of capping installation activities
- the use of a subsea containment system as an alternative to capping stack deployment
- the use of subsea well kill spools to enhance relief well drilling activities.

Further detail on these techniques and their advantages are described in further described in Section 3.2 of **Appendix B.3**.

Hydrocarbon Spill Response Techniques to be utilised on the proposed Browse Project

Available spill response techniques available for use on the proposed Browse Project will include:

- capability for monitoring of spill (and receiving environment) and evaluation of appropriate response techniques to be applied
- subsea dispersant application
- surface dispersant application
- mechanical dispersion
- in-situ burning
- containment and recovery
- shoreline protection and deflection
- shoreline clean-up
- oiled wildlife response.

The HSRMA provides only a high-level summary of the response techniques to be applied on the proposed Browse Project. It has been prepared in the context of providing supplementary information to address submissions on the draft EIS/ERD. As project design and planning matures, and as part of the secondary approvals required under the Commonwealth and State regulations, further detail of hydrocarbon spill risk mitigation measures will be identified and assessed to ensure the risk of a significant unplanned hydrocarbon release is reduced to ALARP. This assessment utilises probabilistic (stochastic) oil spill modelling of a credible 'worst-case' spill event to establish environmental resources at risk, propose suitable response techniques and ensure response capability.

As part of secondary approval processes, Woodside will undertake further detailed assessment of which response techniques will be most appropriate and specific capability required to implement each technique. The outcomes of that assessment process will be presented in an Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) prepared to meet the requirements of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 and the State Petroleum (Submerged Lands) (Environment) Regulations 2012. Details of this ALARP process is outlined in Section 7 of this Appendix B.3.

Operational Monitoring

Oil spill response techniques are informed by a real time operational monitoring program. Operational monitoring includes the gathering and evaluation of data to inform the oil spill response planning and operations. It also verifies and ground-truths the pre-emptive spill modelling and continued suitability of the response techniques and capability proposed in the ALARP demonstration. It includes real-time fate and trajectory modelling, spill tracking, weather updates and field observations. This response option is deployed in some capacity for every event.

Woodside maintains an Operational Monitoring Operational Plan. If shoreline contact is predicted, Response Protection Areas (RPAs) will be identified and assessed before contact. If shorelines are contacted, a shoreline assessment survey will be completed to guide effective shoreline clean-up operations. These assessments would then inform which of the suite of verified, site-specific 'Tactical Response Plans' (for locations around the WA coastline) should be activated. The Tactical Response Plans set out the appropriate response techniques, nearest equipment locations and site layout plans for safe, efficient and effective deployment of equipment. These plans also assist the Incident Management Team in mobilising resources commensurate to the nature and scale of the spill.

Scientific Monitoring

A scientific monitoring program (SMP) would be activated following a significant unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors. This document outlines Woodside's ten Scientific Monitoring programs alongside their objectives, activation triggers and termination criteria.

The SMP would consider receptors at risk (ecological and socio-economic) for the entire predicted Environment that Maybe Affected (EMBA) and in particular, any identified Pre-emptive Baseline Areas (PBAs) for the credible spill scenario(s) or other identified unplanned hydrocarbon releases associated with the operational activities.

Key objectives of the Woodside oil spill SMP are:

- assess the extent, severity and persistence of the environmental impacts from the spill event
- monitor subsequent recovery of impacted key species, habitats and ecosystems.

The SMP comprises ten targeted environmental monitoring programs to assess the condition of a range of physico-chemical (water and sediment) and biological (species and habitats) receptors including EPBC Act listed species, environmental values associated with protected areas and socio-economic values, such as fisheries.

4.17 MEQ-3: Australian marine parks and State marine parks

A number of submissions noted the proximity of the proposed Browse Project to Australian marine parks (AMPs) and State marine parks.

Australian marine parks

It is acknowledged that the BTL route traverses the Argo-Rowley Terrace and Kimberley Marine Parks. However, as detailed in Chapter 9, Table 9.13 of the draft EIS/ERD, the proposed activities are not predicted to result in impacts to the values of these AMPs and the proposed activities are consistent with the approved uses of the Multiple Use Zones (IV). Furthermore, activities will be progressed in accordance with applicable petroleum pipeline requirements, EPs and requirements in relation to North-West Marine Parks Networks which are currently the subject of a Class Approval from the Director of National Parks (Class Approval – Mining Operations and Greenhouse Gas Activities) dated 26/06/2018).

Assessment of alternatives

The potential to avoid these receptors has been evaluated in Section 3.8.3.2 of the draft EIS/ERD. The assessment concluded that:

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- Avoiding incursion into the Kimberley Marine Park (Multi Use Zone) by locating the BTL north of the marine park. While potentially technically viable, this alternative would result in significant increased complexity due to water depths greater than 600m and associated risk due to the large changes in water depth that would occur along the route. The increased route length would also result in increased habitat modification as a result of seabed disturbance and a greater requirement for steel (due to the longer pipeline), with associated indirect impacts.
- An alternative route that runs south of the Argo-Rowley Terrace Marine Park (Multi Use Zone) was assessed and found not to be preferable due to the shallower water and significant sand waves present; installation of the BTL in this alternative area would require substantial seabed intervention to prepare the seabed for placement of the BTL. The intervention required would likely be via means such as mass flow excavation, trenching, ploughing or the placement of rock berms. The significantly shallower water would require significant secondary stabilisation after the pipe was laid to ensure pipeline integrity. Both extensive seabed preparation and secondary stabilisation would result in additional impact to receptors (e.g. localised turbidity and removal of benthic habitat) as well as additional cost. It should also be noted that this alternative BTL route would be longer and subsequently have increased impacts via seabed disturbance compared with the proposed BTL route.

Given the above, it was determined that the additional potential environmental impact, cost and technical complexity of adopting alternative routes that avoid the Kimberley Marine Park and/or the Argo-Rowley Terrace Marine Park would significantly impact the proposed Browse Project, while actually increasing the environmental impact. As such, it is considered that the proposed BTL route represents the only reasonably practicable and feasible option.

Characterisation of the seabed along the BTL route within the AMPs

Analysis of the benthic imagery acquired during and environmental survey of the BTL route found that the seabed along the BTL route within the AMPs was predominantly composed of unconsolidated soft sand, largely devoid of epibenthic communities, with occasional solitary non-coral benthic invertebrates (Advisian, 2019).

Subsequent to the release of the draft EIS/ERD for public comment, high-quality seabed imagery of the BTL route within the marine parks acquired by an autonomous underwater vehicle (AUV) has become available. A review of the AUV imagery demonstrated that the seabed along the selected sections of the BTL route within the AMPs found:

- Kimberley Marine Park: the seabed along this section of the BTL was predominately unconsolidated flat soft sands with some areas demonstrating shallow sand waves and bioturbation. The seabed was almost entirely devoid of epibenthic communities, with only occasional solitary benthic invertebrates (e.g. crinoids, seapens, starfish and anemones), crustacea and demersal fish observed. A representative image of the seabed along the BTL route within the Kimberley Marine Park is shown in **Figure 4-1**.
- Argo-Rowley Terrace Marine Park: the seabed along this section of the BTL was characterised by unconsolidated soft sand forming shallow sand waves, largely devoid of epibenthic communities, with occasional solitary non-coral benthic invertebrates (e.g. crinoids, seapens, starfish and anemones), crustacea and demersal fish observed. A representative image of the seabed along the BTL route within the Argo-Rowley Terrace Marine Park is shown in **Figure 4-2**.

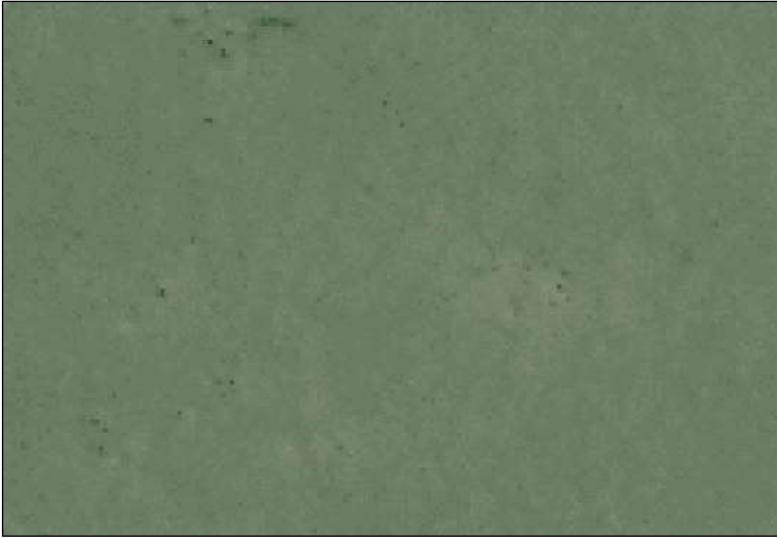


Figure 4-1 Representative image of seabed along the BTL route within the Kimberley Marine Park



Figure 4-2 Representative image of seabed along the BTL route within the Argo-Rowley Terrace Marine Park

Given the lack of significant habitat or seabed features along the proposed BTL route, impacts resulting from seabed disturbance are not predicted to be significant. Given this, there is a high level of confidence that the installation and operation of the BTL will not result in a reduction in the conservation values of the AMPs and it is considered that the proposed activities are not inconsistent with the requirements of the North-west Marine Parks Network Management (Director of National Parks, 2018)

State marine parks

With respect to State marine parks, given the distance of the proposed activities from State marine parks (the Rowley Shoals Marine Park is located approximately 2 km from the proposed BTL route at its closest point), no impacts to State marine parks as a result of the proposed activities are predicted.

Unplanned hydrocarbon release

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It is acknowledged that a major unplanned hydrocarbon release resulting from the proposed Browse Project would have the potential to impact the environmental values of AMPs and State marine parks. However, the occurrence of such a spill event is considered highly unlikely (refer to response MEQ-2 for further discussion of the unplanned hydrocarbon releases).

4.18 MEQ-4: Produced water (PW)

A number of submissions raised concerns with respect to potential impacts on marine environmental quality from the discharge of PW from the FPSO facilities in Commonwealth waters. This included concerns with respect to the uncertainty of the PW toxicity, the approach used to assess the potential area impacted by the PW discharge and the PW constituents.

PW Ecotoxicity

As described in Section 6.2.16.2 of the draft EIS/ERD, whole of effluent toxicity data is not currently available for PW as insufficient well fluid samples are available to conduct this level of testing prior to start-up. This is unavoidable as PW is predominantly associated with later field life once the gas reserves are depleted and aquifer intrusion occurs. This is typical of both new developments and of operated assets, where there is uncertainty in how PW characteristics may change over time. Given this information is not currently available, the results of toxicity testing of Torosa condensate (the likely key contaminant for PW) have been identified as the most representative to determine PW toxicity. The draft EIS/ERD acknowledges this uncertainty and presents an adaptive management process based on FPSO PW discharge monitoring, periodic and 'for cause' toxicity testing and characterisation of the physical and chemical composition of the PW stream prior to discharge. This approach is broadly consistent with the management of PW uncertainty at existing operating assets.

PW potential area of impact

A detailed assessment of the PW discharge from the FPSO facilities has been provided in Section 6.2.16 of the draft EIS/ERD. This assessment was based on robust modelling study taking into consideration the physical discharge parameters, chemical constituents and ecotoxicity. The modelling presented addresses two key scenarios:

- Scenario 1: Maximum processing capacity of the FPSO facilities, which is not expected until late field life. This corresponds to 5,723 m³/day.
- Scenario 2: Flowrate of the FPSO facility shortly after start-up or on facility restart when MEG is typically expected to be discharged.

The results of the assessment determined that a reduction in water quality will occur in the vicinity of the PW discharge point due to the residual hydrocarbons and chemicals within the PW discharge. However, the point at which the 99% species protection level is met for oil in water (333 dilutions) is a maximum distance of 1,200 m from the Torosa FPSO discharge point (as defined in the modelling as described in Section 6.3.12.3 of the draft EIS/ERD). The Torosa FPSO is located ~2.5 km from the 3 nm State water boundary and ~8 km from Scott Reef and as such there are no predicted impacts to Scott Reef or within the State water boundary (3 nm).

As the PW treatment system and discharge characteristics for the Calliance/Brecknock FPSO are the same as for the Torosa FPSO; and the receiving environment at the FPSO locations are similar, the modelling undertaken at the Torosa FPSO location has been used as a surrogate for the Calliance/Brecknock FPSO facility. The mixing zone extent therefore is anticipated to be similar for the Torosa FPSO as for the Calliance/Brecknock FPSO at approximately 1,200 m.

It should be noted that PW is generally expected to increase over time and be highest towards the end of the reservoir life. This is because as hydrocarbons are extracted over time, formation water is drawn towards the well and it is produced. As such, these scenarios are considered the most conservative scenarios, noting there will be sufficient time to monitor and adapt management measures to ensure impacts are within the limits presented in the draft EIS/ERD.

PW constituents – fate, transport and management of mercury

Submissions raised concerns with respect to the impact assessment of mercury as a constituent of PW, including with regards to mercury content in the PW stream, whether there is a requirement for mercury recovery units (MRUs) for the PW stream and bioaccumulation in the receiving environment.

The draft EIS/ERD identifies that some mercury in PW streams is expected to occur in the relatively low toxicity form (Hg (0)), with some potential for production of HgII (e.g. mercury chloride and mercury sulphide). Methyl-mercury (MeHg) is not expected to be produced.

As described in the previous subsection, the proposed Browse Project draft EIS/ERD assesses the potential impact of PW discharge on water quality. Consistent with the approach for other oil and gas facilities, the draft EIS/ERD specifies a mixing zone for potential impacts from PW discharge, which is based on oil in water as the selected governing constituent. In the draft EIS/ERD a discharge limit of 0.03 mg/L for mercury is specified, as this represent the discharge limit whereby the 99% species protection level²⁷ (0.1 µg/L) will be met at the edge of this defined mixing zone.

This approach is inherently conservative as it does not account for the ready volatilisation of elemental mercury (Hg (0)) from surface waters into the atmosphere (Neff, 2002). As described in Section 6.2.16.4 of the draft EIS/ERD studies have found that surface waters of the marine environment typically emit mercury and this exchange of mercury at the interface between the ocean surface and the atmosphere unfolds relatively quickly (Gworek et al., 2016). It is therefore anticipated that the majority of the discharged elemental mercury will be volatilised to the atmosphere and hence is expected to remain in surface water for much less time than oil-in-water, leading to a smaller mixing zone than is proposed for oil-in-water. It is also recognised that there is potential for deposition of a small component of the mercury into sediment, particularly if Hg(0) is oxidised to Hg(II) (e.g. mercury chloride and mercury sulphide).

Further, the design of the Browse FPSOs have selected a PW discharge depth of 14 m below mean sea level, which facilitates dispersion and results in turbulent mixing of the buoyant plume close to the discharge point. As a result, while the 99% species protection limit is conservatively predicted to be met at the edge of the defined mixing zone (e.g. 1,200 m), based on the modelled dilution contours the 95% species protection limit (0.4 µg/L) is predicted to be reached within 200 m and the 80% species protection limit (1.4 µg/L) within 50 m of the discharge point for non-bioaccumulating constituents (noting that bioaccumulating constituents will be managed at to ensure 80% species protection at the discharge point, with the exception of elemental or inorganic mercury which will be managed to achieve 80% species protection within 20 m of discharge entry to receiving environment) (Appendix D.4 of the draft EIS/ERD).

Meeting these ANZECC default guidelines at very short distance from the FPSO discharge point supports the environmental impact assessment for PW (Section 6.3.12.4 of the draft EIS/ERD), which identified that:

- A change in water quality may occur in the vicinity of the PW discharge point (localised and limited to within 1,200 m mixing zone);
- The change in water quality as a result of PW discharges has the potential to result in the injury or death of plankton species within the water column through toxicity effects. Any potential for acute toxicity impacts to plankton would be expected to be limited to within the modelled mixing zone confined to a small portion of the water column (i.e. surface layer).

²⁷ The mercury threshold specified in Section 6.3.12.2 of the draft EIS/ERD is based on the ANZECC default guideline value for chronic exposure at the 99% species protection level for inorganic mercury in marine water. Chronic data used to derive the default guideline value was available for six taxonomic groups covering 43 data points (consisting of fish, crustaceans, echinoderm, molluscs, annelids and algae) (ANZG, 2018).

- Transient marine fauna (i.e. potentially exposed to toxicity for short periods) within the receiving environment adjacent to the discharge location are unlikely to be exposed to sufficient concentrations or durations of the discharge constituents to result in a toxicological impact. This is further substantiated as the threshold concentrations and the subsequent mixing zone have been determined through the application of chronic exposure thresholds based on ecotoxicological tests on larval marine fauna (i.e. during their most sensitive life stage) rather than transient adults.

Beyond the localised impact of mercury discharge in PW on localized water quality, the environmental impact assessment for the discharge of mercury in PW also considers the risk of mercury bioaccumulation. Of the different mercury forms, methyl-mercury (MeHg) is of most concern because it is readily bioavailable and can be responsible for toxicological effects at very low doses – in particular ANZECC technical guidance identifies that diet-derived methyl mercury is the primary concern with regards to bioaccumulation, due to the lipid-solubility of organic mercury (ANZG, 2018). As described in Section 6.2.16.4 of the draft EIS/ERD, MeHg is not expected to be produced from the Browse reservoirs.

The predominant mechanism for methylation of mercury (by which an inorganic form of mercury is made organic) in the marine environment is biochemical transformation by microorganisms in anaerobic conditions (Gworek et al. 2016). Conversion of other mercury forms to MeHg does not occur in well-oxygenated marine waters (Neff, 2002) such as those of the Browse Development Area, and during a study into factors influencing the oxidation, reduction, methylation and demethylation of mercury species in coastal waters, no measurable methylation occurred in seawater samples during the incubation period of the study (Whalin et al., 2007). MeHg which has formed through methylation typically represents less than 1.5 % of the total quantity of deposited mercury in sediments (Gworek et al., 2016). Thus, the risk for bio-accumulation to occur due to trace amounts of mercury in PW discharge is remote. In addition, methylation of mercury after being ingested by marine fauna was not identified as a key process in a review of the scientific literature (e.g. Gworek et al., 2016).

To further assess the bioaccumulation risks, modelling was conducted simulating mercury discharge from the Torosa FPSO at the maximum expected rates for the maximum expected duration of the project life (44 years). This showed that due to the low initial concentration of mercury, slow settling velocities and large spread of the mercury particles, any mercury accumulating on in sediments would never exceed a 'limit of reporting' 0.01 mg/kg for all operational periods assessed. For example, after 30 years of operations, the maximum mercury concentration was 0.0006 mg/kg, which is 16.7 times below the LOR, 250 times lower than the DGV and 1,670 times below the GV-high threshold. The modelling report supporting this analysis is included as Error! Reference source not found..

As previously mentioned, the whole of effluent toxicity of the PW stream has the potential to fluctuate over the life of the field due to varying reservoir characteristics and associated rates of formation water. In the event that the mixing zone is larger than anticipated (i.e. because the whole of effluent toxicity of the PW stream is significantly higher than anticipated (refer to periodic and 'for cause' toxicity testing described above)), posing a significant increase in impact than that described in the draft EIS/ERD then corrective actions will be implemented onboard the FPSOs to reduce the risk, such as storing PW on board the FPSOs (i.e. temporarily halting discharge), additional treatment, and/or additional engineering to produce a change in discharge characteristics. In the specific case of mercury, where chemical characterization results demonstrate inorganic mercury in PW discharge exceeded the specified limit of 0.03mg/L, which has led to an increase in associated whole of effluent toxicity and a resultant mixing zone which is larger than anticipated, then corrective actions may include temporarily halting discharge until additional treatment and/or engineering produced a change in discharge characteristics.

Further, as described in Section 3.7.6.2 of the draft EIS/ERD, onboard the FPSOs, the feed stream will be separated into a gas stream and a liquid stream. The liquid stream will then be separated into

a condensate stream and PW stream. In Woodside’s general experience operating oil and gas facilities, mercury from the reservoir typically partitions to preferentially follow the gas stream, then the condensate stream, with only a remnant being discharged within PW. Mercury Removal Units (MRUs) will be in place in the gas and condensate streams. This is consistent with observations throughout the oil and gas industry, and is supported by a recent article (Crafts and Williams, 2020).

The ability to store PW on board the FPSO as part of the management approach, is a key advantage of the FPSO concept when compared to fixed platforms. Given this and given the statements above regarding expected partitioning of mercury it is not considered that the use of an MRU to remove mercury from the PW stream is warranted as part of the base case design for the Browse FPSOs.

Monitoring and management

As detailed in Section 6.3.12 of the draft EIS/ERD, Woodside has made a number of management and monitoring commitments in relation to PW. These will be implemented to achieve the environmental objectives to:

- Manage the Browse Project marine discharges in a manner that prevents a change in sediment quality (as informed by baseline surveys and periodic and post-operations monitoring) in areas outside of predicted impact areas defined in the draft EIS/ERD, to an extent which may otherwise result in an adverse effect²⁸ on biodiversity, ecological integrity or human health.
- Manage the Browse Project marine discharges in a manner that prevents a change in water quality (as informed by baseline surveys and periodic monitoring) in areas outside of predicted impact areas defined in the draft EIS/ERD, to an extent which may otherwise result in an adverse effect²⁹ on biodiversity, ecological integrity or human health.
- Manage the Browse Project FPSO PW and cooling water discharges in in a manner that ensures the defined threshold values³⁰ (e.g. 99% species protection or no effect concentrations) are met at the State waters 3 nm boundary, 95% of the time based on dispersion modelling results.
- Manage the Browse Project marine discharges in a manner such that the Levels of Ecological Protection in the State Proposal Area as defined in the Environmental Quality Management Plan are maintained.

Management measures to be implemented include:

- where practicable, design of the proposed Browse Project infrastructure will take into consideration opportunities to reduce the need for chemical additives (e.g. the use of active heating for hydrate management).
- Chemicals that may be operationally released or discharged to the marine environment will be subject to Woodside’s chemical selection and assessment process and approved prior to use.
- FPSO PW will be treated prior to being discharged overboard using a tertiary treatment system, such as a Macro Porous Polymer Extraction (MPPE) system that meets Woodside and accepted industry standards.
- PW discharge from the FPSO facilities will be conducted below the water surface to promote dispersion and mixing.

²⁸ The area where a detectable change in sediment quality may occur, as determined by marine discharge modelling and described within the draft EIS/ERD

²⁹ The area where a detectable change in water quality may occur, as determined by marine discharge modelling and described within the draft EIS/ERD

³⁰ The level at which if exceeded, unacceptable impacts may occur. Threshold values applied to the proposed Browse Project are described in the draft EIS/ERD

- Hydrocarbon content in the FPSO PW discharge will be no greater than an average of 30 mg/L over any period of 24 hours during steady state operations (excluding start-up, shut-downs etc.) as demonstrated by monitoring.
- For the FPSO PW discharge, the defined threshold values (i.e. 99% species protection or no effect concentrations) will be met at the edge of the mixing zone and the State waters 3 nm boundary, 95% of the time based on dispersion modelling results.

To verify that the impacts associated with PW discharge are within the impact envelop presented in Section 6.2.16 of the draft EIS/ERD, the following assurance activities will be undertaken:

- *During steady state FPSO operations, PW modelling and infield verification will be completed to verify the modelling predictions.* This study aims to verify the modelling predictions and in particular the dilutions achieved, which determines the point at which the defined thresholds levels are reached.
- *Periodic and ‘for cause’ toxicity testing and characterisation of the physical and chemical composition of the FPSO PW stream prior to discharge will be undertaken.* This provides an assessment of the individual constituent chemical concentration and the whole of effluent toxicity at end of pipe.
- *Baseline and periodic water and sediment quality monitoring at a gradient away from the FPSO facility in the receiving environment will be undertaken to detect changes as a result of FPSO PW discharge.* This monitoring aims to determine no changes in the receiving environment water and sediment quality outside of the defined mixing zone as a result of the FPSO PW discharges.
- In the event the PW discharge does not meet the defined thresholds in the range predicted for any constituent concentrations, an adaptive management strategy will be implemented which will be included during the EP process. This adaptive management strategy may include actions such as reducing the discharge rate, which increases dilutions in the nearfield or reduces an individual chemical concentration through commingling prior to discharge. It should also be noted that PW will come on slowly so there will be opportunity to sample and adapt before the full rates modelled are experienced.

The process of how these commitments will be operationalised, verified and monitored will be further outlined in the EP for Commonwealth waters.

PW re-injection

A number of submissions questioned why re-injection to a reservoir is not being considered as a disposal option for PW, citing lack of discussion in the draft EIS/ERD on PW disposal options. PW disposal options assessment is presented in Section 3.8.3.3 of the draft EIS/ERD. The options assessment concluded that given the detailed environmental impact and risk assessment of PW (Section 6.3.12 of the draft EIS/ERD) concluded that no significant environmental impacts are predicted and that the discharge of PW is acceptable; the increased health and safety risks, GHG emissions, technical complexity and capital and operating costs associated with PW re-injection into a reservoir is grossly disproportionate to the environmental benefit likely to be gained from this approach.

4.19 MEQ-5: Use of non-water -based fluids (NWBFs) during drilling

A number of submissions raised concerns with respect to the use of non-water based fluids (NWBFs) during drilling. In particular respondents questioned the use of synthetic oil-based NWBFs and if Woodside would implement toxicity parameters and concentration guidelines for offshore discharge of NWBF in line with OSPAR recommendations.

The proposed Browse Project will use water-based drilling fluids (WBFs) as the default option; however, NWBF may be required to manage well stability to safe levels based on the offset (comparative wells) history, geohazards assessment and borehole stability studies.

As detailed in Section 6.3.15 of the draft EIS/ERD, WBFs consist mainly of freshwater or seawater with the addition of chemical and mineral additives to aid in its function. These additives are either inert in the marine environment, naturally occurring benign materials, or readily biodegradable organic polymers with a very fast rate of biodegradation in the marine environment.

As detailed in the Section 6.3.15 of the draft EIS/ERD, NWBF refers to drill fluids that are synthetic hydrocarbon based rather than water based. NWBF may contain a range of synthetic hydrocarbons, such as paraffins and olefins; however, such additives are designed to be low in toxicity and biodegradable, as well as not being readily bioavailable or likely to bioaccumulate amongst the deepwater benthic biota that live within the seabed (infauna) or on the seabed (epifauna). Nedwed et al.(2006) concluded that NWBF discharged in deep water caused very limited environmental impacts (from analysis of differences in benthic fauna between pre- and post-drilling samples).

Woodside notes that the use of NWBFs is not 'effectively banned' as stated in some submissions. Rather, the residual base oil on discharged drill cuttings is controlled and limited (in some regions, prescribed lower than 6.9%). While there is no prescriptive limit for oil-on-cuttings (OOC) in Australia, to date, accepted EPs typically commit to a maximum of 6.9% (wet) OOC.

As detailed in the draft EIS/ERD, Woodside has committed to monitoring NWBF drill cuttings discharges to confirm that the average OOC for the entire well (sections using NWBF) will not exceed 6.9% by wet weight. It should be noted however that this is a worst-case upper limit and setting this limit involves considering the proportionality of costs and benefits of the following hierarchy of available technology and practices to ensure the lowest feasible discharges. These considerations include:

- Elimination – can the discharge of NWBF retained on cuttings be eliminated? This includes consideration of options to capture and transport NWBF cuttings to shore for treatment and disposal. Associated challenges include transport emissions (~800 km return trip to Broome), vessel marine biosecurity (e.g. potential invasive marine species risk increase for Scott Reef), availability of suitable treatment and disposal facilities (e.g. in Broome) and terrestrial impacts of disposal (e.g. Kimberley-based land-fill, or long-distance transport to non-Kimberley location/s).
- Note that there will be no bulk discharge of NWBFs.
- Substitution – can NWBF be substituted for another fluid (e.g. use only WBF)? WBF is the default fluid. Proposed use of NWBF is internally challenged and is only used if it can be demonstrated that the proposed NWBF hole-sections have intolerable technical risk without the properties provided by NWBF.
- Limitation – can the use of NWBF be limited? Considerations include limiting NWBF use to certain hole-sections, limiting discharge of higher-OOC discharge streams (e.g. from centrifuges), or capturing higher-OOC streams for onshore treatment and disposal or collection and disposal at an alternative offshore location
- Engineering controls – can the NWBF cuttings be treated prior to discharge? Typical controls routinely employed include high-performance shale shakers, cuttings dryers and centrifuges to minimise OOC. Other considerations include use of thermal desorption, chemical or microwave technologies. Challenges associated with these technologies include technical feasibility, operability, energy requirements, reduced throughput (which may increase drilling duration at the location and/or cause down-hole problems) and health and safety risks.
- Administrative controls – can administrative controls limit/manage NWBF cuttings discharges? Typical controls routinely employed include maintenance regimes, and accuracy of testing and reporting.

This process is consistent with the OSPAR concept of best available techniques/best environmental practice and is based on the principle of ALARP prescribed in the Commonwealth OPGGS Environment Regulations and the State Petroleum (Submerged Lands) (Environment) Regulations

2012. It should be noted that there will be no bulk discharge of NWBF and that NWBF that cannot be re-used (i.e. do not meet required drilling fluid properties or are mixed in excess of required volumes) are recovered from the mud pits and returned to the shore base for onshore processing for recycling and/or disposal. Further description for management of drilling discharges is provided in MEQ-6 and Appendix A of the Browse Project EQMP.

4.20 MEQ-6: Management of drilling and completion discharges

A number of submissions raised concerns with respect to the impacts of the discharge of drilling and completions discharges (including drill cuttings), particularly with respect to potential impacts on Scott Reef. Section 6.3.15 of the draft EIS/ERD outlines the potential impacts and risks from the discharge of drilling or completions discharges associated with drilling activities.

As described in Section 6.3.15.2 of the draft EIS/ERD, drilling discharges predominantly occur at two locations, at seabed and near surface. Drill cuttings and unrecoverable WBFs are discharged at the seabed at each well site for the top-hole sections, which are drilled riser-less (i.e. no closed loop with the MODU). This results in a localised area of sediment deposition (known as a cuttings pile) around and in proximity to the well site influenced by prevailing seabed currents.

Once the top-hole sections are complete, installation of the riser and blow out preventer provides a conduit back to the MODU, forming a closed circulating system. The bottom hole sections will be drilled with a marine riser in place that enables cuttings and drilling fluids to be circulated back to the MODU, where the cuttings are separated from the drilling fluids by the solids control equipment (SCE) and typically re-used in the closed loop system between the well bore and the MODU. The cuttings (with adhered residual fluids) are, in typical circumstances, discharged below the water line, with their fate and dispersion determined by cuttings particle size and the density of the unrecoverable fluids. In contrast the fluids are recirculated into the fluid system where there are a number of mud pits (tanks) on the MODU that provide a capacity to mix, maintain and store fluids required for drilling activities. The mud pits form part of the drilling fluid circulating system and may be discharged during the drilling of the well where particular criteria is met.

Cement discharge

Once each of the top hole sections are drilled, casing will be inserted into the wellbore and secured in place by pumping cement into the annular space. This may involve a discharge of excess cement at the seabed (~80 m³/well). Overspill of cement will permanently alter physical sediment properties immediately adjacent to the well (within <50 m). The potential disturbance area is 0.008 km² per well. This will result in the permanent loss of the benthic communities and habitats in the disturbance area. This loss will be restricted to sparse, deepwater benthic habitat, with no impact on Scott Reef shallow water benthic communities and habitat (<75 m bathymetry) predicted.

Seabed discharge

Modelling of the proposed seabed discharge of drill cuttings was presented in Section 6.3.15 of the draft EIS/ERD. The modelling indicated that the seabed discharge of drill cuttings (with unrecoverable fluids) from top-hole well sections may result in sediment plumes in the lower water column above seabed and associated deposition of sediment to the surrounding seabed. Such plumes are predicted to be confined to the bottom layers of the water column with no contact with deeper water or shallow water coral habitats at Scott Reef (<75 m bathymetry). There is some evidence of localised intrusions of cooler water around the western and eastern entrances to the channel between North and South Scott Reef during spring tides but no evidence of persistent upwelling or downwelling currents around Scott Reef (Green et al., 2019) and therefore, no transport mechanisms to mobilise drill cuttings from deep waters to the shallower waters of the reef system. As such, given the location of the drill centres in deep water (>350 m), which experience strong surface and subsurface currents, drill cuttings and fluid discharge disposal at seabed would be expected to dilute rapidly. Therefore, any reduction in water quality due to elevated TSS is expected to occur in a localised area around the drill centre and will be temporary in nature.

Potential impacts are expected to be confined to sessile biota such as sediment burrowing infauna and epifauna where present in or on the seabed in immediate proximity to the well location. Ecological impacts to such biota are predicted when sediment deposition is equal to or greater than 6.5 mm in thickness (IOGP, 2016). Modelling (Section 6.3.15.3 of the draft EIS/ERD) indicated that such deposition would potentially occur out from the well location to approximately 200 m (following the direction of the prevailing current). This deposition may result in the reversible loss in the order of 0.13 km² of deepwater benthic habitat per well based on an assumption of an expected spread radius of 150 m from each well (in addition to the irreversible loss of 50 m radius associated with cement – described above). Recovery of affected benthic infauna, epifauna and demersal communities is expected to occur relatively quickly, given the short duration of sediment deposition and the widely represented benthic and demersal community composition.

Surface discharge

In relation to the proposed discharge of bottom-hole drilling discharges at drill centres within the State Proposal Area when the riser is in place (i.e. conduit back to the MODU), previous modelling indicated that the surface release of drilling discharges generated at the previously proposed TRE and TRD drill centre locations would potentially result in incursions of sediment plumes and associated increased sedimentation to portions of North and South Scott Reef including within the lagoons. This has been further investigated in Appendix A of the Browse Project EQMP, which details the discrete surface discharges (e.g. drill cuttings with residual fluids and WBF mud pit bulk discharges) to assess individual risk to the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry), where a maximum LEP has been proposed.

Additional management controls are proposed for the management of Torosa wells drilling discharges in the State Proposal Area to demonstrate that the maximum LEP for Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) can be achieved. It is noted that the TRE drill centre is no longer proposed so any TRE specific management measures previously proposed are no longer relevant.

For TRA, TRD, and TRF wells on the eastern side of Scott Reef, within the State Proposal Area, drilling discharges at the surface/near surface when drilling with riser are only being considered for bottom hole cuttings (with residual film of fluids) from the shakers (or equivalents) for WBF, and from the cuttings dryers (or equivalents) for NWBF, due to their inherently lower adhered WBF/NWBF content, and the rapid settling velocity of the larger particle size (Limited to >63um) of the cuttings (primary discharge source) and associated dispersion characteristics, and as such there is no anticipated credible risk to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry). Noting that the WBF mud pit bulk discharges, which have larger volumes and finer particle distribution and hence wider dispersion, are proposed to be managed and either discharged at depth (>200 m), at the seabed, or retained for offshore disposal in Commonwealth waters in accordance with a sea dumping permit.

Note, one of the key mitigative options for the management of drilling discharges from Torosa wells in the State Proposal Area involves the collection and transportation of specific discharges to a location outside of State waters (in Commonwealth waters) for disposal (e.g. skip and ship). This option involves modifications to the MODU, which may differ depending on the discharge type and rig selection to allow the storage, potential treatment (e.g. slurrification) and transfer/disposal of the discharge. For drilling fluids, these may be recovered from the mud pits, transferred to storage tanks on the MODU or pumped into storage tanks on a barge/vessel for subsequent disposal. For drill cuttings, this activity may consist of the collection of the cuttings from the MODU into specially designed skips, via a steerable chute. The filled skips are then offloaded via a crane onto a dedicated collection vessel (e.g. barge) or to a standard platform supply vessel (PSV) for disposal. Alternatively, cuttings may be slurrified on the MODU and cuttings and/or fluids pumped to the barge/vessel for subsequent disposal. The disposal of such discharges within Commonwealth waters will be subject to further assessment and approval through the *Environment Protection (Sea Dumping) Act 1981* as required.

The management approach for Torosa wells in the State Proposal Area (i.e. TRA, TRD and TRF) are outlined in Appendix A of the Browse Project EQMP. The approach will also be further described and regulated in future EPs submitted for approval under petroleum legislation.

Drilling discharges management

The following controls have been adopted as per Section 6.3.15.7 of the draft EIS/ERD in relation to this discharge:

- The number of wells will be optimised to meet hydrocarbon recovery objectives and operational requirements and thereby reduce unnecessary use of drilling fluids and generation of drill cuttings. It is noted that the number of wells in the State Proposal Area has been reduced from up to 24 in the ERD to up to 20.
- For technical, operational and environmental reasons NWBFs will be selected in accordance with Woodside’s chemical selection and assessment processes.
- Risers will be used to ensure that NWBF and associated cuttings are recirculated to the MODU, where cuttings will be treated prior to discharge.
- There will be no planned discharge of unused NWBF at sea during drilling and completion operations.
- Drill cuttings will be tested to confirm that the average oil on cuttings for the entire well (but limited to sections using NWBF) will not exceed 6.9% by wet weight.
- Woodside has committed to a drilling or completions discharges management approach, which involves managing the drilling or completions discharges (in particular, bottom hole discharges) at drill centre locations in the State Proposal Area (i.e. TRA, TRD and TRF) in such a manner to avoid impacts to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).
- As previously described, additional controls have been adopted to demonstrate that the maximum LEP for Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) can be achieved. These management controls and associated context are described in detail in Appendix A of the Browse Project EQMP (Management Approach for Torosa wells in State Proposal Area).

Wireline logging activities

Wireline logging activities or Formation Evaluation while drilling may be used for the Browse Project development wells. If radioactive sources are selected for the activity, then any radioactive materials used during the activity would be brought back to the MODU as part of the planned activity. The radioactive sources would not be discharged into the marine environment as part of this planned activity.

4.21 MEQ-7: Decommissioning

A number of submissions raised concerns with respect to decommissioning including what would occur in the event global gas demand decreased to a point where the proposed Browse Project was not financially viable. Woodside confirms that the facilities will be decommissioned in accordance with good oilfield practice and relevant legislation and practice at the time.

Decommissioning will occur once infrastructure has reached the end of its economic life and may occur in stages. The process to determine timing for decommissioning of unused infrastructure will be detailed in Operations Environment Plans towards (but prior to) the end of field life. All infrastructure installed above the seabed will be designed to allow removal.

The base decommissioning case is for the removal of infrastructure, however, given the possible improvements in technology that may occur between now and the time of decommissioning, it is not possible to fully scope the decommissioning strategy that will be employed at that time. The strategy

(which may also include an assessment of alternatives to the complete removal of subsea infrastructure) will be demonstrated through activity-specific EPs developed closer to the time.

For further details, Section 3.7.8 of the draft EIS/ERD outlines the proposed decommissioning activities in relation to the project.

4.22 MEQ-8: Potential impacts to wetlands

A number of submissions raised concerns with respect to potential impacts to wetlands including Ramsar wetlands. As described in Section 5.3.3 of the draft EIS/ERD, no Ramsar wetlands occur within the Project Area and wetlands of international importance (Ramsar wetlands) was not identified as a controlling provision in relation to the Commonwealth environmental impact assessment process for the proposed Browse Project. The closest Ramsar wetland to the Project Area is Ashmore Reef Marine Park (formerly Ashmore Reef National Nature Reserve) located approximately 200 km north-east of Browse Development Area. Another Ramsar wetland is located in Roebuck Bay in close proximity to the Port of Broome which is a potential supply chain and logistics location for the proposed Browse Project. Mermaid Reef is a wetland of national importance which lies within the Mermaid Reef Marine Park. The BTL route is located >2 km from the marine park boundary (distance depending on final BTL route selection).

The impact assessment presented in Chapter 6 of the draft EIS/ERD determined that there will be no planned impacts to any wetlands of international or national importance as a result of the proposed Browse Project activities. It is acknowledged that a major hydrocarbon release resulting from the proposed Browse Project would have the potential to impact significant marine and coastal areas. However, it should be noted that, the occurrence of such a major spill event is considered highly unlikely, particularly given the stringent controls in place (refer to response MEQ-2 for further discussion of unplanned hydrocarbon releases).

4.23 MF-1: Potential impacts to marine fauna (general)

A number of submissions raised concerns with respect to potential impacts to marine fauna from the proposed Browse Project activities.

It is acknowledged that a variety of EPBC listed and non-listed marine fauna may occur in the Project Area with pygmy blue whales and green turtles of particular note. Potential impacts on marine fauna associated with the proposed project activities have been considered and assessed within Chapter 6 of the draft EIS/ERD. The assessment concludes that no significant impacts on marine fauna species are predicted to occur as a result of the proposed Browse Project activities.

Table 6-7 of the draft EIS/ERD identifies the environmental objectives, context and relevant aspects for all marine fauna that may interact with the proposed Browse Project activities. A further evaluation has been conducted for those aspects that have the potential to result in significant impacts and risks to the green turtle population at Scott Reef and the East Indian Ocean pygmy blue whale population visiting the possible foraging area at Scott Reef, both in isolation and cumulatively.

The outcomes of this further evaluation are summarised in **Section 4.24** (light emissions), **Section 4.25** (underwater noise emissions) and **Section 4.26** (unplanned vessel interactions). Additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise these impacts and risks to pygmy blue whales and marine turtles are described in these sections. This further evaluation has demonstrated the draft EIS/ERD impact and risk conclusions remain appropriate.

Woodside has reviewed and revised the environmental objectives presented in the draft EIS/ERD to be more specific and measurable. These revised environmental objectives are provided in **Section 5**. Woodside is committed to achieving these environmental objectives including those relating to marine fauna.

Further details with respect to potential impacts to protected marine fauna and their management are provided in:

- MF-2: Potential impacts to marine fauna as a result of light emissions (**Section 4.24**)
- MF-3: Potential impacts to marine fauna as a result of noise emissions (**Section 4.25**)
- MF-4: Vessel - fauna interaction (**Section 4.26**)
- MF-5: Potential impacts to marine turtles (**Section 4.27**)
- MF-6: Presences and abundance of blue whales in Project Area (**Section 4.28**)
- MF-7: Potential impacts to cetaceans (**Section 4.29**)
- MF-8: Potential impacts to sea snakes (**Section 4.30**)
- MF-9: Potential impacts to seabirds and migratory shorebirds (**Section 4.31**)
- MF-10: New species of siphonophores (**Section 4.32**)
- MF-11: Potential impacts to fish (**Section 4.33**).

4.24 MF-2: Potential impacts to marine fauna as a result of light emissions

A number of submissions raised concerns with respect to light emissions from the proposed Browse Project infrastructure and resultant potential impacts to marine fauna and in particular marine turtles.

The main receptors of concern with regards to light emission from the proposed Browse Project activities are marine turtles, seabirds and migratory shorebirds. The draft EIS/ERD identifies that the Project Area overlaps areas identified as:

- habitat critical to the survival of green turtles (Scott Reef-Browse Island genetic stock) (as identified in Recovery Plan for Marine Turtles 2017-2027 (Commonwealth of Australia, 2017a))
- a BIA for internesting green turtles around Sandy Islet
- a BIA (known resting area) for little terns.

Desktop Lighting Study

Section 6.3.3 of the draft EIS/ERD presented the outcomes of an evaluation of the potential impacts from light emissions associated with the physical presence of offshore facilities, MODU and vessels during all phases of the proposed Browse Project. This evaluation is based largely on light modelling studies conducted as part of the approved EIS for the Browse FLNG Development, for which drilling activities closest to Sandy Islet are the same (i.e. the TRE drill centre). It is noted that since completion of the draft EIS/ERD, the TRE drill centre is no longer proposed.

Since the original light modelling studies were undertaken, and submission of the draft EIS/ERD, there has been additional context regarding potential impacts to turtles from light emissions—in particular the release of the final National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2020) in January 2020. These guidelines are intended to be read in conjunction with the other guidance, including the EPBC Significant Impact Guidelines and species recovery and conservation management plans.

A desktop lighting assessment, taking into account the final National Light Pollution Guidelines for Wildlife (2020) has been undertaken and is provided in Error! Reference source not found.. This includes an assessment of the relevant importance of the turtle nesting beach located in the Browse Development Area (Sandy Islet) to the G-ScBr stock, a further literature review describing potential impacts of offshore sources of artificial light on all life stages of marine turtles and seabirds and migratory shorebirds, a gaps analysis of the assessment completed to date (against the National Light Pollution Guidelines for Wildlife, 2020), and an updated impact assessment, which was conservatively based on the assumption that light emissions (in the form of either direct light or sky

glow) from operational lighting may be visible at intensities resulting in behavioural impacts to marine turtles at 20 km from the source. For flaring, additional conservatism was made based on results of line of sight (LOS) modelling, with behavioural impacts potentially occurring within 52 km the MODU and FPSO locations. Note that the 52 km has been estimated for routine flaring from the FPSO, accounting for the proposal clarification presented in **Table 2-1**, which considers an increased flare tip height sitting at 181 m above sea level.

Light Modelling Study

Modelling of the artificial light emissions from the proposed offshore facilities was undertaken to support the outcomes of the assessment of light emissions on marine turtles for the proposed Browse Project. Modelling of predicted light from the FPSO, MODU at the TRA drill centre and MODU at the TRD drill centre was undertaken using a single observer viewpoint on Sandy Islet for all scenarios.

Turtle Management Plan

Woodside has prepared a TMP which presents a management approach that will be implemented in relation to potential impacts and risks from light emissions and seabed subsidence on marine turtles as a result of the proposed Browse Project. This management approach is required to ensure that the aspects are managed so as not to result in an unacceptable impact to marine turtles. The TMP is provided in Error! Reference source not found..

The management approach outline in the TMP incorporates:

Updated modelling of artificial light emissions

Modelling of the artificial light emissions from the proposed offshore facilities, including the Torosa FPSO and a simulated drilling facility, under different operational conditions, were undertaken to support the outcomes of the assessment of light emissions included in the draft EIS/ERD and to inform management and monitoring measures.

A detailed overview of the modelling outcomes are provided in Section 3.1 of the TMP.

Management actions

A series of management actions are outlined in the TMP, providing measures that will ensure the Performance Objectives can be achieved, in summary, key management actions include:

- avoiding potential impacts to Sandy Islet by restricting vessel operations from occurring in proximity to Sandy Islet during sensitive periods (e.g. peak/should turtle nesting season)
- outlining requirements or circumstances where vessels will be required to implement a light management plan
- designing the lighting on board the Torosa FPSO to be in accordance with National Light Pollution Guidelines for Wildlife
- outlining how flaring from the Torosa FPSO will be managed to ensure any impacts associated with the light from flaring is consistent with the performance objectives.

A detailed overview of the management actions are provided in Section 4 of the TMP.

Monitoring, verification and adaptive management

Four distinct monitoring programs are proposed in relation green turtles within the project area, including:

- a green turtle monitoring program at Sandy Islet and surrounds to update baseline information on green turtle demographics at Scott Reef
- an anthropogenic light monitoring program to verify predicted light emissions from construction and operational activities

- a seabed subsidence monitoring to verify predicted subsidence levels which may be used to better understand causes of and changes to Sandy Islet morphology
- a Sandy Islet size and morphology monitoring program to monitor the size and morphology of Sandy Islet for comparison with historic minimum available nesting habitats.

Green Turtle Monitoring Program

Further details of the Green Turtle Baseline Monitoring Program are described in Section 5.1 of the Turtle Management Plan, **Appendix B.4**.

Seabirds

Section 4.31 (MF-9: Potential impacts to seabirds and migratory shorebirds) provides a summary of the key findings of the desktop lighting assessment with regards to potential impacts from light emissions from the proposed Browse Project on seabirds and migratory shorebirds.

4.25 MF-3: Potential impacts to marine fauna as a result of noise emissions

A number of submissions raised concerns with respect to noise emissions from the proposed Browse Project infrastructure and resultant potential impacts to marine fauna and in particular pygmy blue whales and marine turtles.

The main receptors of concern with regards to underwater noises emissions from the proposed Browse Project activities are marine mammals, marine turtles and fish.

The draft EIS/ERD identifies that the Project Area overlaps areas identified as:

- a possible foraging area and a migration BIA for pygmy blue whales (Commonwealth of Australia, 2015b)
- habitat critical to the survival of green turtles (Scott Reef-Browse Island genetic stock), nesting habitat and interesting buffer around Sandy Islet, Scott Reef (as identified in Recovery Plan for Marine Turtles 2017-2027 (Commonwealth of Australia, 2017a)
- a BIA for interesting green turtles around Sandy Islet, Scott Reef.

4.25.1 Pygmy blue whale

The draft EIS/ERD presented the findings of a robust underwater noise impact assessment supported by modelling predictions for impulsive and continuous sources, and the application of acoustic effects thresholds for identified receptors. The impact assessment summary (Table 6-73 of the draft EIS/ERD) presented the potential impacts and risks, environmental objectives, adopted controls and impact significance level / residual risk rating for all assessed receptors. The impact assessment summary indicated that there would be minimal impact to fish and marine turtles, impact significance levels of Slight (E) and Minor (D), respectively. Of particular note for the impact assessment of underwater noise emissions to pygmy blue whale and the outcomes of further evaluation. The further analysis confirmed no change in the residual impact significance level of minor (D). Furthermore, additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise the impact were identified and are presented in the Pygmy Blue Whale Management Plan (Error! Reference source not found.).

In response to feedback from DAWE, Woodside has reviewed and revised the environmental objectives presented in the draft EIS/ERD to be more specific and measurable. Establishment of revised environmental objectives for the proposed Browse Project that are specific to pygmy blue whales has been addressed and these revised environmental objectives are provided in **Section 5**.

In order to provide further detail as to how the presence and abundance of blue whales in the Project area will be considered, a Pygmy Blue Whale Management Plan has been prepared (**Appendix B.5**). The primary purpose of the plan is to outline how any underwater anthropogenic noise associated with the Proposed Browse Project will be managed such that it will not be inconsistent with the Conservation Management Plan (CMP) for the Blue Whale, specifically the requirements of Action A.2.3.

Action Area A.2, Action 3 of the CMP that states that:

“anthropogenic noise in biologically important areas (BIAs) will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area”.

Guidance on the key terms of the CMP and FAQs (DAWE, 2021 and NOPSEMA 2021) have been applied to the development of the plan.

Woodside considers that the management approach outlined in the plan demonstrates, with a high level of confidence, that unacceptable impacts to pygmy blue whales will be prevented, by minimising the risk of injury to pygmy blue whales or displacement of pygmy blue whales from the Scott Reef possible foraging BIA, as a result of underwater noise emissions associated with the proposed Browse Project.

A detailed overview of each objective of the plan is provided below.

Management of Injury from Impulsive noise

The spatial and temporal controls presented in the PBWMP ensure that all activities generating impulsive noise will either be eliminated during the detailed design phase and if they are required, will only occur outside of times/places where pygmy blue whales are likely to be present. A scientific monitoring program will be put in place prior to these activities occurring, to provide a thorough understanding of times and places pygmy blue whales are likely to be present in and around the project area. A requirement to monitor for whales will apply to these activities, which can be immediately ceased if a whale is sighted, on a precautionary basis.

Management of Injury from Vessel noise

Modelling indicated that the greatest distance at which injury may be caused (after 24 hours of continuous exposure) to a whale was 1.5 km, which was associated with installation of the inter-field spurline, which would only affect the possible foraging area for a short duration. For vessels that are present for longer periods, (i.e. MODUs and Torosa FPSO), these were modelled as potentially causing injury (after 24 hours of exposure) at distances of less than 650 m from the noise source. Considering behavioural disturbance (e.g. avoidance) may occur at 120 dB re 1 μ Pa, and migratory pygmy blue whales typically travel 10s or 100s of kilometres a day, the risk of exposure of a PBW to TTS or PTS from vessel activities is considered highly unlikely.

To further understand injury risk, ANIMAT modelling was conducted to account for whale behaviour and sound exposure (Appendix B). ANIMAT modelling outcomes demonstrated that for the vessel activity with highest risk of injury (BTL installation), 95% of simulation results required a pygmy blue whale to come within 50 m of a vessel's propulsion system to be exposed to noise related injury (PTS). The probability of a PBW coming to such close proximity of a vessel was considered highly unlikely.

For the FPSO and MODU, ANIMAT modelling resulted in no simulated whales being exposed to PTS/TTS.

Disruption of foraging behaviour

It is recognised that the proposed Browse Project may result in the generation of underwater noise in excess of the recognised behavioural response threshold, which has the potential to disrupt pygmy blue whale foraging behaviour. Accordingly, the PBWMP has considered:

- the time of year the activity will be undertaken and the likelihood of pygmy blue whale foraging in the area of potential overlap of the proposed Browse Project and the Scott Reef possible foraging area (BIA)
- the extent, intensity, and duration of sound exposure within the Scott Reef possible foraging area, including residual and cumulative impacts after the application of controls
- the implementation of any appropriate controls to prevent unacceptable impacts.

Best practice management measures in accordance with a precautionary approach have been established within the PBWMP and successful implementation will ensure that, with a high

degree of certainty, the anthropogenic noise from the proposed Browse Project will be managed such that any blue whale will be able to continue to utilise the BIA without injury, and no blue whale will be displaced from a foraging area. In this way, the proposed Browse Project will not be inconsistent with the CMP.

Existing Knowledge of Pygmy Blue Whale Activity at Scott Reef

The PBWMP outlines key management principles used to determine activity specific controls that will be applied to the proposed Browse Project. Spatio-temporal management is a core element of this management approach, underpinned by a comprehensive review of existing knowledge of pygmy blue whale activity at Scott Reef and adaptive management to respond to uncertainty or possible future changes in understanding of pygmy blue whale activity in the region.

Pygmy blue whales are known to migrate on an annual basis through the Scott Reef possible foraging on their way to and from breeding and feeding grounds within the Banda Sea, Indonesia. The migratory seasons are defined by shoulder and peak periods and exact timings can vary inter-annually.

Evidence collected to date from a variety of techniques including sampling of zooplankton, pygmy blue whale vocalisation data from passive acoustic monitoring (noise loggers), survey observations (vessel-based and aerial) and satellite tracking suggests that Scott Reef is likely to be of less importance for the East Indian Ocean (EIO) pygmy blue whale population than other defined foraging areas. However, the relative importance of Scott Reef as a foraging area for migrating pygmy blue whales remains unclear and as such the possible foraging area will be managed as a known foraging area and BIA for the purposes of the proposed Browse Project.

In known foraging BIAs such as the Perth Canyon, pygmy blue whales can be observed in predictable annual higher abundance, exhibiting foraging behaviours and have extended residence times albeit in large areas of coastal or offshore waters. These observations, behaviours and residence times are not replicated at or in the vicinity of the Scott Reef possible foraging area, despite dedicated, multi-year studies over an extended period, using multiple survey and sampling techniques. Across the Scott Reef possible foraging area from west to east, based the understanding of pygmy blue whale foraging areas and habitat suitability, there is a higher likelihood of prey (krill) availability over the upper slope (with canyon features) habitat to the west of Scott Reef as compared to the featureless, homogeneous seabed habitat of the eastern extent of the BIA. This forms the basis of concluding that the likelihood of foraging by pygmy blue whales while migrating through the BIA is higher for (i) the upper slope habitat in the western extent of the BIA and (ii) potentially the Scott Reef channel as based on the findings reported by Sutton *et al.* (2019). Survey results for one season (in 2008), have been used to infer a predictable spring period of higher productivity leading to krill swarms that are a predictable food source for southbound migrating pygmy blue whales within the Scott Reef channel. Based on the likelihood of prey availability within suitable foraging habitat and foraging pygmy blue whale activity, a higher relative importance of the Scott Reef channel as a foraging habitat within the Scott Reef possible foraging has been adopted. It is recognised that there are knowledge gaps and scientific uncertainty about the predator-prey dynamics (pygmy blue whale and krill availability) and the potential temporal-spatial importance of the channel. The higher likelihood of foraging pygmy blue whales within the Scott Reef Channel (as presently accepted) underpins the approach to the management of noise and potential impacts to pygmy blue whales within the PBWMP.

Underwater Noise Characterisation & Assessment

Noise (sound power level) estimates for major activities or vessels, including continuous or impulsive noise are presented in the PBWMP, based on suitable analogues or indicative design data. Sound propagation modelling has then been performed to estimate the distance (R_{max}) from each activity at which certain noise levels will be received, corresponding to potential injury or behavioural disturbance effect thresholds.

Continuous noise sources range from 161.5 dB re 1 μ Pa.m for well head choke valve noise (at well centres with up to 7 wells) to 191 dB re 1 μ Pa.m for the rigid pipelay vessel. These activities were estimated to cause potential behavioural responses from pygmy blue whales at onset ranges from <500 m to 9.9 km, respectively.

After the application of elimination, substitution and reduction controls, and a cumulative ensonified area assessment is provided and demonstrates:

- There are no planned activities that will occur during peak periods of the pygmy blue whale migratory seasons, that generate noise above 120 dB re 1 μ Pa within the Scott Reef channel.
- Underwater noise is anticipated to peak during the initial subsea construction phase, during intermittent, short term activities (ie BTL installation concurrent with the MODU activities) that may ensonify (>120 dB re 1 μ Pa) an area of up to ~123 km² (0.95% of Management Zone B). These activities are targeted to occur outside of peak periods of the pygmy blue whale migratory seasons and BTL activities will only impact the BIA for a period of weeks.
- After this initial construction period, the total areal extent of the Scott Reef possible foraging ensonified above 120 dB re 1 μ Pa during peak pygmy blue whale migratory periods is reduced to ~1 km² at the surface (<0.01% of Management Zone B) during normal operations (with mitigations applied, i.e., turning off vessel propulsion or FPSO thrusters if a whale is sighted) and ~22 km² at the surface (0.17%) during intermittent (<1 day per fortnight) offtake operations (where vessel propulsion cannot be halted if a whale is sighted, due to offtake spill risks).
- Noise from well-heads during operations may ensonify up to ~2.4 km² (0.02%) of the Scott reef possible foraging area, however this noise propagation would not ensonify waters in the top 50 m of the water column, where whales would typically be when transiting to foraging areas or migrating. This value does not account for the predicted marked reductions in noise emissions expected to result from designing well head choke valves to minimise noise.
- Activities outside of the Scott Reef possible foraging area will also be managed, to minimise the risk of disturbance to opportunistic foraging and scientific monitoring will occur in this region to understand the likelihood of pygmy blue whale presence and foraging behaviour occurring.

Management Approach

The management approach within the PBWMP aligned with industry best practice and involves:

- reduction of potential impacts through the application of the hierarchy of controls
- spatio-temporal management principles
- an extensive scientific monitoring program
- an adaptive management program to respond to new scientific or technical information

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- decision-making within the adaptive management framework based on scientific data and input from an expert review panel.

Management of underwater noise for the proposed Browse Project is governed by the application of hierarchy of controls with key principles applied summarised below:

- Avoid generating noise at times and/or in places where pygmy blue whales are likely to be present.
- Substitute high noise generating activities with quieter alternatives.
- Engineering will be used to reduce the sound source levels associated with equipment being designed for use on the Project.
- Where an activity cannot be eliminated, substituted or reduced such that noise generated is below behavioural response thresholds, operational mitigations will apply.

Spatio-Temporal Management Principles

Spatio-temporal management principles will be applied to manage noise within certain areas and at certain times. Two management zones will be applied and managed for the Torosa development and operational activities:

- Management Zone A: Scott Reef channel
- Management Zone B: the wider Scott Reef possible foraging area.

The spatio-temporal management approach proposed will apply a suite of key principles for managing underwater noise within each zone with the aim of eliminating noise propagating within and into the Scott Reef channel (Management Zone A) and minimising noise propagation within the wider Scott Reef possible foraging area (Management Zone B). These key principles are as follows:

Within management zone A during peak and shoulder pygmy blue whale migratory seasons include:

- There shall be no generation of noise capable of causing ‘injury’ to a pygmy blue whale from any source.
- There shall be no generation of noise from vessels (including FPSOs or MODUs) at levels above which may cause disruption to a foraging pygmy blue whale.

Additionally, there shall be no propagation of noise into this zone, from unmitigable long term noise sources above levels which may cause disruption to a foraging pygmy blue whale.

Within management zone B during peak periods of the pygmy blue whale migratory seasons include:

- There shall be no impulsive noise from impact piling or seismic activities including vertical seismic profiling.
- There shall be no vessel activity from which ‘injury’ (e.g. PTS/TTS) from noise exposure could occur (24 hour exposure) at 750 m or more from the source.
- There shall be no unmitigable or continuous long-term noise above levels which may cause a behavioural response beyond a 1 km radius from the source.
- Any mitigable surface activity generating noise at levels which may cause injury or a behavioural response must operate in accordance with an activity specific Whale Management Procedure.

The approach, as set out above ensures that underwater noise emissions will be eliminated, avoided or reduced such that injury to and displacement from foraging by a pygmy blue whale has been minimised to the greatest extent possible and the residual risk is negligible.

Key Management Actions

Design features and activity specific management measures applicable to anthropogenic noise with as incorporated by the hierarchy of controls and spatio-temporal management principles are presented in and include:

During Design:

- Thrusters on the FPSO **will be** designed to minimise noise generation, targeting 178dB re 1 μ Pa.m at 50% power useage. The radius to the pygmy blue whale behavioural response threshold being reduced from ~2.8 km to 570 m if noise reduction from 183 re 1 μ Pa.m to design target is achieved.
- Subsea choke valves on well heads at Torosa **will be** designed to minimise noise generation, with initial investigations indicating noise can be reduced by approximately 16.5 dB, meaning the radius at which pygmy blue whale behavioural response threshold is met would be significantly below the predicted ~500 m horizontal radius and would not intersect with the ocean surface. The outcome of this exercise is uncertain, as it has not been possible to identify a vendor that has had to incorporate noise mitigations into well head design before. This design mitigation is a best in class approach to noise mitigation.
- No activities will occur and no infrastructure will be designed to be installed within the Scott Reef Channel.

During subsea construction and installation:

- At Torosa and Brecknock, MODUs will not use DP systems to hold station while drilling during peak periods of the pygmy blue whale migratory seasons, but instead will be moored.
- Vessels operating in the Scott Reef possible foraging area will be required to implement operational restrictions and observe for pygmy blue whales, with triggers to delay or stop certain activities if whales are sighted within nominated management zones.
- No activities will occur within the Scott Reef Channel.

In relation to impulsive noise from subsea construction and installation activities:

- Non-impulsive noise generating alternatives to impact piling (e.g. suction piling) will be used at all times, where technically feasible.
- Impact piling will not occur in the Scott Reef channel (Management Zone A) at any time or within Management Zone B during peak or shoulder pygmy blue whale migratory periods.
- VSP activities will not occur in the Scott Reef channel (Management Zone A) at any time or within the Zone B during peak pygmy blue whale migration periods.
- A Whale Management Procedure (WMP) will be in place during all impact piling and VSP activities, to observe for whales and respond appropriately in the event that whales are detected within monitoring zones.

During operations (that coincide with peak periods of the pygmy blue whale migratory seasons):

- There will be no unmitigable vessel noise (including from FPSO or MODUs) above the behavioural response threshold within the Scott Reef channel

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- The Torosa FPSO is located in the swell shadow of the Scott Reef system, meaning the thrust required to control heading will be rarely utilised and will be substantially less than other offshore facilities, i.e., Calliance FPSO, significantly minimising long term noise generation from either continuous (weather-varying FPSO) or intermittent (condensate offloading) activities.
- Concurrent activities at the Torosa FPSO will be restricted to reduce cumulative noise (i.e., supply vessels cannot conduct goods transfers while condensate offtakes are occurring).
- Mitigable noise, including from supply vessels and during condensate offtakes, will not occur unless a Whale Management Procedure is in place to establish exclusion zones where the activity cannot commence if a whale is present and once the activity has commenced, monitoring will continue, and applicable mitigations applied if a whale is observed.

During future tie-back phases:

- Subsea construction or installation activity (e.g., drilling or flowline installation) related to subsequent tiebacks from within the Torosa field will only occur outside of peak periods of the pygmy blue whale migratory seasons.
- Drilling and completions of any Torosa or Brecknock well as part of future (post Torosa RFSU) tieback phases will be required to be completed by a moored MODU when operating during peak periods of the pygmy blue whale season, unless the noise from the DP system would be the equivalent or less than noise generated were it to be moored.

Scientific Monitoring

Scientific monitoring programs will be designed to obtain a contemporary baseline data on the relative abundance, seasonality and, movement and behaviour of pygmy blue whales within the possible foraging area at Scott Reef prior to the commencement of operations.

On-going data acquisition is planned to occur throughout the life of the proposed Browse Project, which will be important to monitor any changes the movement and behaviour of pygmy blue whales and confirm sound source levels of project activities.

The key objectives of the pygmy blue whale scientific (baseline) monitoring program are as follows:

- To verify and further understand the seasonality, residency time, behaviours and relative abundance of the EIO pygmy blue whale population utilising the Scott Reef possible foraging area to ensure spatio-temporal management areas are appropriately defined.
- Identify the habitats within the Scott Reef possible foraging area that are likely to support predictable aggregations of prey (krill) to ensure spatial management areas are appropriately defined.

Additionally, the following monitoring activities will be put in place in support implementation of the PBWMP:

- Measurement of underwater noise from key activities to verify impact predictions and revise management procedures, if required.
- A technology maturation program to investigate and demonstrate feasibility for technologies to enable real-time detection of pygmy blue whales such as underwater listening stations and/or infra-red detection techniques.

An expert panel will be established to input to the scope and design of the scientific monitoring programs, review findings and decisions leading to changes in the management regime to minimise underwater noise emissions and potential impacts to pygmy blue whales.

Adaptive Management

An important element of applying a spatio-temporal management principles will be the application of an adaptive management process to verify and modify the management plan principles and triggers when new scientific or technical knowledge becomes available. The application of defined management zones and timing of seasonal controls is presently based on current knowledge regarding the presence and foraging behaviour within the Scott Reef possible foraging area. Findings from the baseline and ongoing (operational phase) scientific monitoring programs will be used to adaptively manage the applied spatio-temporal management regime and activity specific whale management procedures.

Adaptive management will ensure operational measures are aligned to possible changing knowledge or circumstances in space and time. Adaptive management actions and response trigger criteria are outlined in. The majority of actions are focussed on the pre-operational phase of the proposed Browse Project, to provide sufficient time to ensure operational plans can be adapted in response to any trigger criteria being met.

The primary objectives of the adaptive management are:

- Maintain a spatio-temporal management regime that minimises underwater noise emission impacts to pygmy blue whales and ensures the management objectives of the proposed Browse Project are met.
- To identify and execute any need for change to management actions, that will be made in response to triggers or action outcomes and scientific knowledge.

Aims of each key element of the Adaptive Management Plan are outlined below under two key categories – design modifications and spatio-temporal controls.

Design modifications:

- Predict noise levels from the Torosa FPSO thruster and Torosa well head choke valves based on detailed design information to ensure management objectives will be achieved or modifications to management actions are required.
- Validate predicted noise levels from well head choke valves at Calliance to inform if design changes are required for Torosa (applicable to post phase 1 activities).
- Validate predicted noise levels from the Torosa FPSO thruster and well head choke valves to ensure management objectives will be achieved or modifications to management actions are required.

Spatio-temporal controls:

- Ensure boundaries of management zones are appropriately defined and aligned to the most up to date understanding of pygmy blue whale movement and foraging behaviour.
- Ensure temporal restrictions based on seasonal peak and shoulder periods of the pygmy blue whale migration seasons accurately reflect actual pygmy blue whale presence and migratory periods including possible changes over time. Activity scheduling is to then be modified, where required, to meet temporal controls.
- Verify monitoring zone definitions and observation distances applied to relevant activities and designated within WMPs, are valid and accurate for each activity.

4.25.2 Marine turtles

As described in Section 6.3.8 of the draft EIS/ERD and Section 8.4.4.6 of the State ERD, given the results of underwater noise and animal modelling, planned mitigation measures (including exclusion zones and shut downs), the small exposure area, the temporary nature of the piling activities and the likely avoidance behaviour of marine turtles, it is considered that potential impacts to marine turtles from underwater noise emissions will be limited to behavioural (avoidance) impacts and would not result in any lasting effect. Given the temporary nature of the piling and drilling activities, these behavioural impacts are not expected to result in any reduction in nesting success or long term impacts to internesting or migrating marine turtles in the State Proposal Area. No additional controls identified over and above the adopted controls and mitigation as presented in the draft EIS/ERD are proposed.

4.26 MF-4: Vessel - fauna interaction

A number of submissions raised concerns with respect to the potential for interaction between project vessels (including Fast Crew Transfer Vessels (FCTVs)) and marine fauna.

Section 6.3.18.2 of the draft EIS/ERD presented the outcomes of an evaluation of the risk of vessel strike causing injury or mortality to marine fauna due to the physical presence and movements of vessels during all phases of the proposed Browse Project. This risk evaluation is based largely on the types and numbers of vessels in the Project Area and general description relating to the project phases. Relevant EPBC Act listed threatened species are considered with particular attention to pygmy blue whales, humpback whales and marine turtles.

The potential impacts and risks, environmental objectives, adopted controls and impact significance level / residual risk rating for marine fauna from unplanned vessel interactions are presented in Table 6-141 of the draft EIS/ERD. The outcomes of further evaluation for unplanned vessel interactions, in isolation and cumulatively for Phase 1 RFSU and operations confirmed no change to the risk ratings for pygmy blue whales, humpback whales and marine turtles. Additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise this risk to marine fauna with particular focus on pygmy blue whales is presented in **Table 4-2**.

In response to feedback from DAWE, Woodside has reviewed and revised the environmental objectives presented in the draft EIS/ERD to be more specific and measurable. These revised environmental objectives are provided in **Section 5**. Woodside is committed to achieving these environmental objectives including the prevention of physical injury to marine fauna.

Table 4-2: Risk assessment summary for unplanned vessel interaction with marine fauna, adopted and additional controls, and environmental objective for marine fauna

Receptor (Sensitivity)	Risk Event	Environmental Objectives	Draft EIS/ERD Controls	Additional Controls	Consequence	Likelihood	Risk Rating
<p>Marine turtles (high value)</p> <p>Marine mammals (high value)</p>	<ul style="list-style-type: none"> Injury or mortality to fauna 	<ul style="list-style-type: none"> Undertake the Browse Project in a manner that prevents physical injury to marine fauna (cetaceans, marine turtles, whale sharks, dugongs) 	<p><u>Project vessel operations</u></p> <ul style="list-style-type: none"> Project vessels will only enter the channel between north and south Scott Reef during construction/installation, IMMR, contingent activities, decommissioning and emergency situations. Project vessels will not travel at speeds greater than 12 knots within the State Proposal Area, or 6 knots in the Scott Reef channel, unless required for SOLAS. FCTV will operate under a FCTV Management strategy (to be detailed in subsequent EPs as required) which will describe the appropriate additional control measures to manage vessel strike risk for the FCTV. Subject to the potential for technological innovation and additional engineering controls, FCTVs will not travel at speeds greater than 30 knots in sensitive areas at sensitive 	<p><u>Project vessel operations</u></p> <ul style="list-style-type: none"> All vessels (including the FCTV) will not travel at speeds greater than 12 knots within the pygmy blue whale possible foraging area that overlaps Scott Reef in peak migration periods (May, June and November), unless required for SOLAS. The FCTV will minimise time within the pygmy blue whale possible foraging area that overlaps Scott Reef by following a defined route to Torosa FPSO in peak migration periods (May, June and November). Interactions between vessels and marine fauna will not be inconsistent the EPBC Regulations 2000 – Part 8 Division 8.1, and in the Australian 	Moderate	Unlikely to highly unlikely	Low (C1) to Moderate (C2)

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Receptor (Sensitivity)	Risk Event	Environmental Objectives	Draft EIS/ERD Controls	Additional Controls	Consequence	Likelihood	Risk Rating
			<p>times (Table 6-139 of the draft EIS/ERD).</p> <ul style="list-style-type: none"> • Interactions between vessels and whale sharks will be not be inconsistent with the Whale Shark Code of Conduct (Department of Parks and Wildlife, 2013) , whereby unless in an emergency situation, vessels will not knowingly travel at speeds greater than eight knots within 250 m of a whale shark and not intentionally approach closer than 30 m of a whale shark. • Vessels will operate in accordance with EPBC Regulations 2000 – Part 8 Division 8.1 and Australian National Guidelines for Whale and Dolphin Watching whereby: <ul style="list-style-type: none"> - Vessels will not knowingly travel greater than six knots within 300 m of a whale or 100 m of a dolphin. - Vessels will not knowingly approach closer than 100 m to a whale or 50 m to a 	<p>National Guidelines for Whale and Dolphin Watching and the Whale Shark Code of Conduct, whereby unless in a permitted emergency situation, vessels will not travel at speeds greater than the speed restrictions prescribed for marine fauna encounters.</p> <ul style="list-style-type: none"> • Establishment of a Pygmy Blue Whale Management Plan 			

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Receptor (Sensitivity)	Risk Event	Environmental Objectives	Draft EIS/ERD Controls	Additional Controls	Consequence	Likelihood	Risk Rating
			dolphin (except if bow riding). - Vessels will not knowingly restrict the path of cetaceans. - Vessels will take direct routes where practicable, whilst avoiding significant areas for marine fauna where possible. • The possible FCTVs design will intrinsically reduce the risk of vessel strikes, including a shallow vessel draught (i.e. approximately 1 m or less) and no propeller. • The possible FCTV will have trained vessel crew as a marine fauna observer ³¹ .				

³¹ Marine fauna observer – a dedicated and suitably trained person who must not have any other duties that impede their ability to engage in visual observations for whale and marine turtles.

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4.27 MF-5: Potential impacts to marine turtles

A number of submissions raised concerns with respect to marine turtles and potential impacts from planned activities and risks presented by unplanned events and incidents associated with the proposed Browse Project.

Table 6-7 of the draft EIS/ERD identifies the environmental objectives, context and relevant aspects for marine turtles for the proposed Browse Project activities. The importance of Sandy Islet for the G-ScBr stock has been acknowledged and noted within the document and the impact assessment has been undertaken in consideration of the isolation and importance of this nesting area.

A further evaluation has been conducted for those aspects that have the potential to result in significant impacts and risks to the green turtle population at Scott Reef, both in isolation and cumulatively:

- light emissions
- underwater noise emissions
- unplanned vessel interactions
- seabed subsidence.

The potential impacts and risks, environmental objectives, adopted controls and impact significance level / residual risk rating for marine turtles from these four aspects are presented in Table 6-25 (light), Table 6-73 (underwater noise), Table 6-141 (vessel interactions) and Table 6-150 (subsidence) of the draft EIS/ERD.

Light emissions

The outcomes of this further evaluation with respect to light emissions are detailed **Section 4.24**. Additional controls (over and above the adopted controls identified in the draft EIS/ERD), including the implementation of a TMP, to eliminate or minimise these impacts and risks to marine turtles are outlined in the Error! Reference source not found..

Underwater noise emissions

With respect to underwater noise impacts on marine turtles, as described in **Section 4.25**, it is considered that potential impacts to marine turtles from underwater noise emissions will be limited to behavioural (avoidance) impacts and would not result in any lasting effect.

Unplanned vessel interactions

With respect to the risk to marine fauna as a result of unplanned vessel interactions, the outcomes of further evaluation for unplanned vessel interactions, in isolation and cumulatively for Phase 1 RFSU and operations confirmed no change to the risk ratings for pygmy blue whales, humpback whales and marine turtles. The risk related to unplanned vessel interactions with fauna are discussed in **Section 4.26**.

Seabed Subsidence

Predicted impacts on Sandy Islet turtle nesting habitat of reef subsidence, sea level rise and increased cyclone intensity

Potential impacts of reservoir-related seabed subsidence on the fate and dynamics of Sandy Islet (and as such the turtle nesting habitat) needs to be assessed against a backdrop of long-term global sea level rise and increasing cyclone intensity. In the last century sea levels have risen around the globe in response to a changing climate. From 1900 to 2010, the predicted rate of global sea-level was 1.4 - 1.9 mm/yr (Hay et al., 2015; Rhein et al., 2013). Satellite altimeters estimate the recent global rate of rise to be 3.2 ± 0.4 mm/yr (Masters et al., 2012). Ongoing climate change is predicted to continue to increase, and potentially accelerate sea level rise in coming decades. While the

frequency of cyclones is predicted to remain constant, they may become more intense (Seneviratne et al., 2012).

In the last decade, many studies have focused on understanding the long-time fate of reef islands as sea level rises and cyclone intensity increases. The construction and maintenance of reef islands is a complex interaction between hydrodynamic processes such as waves and currents, and the reef structure that entrain, transport and deposit sediments at nodal locations on reef surfaces. Reef platform development and available sediments are essential components of island formation and maintenance (Gourlay, 1988; Kench, 2013; Stoddart and Steers, 1977). Traditional paradigms of reef island erosion and loss have been based on the belief that reef islands are static landforms, which will simply drown as the sea level rises (Quataert et al., 2015; Storlazzi et al., 2015). However, there is growing evidence that islands are geologically dynamic features that will adjust to changing sea level and climatic conditions, such as cyclone intensity.

There are a range of potential positive and negative impacts on the mass, area, height and morphology of reef islands in response to rising sea levels and increasing storm or cyclone intensity. Rising sea levels can facilitate the increased growth of reef invertebrates with calcareous skeletons, and increase subsequent sediment generation (Smithers et al., 2007). Furthermore, rising sea levels can allow a greater transfer of wave energy across reef and enhance sediment transport to the reef island. This process can increase island size and height (Kench et al., 2018). However, larger waves reaching a reef island also have the potential to erode and modify island morphology. Evidence also shows extreme events, such as cyclones, can rapidly change reef island morphology, and in some cases either increase or decrease island size (Bayliss-Smith, 1988; Masselink et al., 2020). How these complex processes will occur and how they interact is difficult to predict.

Two approaches have been undertaken to understand potential reef island response to a changing climate. Firstly, a range of physical and numerical modelling studies have been undertaken to assess long-term changes of reef islands to changing hydrodynamics and sea level conditions (Masselink et al., 2020; Tuck et al., 2019). These studies have shown reef islands are likely to respond by accreting sediments, growing in size and retreating in a lagoonward direction. Secondly, studies have compared historical and recent aerial and satellite imagery to quantify reef island changes over decadal time frames in the Pacific and Indian Oceans. For example, Kench (2018) analysed historical shoreline change in all 101 reef islands in the Pacific atoll nation of Tuvalu. Change was analysed over the past four decades, a period when local sea level has risen at twice the global average ($\sim 3.90 \pm 0.4$ mm/yr). Results highlight a net increase in land area in Tuvalu of 73.5 ha (2.9%), despite sea-level rise, and land area increase in eight of nine atolls. Island change has lacked uniformity, with 74% increasing and 27% decreasing in size. Most reef islands had not only grown but in most instances had migrated away from the direction of the prevailing wave fronts

Other studies, many with different rates of sea level rise have shown similar results (Aslam and Kench, 2017; Duvat, 2019; Duvat and Pillet, 2017; Kench et al., 2018; Mann and Westphal, 2016; McLean and Kench, 2015; Webb and Kench, 2010). Sea level rise across these studies was highly variable ranging from 2.2 to 3.5 mm/yr, and consequently sea level rise seems a poor predictor of long-term island erosion or accretion. A recent review of long-term changes of 709 islands over decadal timescales by (Duvat, 2019) found 88.6% of islands were either stable or increased in area, while only 11.4% contracted and no islands has disappeared below the highwater mark. In summary, physical and numerical models predict reef islands may get bigger in response to sea level rise (rather than shrink), which is supported by historical data, with most reef islands having grown larger in recent decades.

Reef subsidence at Sandy Islet

Woodside modelled the predicted seafloor subsidence from reservoir depletion in 2012 (Woodside, 2012), which was peer-reviewed by subject matter experts commissioned by Woodside (Hughes, 2012) in 2012 and the Commonwealth regulator in 2013 (CGSS, 2012). Vertical seafloor movement due to subsidence is not expected to be uniform and can be thought of as occurring in the shape of

a bowl – with the location of greatest vertical seafloor movement (i.e. centre of the bowl) corresponding to the areas of greatest reservoir depletion. It is predicted that seabed subsidence will range from 8.9 cm at the centre of the bowl to 2.6 cm at the edge over 40 years; this is equivalent to 0.22 - 0.06 cm/yr. Simulation modelling indicates the centre of the subsidence bowl is likely to be 20 to 30 km to the northeast of Sandy Islet, in an area to the east of North Reef. Consequently, the seafloor directly beneath Sandy Islet is expected to be on the edge to the subsidence bowl or outside it, with predicted subsidence to be less than 2.6 cm over the 40 years of hydrocarbon extraction (or 0.06 cm/yr).

Future estimates of sea level rise for the Scott Reef region is predicted to increase, with an average of 5.1 (3.2 – 7.1) mm/yr up to 2070 given an immediate climate change scenario (RCP4.5), and cyclones are predicted to become more intense but maintain the same frequency (Church et al., 2017). As stated previously, subsidence is predicted to be less than 0.65 mm/yr over the 40 years of hydrocarbon extraction beneath Sandy Islet. While analysis of historical cores of Scott Reef has indicated that vertical reef growth was between 1.4 to 3.5 mm/yr during previous reef growth phases (Collins et al., 2009). Subsidence and sea level rise may cause the depth over the reef flat adjacent to Sandy Islet to increase by approximately 7.75 mm/yr (worst case scenario for both sea level rise (7.1 mm/yr) and subsidence (0.65 mm/yr)) with potential reef subsidence contributing less than 10% of this overall rise. However, this is likely to be offset by increased growth of the reef flat towards the sea surface via increased growth of coralline algae, corals and other benthic invertebrates.

The long-term fate of the Sandy Islet at Scott Reef under rising sea levels, increased cyclone intensity and minor subsidence remains to a degree uncertain, however historical evidence ranging from decades to millennia, coupled with modelling and case studies elsewhere, indicate that it is unlikely to become completely submerged in the future. Sand has accumulated at the current location of Sandy Islet for millennia. In 1974, two 30 m long cores were drilled into Sandy Islet, both above the high water mark (King, 1975). These cores revealed the presence of a sand type, equivalent to the sand on the current Islet down to a depth of approximately 25 m in both cores. Collins et al (2011) dated these reef depths (~25 m) at Scott Reef between 7000 to 8500 years before present. During the last 8500 years, sea level rise, reef subsidence and ongoing reef growth has been dynamic, with sea levels rising rapidly at times (up to 10 mm/yr), South Scott Reef naturally subsiding at rates of approximately 0.45 mm/yr and the reef growing at 1-4 mm/yr towards the sea surface (Collins et al., 2011). The 1974 coring suggests that accumulation of sand has continued throughout these changing reef conditions.

More recently, sea level has been rising in response to a changing climate for over a century in the Scott Reef region. Between 1993 and 2009, it is estimated that sea levels have risen 4.5 ± 1.3 mm/yr⁻¹ in northwest Australia, or 2.7 ± 0.6 mm/yr after the signal directly correlated with ENSO is removed (White et al., 2014). Consequently, sea level has been rising significantly at Sandy Islet for decades with little evidence of large-scale, long-term net erosion of the island. A comparison of Sandy Islet size and morphology at four intervals between 1975 and 2019 has shown the Islet has dramatically changed morphology and position but has maintained a similar spatial area of between 1.8 ha and 2.4 ha above the high water mark over the last 45 years (see **Figure 4-3**). As predicted by modelling and case studies undertaken elsewhere, Sandy Islet has migrated away from the direction of the prevailing wave fronts and has changed morphology becoming narrower and longer. Sandy Islet is also resilient to extreme episodic events. In March 2004, Cyclone Fay, a Category 5 cyclone which passed directly over Scott Reef, caused extreme wave and storm surges that eroded the island, reducing its size by approximately one-third (Gilmour et al., 2013). In proceeding months and potentially years the island recovered its former size above the high-water mark. These long-term assessments of Sandy Islet response to long-term sea-level rise and extreme events highlight its dynamic nature and long-term resilience.

Historical datasets (cores, remote sensing and observations) and case studies elsewhere indicate that Sandy Islet is unlikely to disappear below the highwater mark. Moreover, Sandy Islet is a dynamic structure that will respond to changing hydrodynamics, biological processes and extreme

events. It is likely, based on scientific literature and assessment of historical datasets, to continue to change overall morphology and increase island height in response to greater wave energy reaching the island. Net erosion of Sandy Islet in the future, while not likely in the long-term, cannot be completely ruled out. However, reservoir induced subsidence is unlikely to play a meaningful role in the long-term fate of Sandy Islet given its minor contribution to water level adjacent to Sandy Islet compared to role of future sea level rise 0.65 mm/ yr vs 5.1 mm/yr). In addition, case studies elsewhere highlight that long-term dynamics of reef islands is complex with the rate of local sea level rise (and consequently reef flat height) being a poor predictor of long-term island accretion or erosion.

Turtle nesting is unlikely to be influenced by any island morphology changes related to sea level rise, which are likely to operate over timeframes of months to years except during extreme cyclone events. Given the green turtle nesting to hatchling period is approximately 60 days, “normal” island morphology change is highly unlikely to impact on turtle nest success via erosion. However, during future intense cyclones, like Cyclone Fay in 2004, major island erosion and morphology changes, coupled with overtopping by waves and storm surge is likely to substantially increase mortality rates of eggs incubating on the island. Furthermore, evidence suggests that nesting space is likely to reduce following these events but accretion of sediments in subsequent months is anticipated to return the island to its former size.

In conclusion, Sandy Islet is unlikely to disappear below the highwater mark over the 40 years of hydrocarbon production, and scientific evidence suggest it is unlikely to become completely submerged in coming decades but will continue to change morphology. Future island morphology changes will be at timescales that will not directly affect turtle nests and hatchlings. However, future cyclonic impacts to turtle nesting at Sandy Islet may become more damaging as cyclone intensity increases. The impact of reservoir subsidence, given its minor contribution to future sea height (on the reef flats surrounding Sandy Islet) is not expected to meaningfully influence the long-term fate of Sandy Islet and the turtles that use it as nesting habitat.

Monitoring and management

Woodside has prepared a TMP which presents a management approach that will be implemented in relation to potential impacts seabed subsidence on marine turtles as a result of the proposed Browse Project. This management approach is required to ensure that the aspects are managed so as not to result in an unacceptable impact to marine turtles. The TMP is provided in Error! Reference source not found..

To verify the conclusions of the impact assessment in relation to seabed subsidence, verification monitoring for seabed subsidence will be undertaken including monitoring of the size and morphology of Sandy Islet. Should hydrocarbon production be determined to be causing a reduction in the availability of nesting habitat below historical minimum extents and/or changes to the morphology of Sandy Islet (slope and elevation), this would trigger additional management measures to be advised by expert opinion. Such additional measures could include artificial beach nourishment of Sandy Islet or modification of production rates from relevant wells to reduce subsidence to rates consistent with achieving of the Performance Standard relating to available nesting habitat and Sandy Islet morphology. The TMP (Error! Reference source not found..) outlines the planned seabed subsidence and Sandy Islet size and morphology monitoring and the adaptive management that will be implemented should hydrocarbon production be determined to be causing a reduction in the availability of nesting habitat below historical minimum extents and/or changes to the morphology of Sandy Islet (slope and elevation).

Beach nourishment programs which alter the stability and quality of the nesting environment can impact the nesting behaviour of adult female turtles and the survival of eggs and hatchlings. However, studies conducted on green turtles (*Chelonia mydas*) and loggerhead turtles (*Caretta caretta*) in Florida found that negative effects on nesting and false crawl frequency decreased after the first season following beach nourishment (Rumbold et al. 2001, Brock et al. 2007). The long-term

trigger value of five years has been recommended prior to any intervention assessment occurring due to the consistent spatial area of Sandy Islet over the last 45 years (1.8 ha and 2.5 ha) and the minimal effect subsidence is expected to have on Sandy Islet (0.06 cm/year). In addition, Sandy Islet has shown to be resilient and dynamic in nature by recovering its size after being reduced by two-thirds by Cyclone Fay in 2004 (Gilmour et al. 2013). Based on the past resilience of Sandy Islet to changing climatic conditions and the minimal change expected to reef flat height at Scott Reef, seabed subsidence at Scott Reef associated with this activity is unlikely to significantly alter depositional patterns or oceanographic conditions such that the area above the high-water mark at Sandy Islet would be impacted. Taking into consideration the total area of Sandy Islet (2.2 hectares) and the expected subsidence at Sandy Islet of 2.5 cm over the 40 year project duration, it is estimated that approximately 100 m³ of sediment would be used for beach nourishment if required. The volume and type of sand required can likely be sourced from a site nearby to Sandy Islet or alternative onshore sites. Sand sourced from borrow sites adjacent to Sandy Islet would likely be dredged and pumped through pipelines directly to the beach. Sand sourced from onshore sites would be transported and pumped ashore to Sandy Islet. In both instances silt curtains would be deployed to minimise the extent of any turbidity generated. Indirect effects on corals from sediments dispersed in the water column are unlikely. Silt curtains will be used to reduce the extent of sediment plumes which are expected to be minimal due to the size of the sand grains which settle out of the water column quicker than fine sediments.

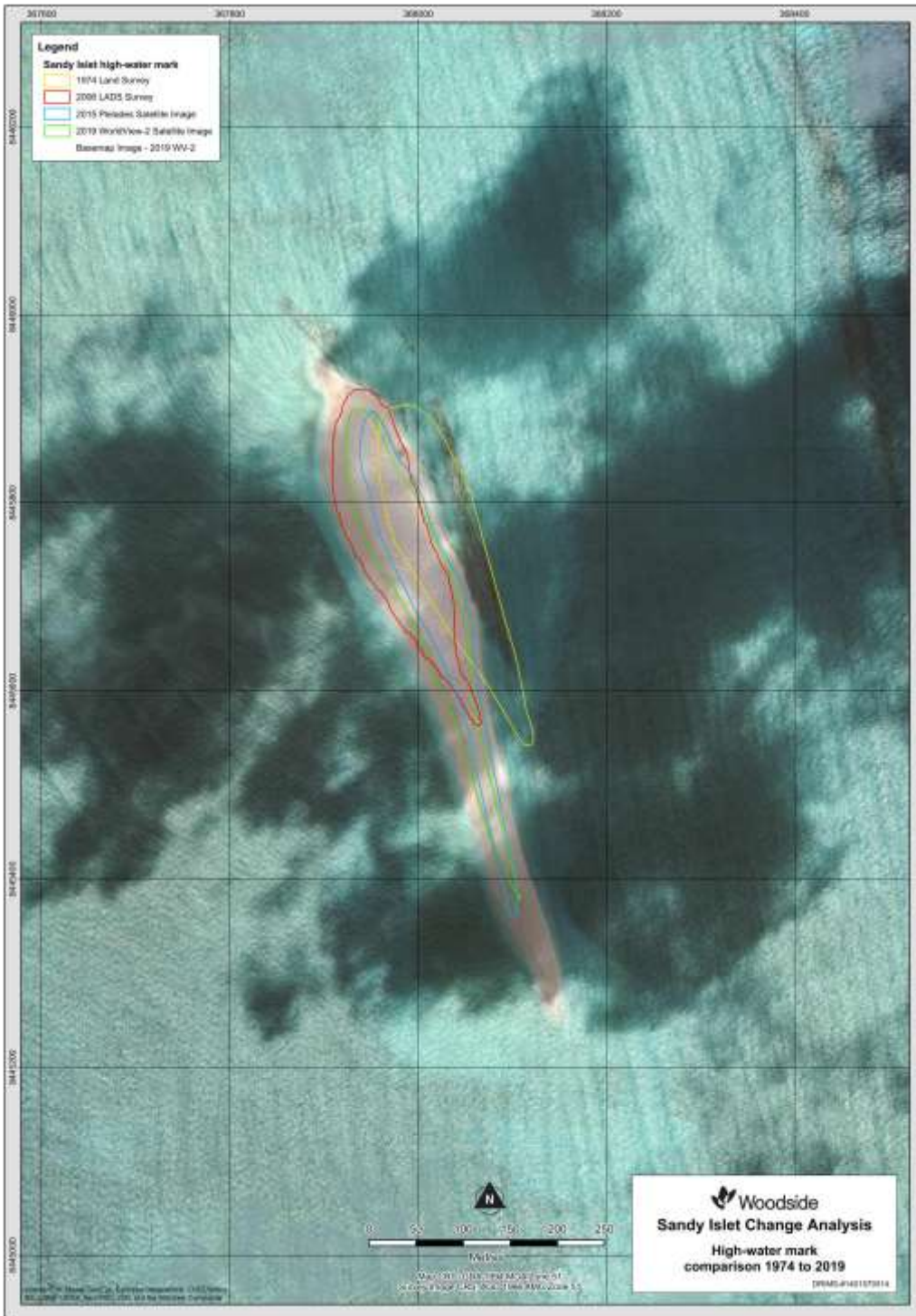


Figure 4-3 Comparison of Sandy Islet size and shape about the high-water mark at four intervals between November 1974 and May 2019 (1974, 2006, 2015 and 2019). The 1974 survey was mapped by a surveyor (King 1975), 2016 is a LADS survey, 2016 is a Pleiades satellite image and 2019 is a Worldview-2 satellite image. High-water mark was digitised and the area calculated; 1974 – 2.3 ha, 2006 – 2.2 ha, 2015 – 1.8 ha and 2019 - 2.0 ha. The baseline image is the 2019 Worldview-2 satellite image

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Conclusion

Based on the additional impact assessment there is no change to the Magnitude / Consequence and Impact Significance Level or Risk Level for these four aspects (light emissions; underwater noise emissions; vessel interactions; seabed subsidence) in relation to potential impacts and risks to marine turtles.

The additional impact modelling and updated assessment has resulted in the establishment of revised environmental objectives for the proposed Browse Project that are specific to green turtles (refer **Section 5**).

4.28 MF-6: Presence and abundance of blue whales in Project Area

The draft EIS/ERD documented the presence of pygmy blue whales within the Project Area and described the scientific knowledge available that Woodside has supported. Multiple datasets over multiple years have been collected to understand pygmy blue whale dynamics (abundance, seasonality, migration) in the Browse Development Area (refer to Table 5-24 and Section 5.3.2.5.2 of the draft EIS/ERD) and underpins the proposed Browse Project's environmental impact assessment (Chapter 6 of draft EIS/ERD). Woodside has been conservative in the number of pygmy blue whales utilising the possible foraging area and assumed the possible foraging area BIA is an actual foraging area.

A Pygmy Blue Whale Management Plan (PBWMP) has been prepared in order to provide further detail as to how the presence and abundance of blue whales in the Project area will be considered. The PBWMP is provided in Error! Reference source not found.. The primary purpose of the PBWMP is to outline how any underwater anthropogenic noise associated with the proposed Browse Project will be managed such that it will not be inconsistent with the Blue Whale CMP, specifically the requirements of Action A.2.3.

Action Area A.2, Action 3 of the CMP that states that:

“anthropogenic noise in biologically important areas (BIAs) will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area”.

Guidance on the key terms of the Blue Whale CMP and FAQs (DAWE, 2021 and NOPSEMA 2021) have been applied to the development of the PBWMP.

Woodside considers that the management approach, as set out above ensures that underwater noise emissions will be eliminated, avoided or reduced such that injury to and displacement from foraging by a pygmy blue whale has been minimised to the greatest extent possible and the residual risk is negligible.

A detailed overview of each objective of the PBWMP is provided in **Section 4.25**.

4.29 MF-7: Potential impacts to cetaceans

A number of submissions raised concerns with respect to cetaceans (and in particular pygmy blue whales) and potential impacts from planned activities and risks presented by unplanned events and incidents associated with the proposed Browse Project.

Twenty-seven cetacean species have been identified as potentially occurring within the Project Area. Of these, there are a number of baleen whales (Mysticeti), such as the pygmy blue whale, humpback whale, fin whale, Bryde's whale and sei whale that are considered likely to occur within the Project Area, with the Project Area overlapping a possible foraging area and migration BIA for the pygmy blue whale, and the likely route between the onshore logistics locations and the Project Area traversing a humpback whale migration BIA (see Chapter 5 of the draft EIS/ERD).

Table 6-7 of the draft EIS/ERD identifies the environmental objectives, context and relevant aspects for all marine fauna that may interact with the proposed Browse Project activities. A further evaluation has been conducted for those aspects that have the potential to result in significant impacts and risks to the East Indian Ocean pygmy blue whale population visiting the possible foraging area at Scott Reef, both in isolation and cumulatively for the project activities:

- underwater noise emissions
- unplanned vessel – fauna interaction
- unplanned hydrocarbon spills.

Underwater noise emissions

The outcomes of the further evaluation with respect to underwater noise emissions confirmed no change to the residual impacts and risks levels as documented in the draft EIS/ERD. Additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise these impacts and risks to pygmy blue whales (and applicable to other baleen whale species) are described in **Section 4.25**. This includes the development of a PBWMP which has been prepared in order to provide further detail as to how the presence and abundance of blue whales in the Project area will be considered. The PBWMP is provided in Error! Reference source not found.. The primary purpose of the PBWMP is to outline how any underwater anthropogenic noise associated with the proposed Browse Project will be managed such that it will not be inconsistent with the Blue Whale CMP, specifically the requirements of Action A.2.3.

Specific reference to minimising underwater noise emissions for support activities (such as heavy lift vessel unloading) in State waters and management of potential impacts to humpback whales is described in **Section 3.4**.

Based on the East Indian Ocean pygmy blue whale population seasonal presence within the possible foraging area at Scott Reef, the evaluation of potential impacts as a result of underwater noise emissions is considered applicable to, and accounts for other species of cetacean that may occur within the Project Area.

The impact thresholds (behavioural response, TTS and PTS) used in the assessments were derived from National Marine Fisheries Service (2018) and NOAA (US) (2019). Within these publications, cetaceans are grouped into low-frequency (LF), mid-frequency (MF) and high-frequency (HF) cetaceans based on hearing sensitivity. LF cetaceans - incorporate all of the mysticetes, (baleen whales), for example, pygmy blue and humpback whales that may occur in the Project Area, MF cetaceans (odontocetes (toothed whales)) includes beaked whales, sperm whales and oceanic dolphins and HF cetaceans (odontocetes (toothed whales)) includes true porpoises and river dolphins. The behavioural response threshold is the same for all cetacean hearing groups (LF, MF and HF) and the ranges for TTS and PTS thresholds are the same for all LF cetaceans. The TTS and PTS results for MF cetaceans are considered negligible due to the modelled predicted small radii for these thresholds and the fact animals would be required to remain within these ranges for the cumulative exposure durations (per pile for impulsive noise or 24 hours for vessel continuous noise). The HF cetacean distribution does not overlap with the Project Area. Accordingly, the assessment placed more focus on the most sensitive cetacean group (LF cetaceans), which represents the worst case potential impact to a cetacean species exposed to underwater noise emissions.

Further, as described in Section 5.3.2.5.3 of the draft EIS/ERD, the spinner dolphins (the most abundant of the odontocetes species recorded within the Project Area) may be present in the vicinity of Scott Reef throughout the year, however, it is unlikely that they are reliant on the reef habitats given their population range and distribution. Given the above, pygmy blue whales are considered to be the most potentially sensitive cetacean with respect to underwater noise impacts from the proposed Browse Project, and the conservative approach to the impact assessment is considered applicable to other cetacean species that may occur in the Project Area.

Unplanned vessel – fauna interaction

The outcomes of the further evaluation with respect to unplanned vessel – fauna interaction is described in **Section 4.25**. The evaluation confirmed no change to the residual impacts and risks levels as documented in the draft EIS/ERD. Additional controls (over and above the adopted controls identified in the draft EIS/ERD) to eliminate or minimise these risks to pygmy blue whales (and applicable to other baleen whale species) are described in **Section 4.25**.

Unplanned Hydrocarbon spills

Risk assessments to identify and evaluate the worst-case credible hydrocarbon spill scenarios of the proposed Browse Project were described in Section 6.3.21, draft EIS/ERD. As described in 6.3.21.5 of the draft EIS/ERD, migratory whales such as the pygmy blue whale have the potential to be impacted if an unplanned hydrocarbon spill occurred during their annual migration periods or if a spill is severe enough to result in significant long-term impacts to their prey. Direct contact via ingestion has the potential to cause sublethal and lethal toxic effects relating to fresh hydrocarbons but once weathered there would be less risk of toxic induced impacts. Physical contact with hydrocarbons is likely to have biological consequences to individual whales present in the area but is unlikely to impact entire populations. The risk rating was identified as high due to the catastrophic consequence of such a highly unlikely event. As such, the risk of unplanned hydrocarbon release will be subject to comprehensive engineering design and management measures to reduce the risk of an event occurring, and extensive hydrocarbon spill response planning.

Environmental objectives

In response to feedback from DAWE, Woodside has reviewed and revised the environmental objectives presented in the draft EIS/ERD to be more specific and measurable. These revised environmental objectives are provided in **Section 5**. Woodside is committed to achieving these environmental objectives including those relating to marine fauna.

4.30 MF-8: Potential impacts to sea snakes

A number of submissions raised concerns with respect to sea snakes and potential impacts from planned activities and risks presented by unplanned events and incidents associated with the proposed Browse Project.

There are 25 species of sea snake recorded in WA waters and four of these species are endemic to the NWMR; the short-nosed sea snake (EPBC Act and WA Biodiversity Conservation Act: Critically Endangered), leaf-scaled sea snake (EPBC Act and WA Biodiversity Conservation Act: Critically Endangered), dusky sea snake (listed Marine) and large-headed sea snake (listed Marine), refer to Section 5.3.2.7, draft EIS/ERD). Sea snake distribution is widespread throughout tropical waters of Australia and typically associated with coral reef or inter-reef soft sediment habitats. The short-nosed sea snake (*Aipysurus apraefrontalis*) distribution, based on probability of occurrence (Udyawer et al., 2016), overlaps with the Browse Development Area (including the Torosa field overlap with Scott Reef). This reef habitat associated species has not been recorded at Scott Reef (URS, 2007; URS Australia Pty Ltd, 2006) and not recorded from Ashmore and Hibernia Reefs (primary habitat locations) since 1998 (Department of the Environment and Energy, 2019). Six sea snake species are recorded for Scott Reef and sea snake abundance is most common in the more complex reef habitat (URS, 2007; URS Australia Pty Ltd, 2006).

Aspects of the proposed Browse Project that may potentially impact sea snakes include marine discharges and underwater noise emissions. As described in Chapter 6 of the draft EIS/ERD, impacts to water quality (for example: Section 6.3.9) are not expected to be significant (impact significance level determined to be Slight (E) for marine fauna and benthic communities and habitats). Impacts to sea snakes from noise emissions are expected to be limited to slight behavioural/avoidance behaviour. It should be noted that there is limited information available on hearing in sea snakes and it is likely that sea snakes rely more heavily on vision and olfaction than on hearing (Hibbard, 1975). However, a conservative approach with regards to potential impacts of

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underwater noise on sea snakes has been adopted (using fish noise impact thresholds as a surrogate) and the assumption that sea snakes will respond in a similar way as other marine reptiles (e.g. marine turtles), such as exhibiting likely avoidance behaviour to acute or chronic sound sources from project activities away from the reef habitat.

Risk assessments to identify and evaluate the worst-case credible hydrocarbon spill scenarios of the proposed Browse Project were described in Section 6.3.21 of the draft EIS/ERD. Sea snakes may be impacted directly and indirectly due to hydrocarbon contact to Scott Reef and other remote oceanic reefs systems. Similar to marine turtles, these air breathing reptiles are susceptible to exposure to surface hydrocarbons on external body parts (particularly the eyes, and nasal and mouth cavities) and ingestion of hydrocarbons from contaminated food sources and other toxicity pathways. In addition, indirect consequences to sea snakes may occur due to the loss of coral habitat and the subsequent recovery of affected reef systems. The risk rating was identified as high due to the catastrophic consequence of such a highly unlikely event. As such, the risk of unplanned hydrocarbon release will be subject to comprehensive engineering design and management measures to reduce the risk of an event occurring, and extensive hydrocarbon spill response planning (as described **Section 4.16**).

4.31 MF-9: Potential impacts to seabirds and migratory shorebirds

A number of submissions raised concerns with respect to potential impacts to seabird and migratory shorebirds within the Project Area.

The draft EIS/ERD identifies that the Project Area overlaps areas designated as:

- a BIA (known resting area) for little terns at Scott Reef.

As described in the draft EIS/ERD, Scott Reef is the only emergent land mass within the immediate vicinity of the Browse Development Area which may serve to provide nesting and/or roosting for seabirds. Seabirds around Scott Reef are predominately associated with Sandy Islet, a part of South Scott Reef, and occur in small numbers in comparison to other breeding and roosting sites in the region. The islands of the Rowley Shoals, which the proposed BTL route passes at a distance of a few kilometres, are known to support a wide range of seabird species, including WA's second largest breeding colony of red-tailed tropicbird. The Rowley Shoals have also been identified as BIAs for the white-tailed tropicbird.

The Draft Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2019) and the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015a) identify a number of threats to seabirds and migratory shorebirds, including: habitat loss, habitat modification, anthropogenic disturbance, pollution (including light pollution); and climate variability and change. The Draft Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2019) identifies resource extraction as a threat to seabirds, specifically in relation to night lighting, flaring and other visual cues resulting in aggregations of seabirds around oil and gas platforms.

Each of the identified threats are assessed in the two conservation plans using a risk matrix approach, and the risk assessment evaluated the likelihood of a threat occurring and the consequences of that threat.

Table 6-7 of the draft EIS/ERD identifies the environmental objectives, context and relevant aspects for seabirds and migratory shorebirds for the proposed Browse Project activities. Aspects of the proposed Browse Project that may potentially impact seabird and migratory shorebird include light emissions and noise emissions.

Light emissions

In the context of transitory seabirds or migratory shorebirds, the draft EIS/ERD acknowledges the potential for impacts due to light emissions from the offshore facilities. However, considering the breadth of the East Asian Australasian Flyway in the context of the highly localised extent of the

potential light emissions, impacts to migratory seabirds and shorebirds were predicted in the draft EIS/ERD to be limited with no significant impacts on species at a population level.

Section 6.3.3.3 of the draft EIS/ERD presented the outcomes of light modelling studies conducted as part of the approved EIS for the Browse FLNG Development (for which drilling activities closest to Sandy Islet are the same). It is noted that since these light modelling studies were undertaken, and since the submission of the draft EIS/ERD, there has been additional context regarding potential impacts to seabirds and migratory shorebirds—in particular the publication of the Wildlife Conservation Plan for Migratory Shorebirds, the Draft Wildlife Conservation Plan for Seabirds, and the release of the final National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2020) in January 2020. These guidelines are intended to be read in conjunction with the other guidance, including the EPBC Significant Impact Guidelines and species recovery and conservation management plans.

A desktop lighting assessment, taking into account the final National Light Pollution Guidelines for Wildlife (Commonwealth of Australia, 2020) has been undertaken and is provided in Error! Reference source not found.. This includes a further literature review describing potential impacts of offshore sources of artificial light on seabirds and migratory shorebirds, a gaps analysis of the light modelling studies and assessment done to date (against the National Light Pollution Guidelines for Wildlife), and an updated impact assessment.

In respect of seabirds and migratory shorebirds, the key findings of the updated impact assessment (refer **Section 4.24**) were as follows:

- Seabird species with a nocturnal component of their life history, such as procellariiforms (albatrosses, petrels, shearwaters and storm petrels), are at greater risk of negative impacts from artificial light emissions.
- Procellariiforms have been shown to be attracted to artificial lights on land, and anecdotally to vessels and oil and gas facilities. This, in addition to undertaking nocturnal foraging on bioluminescent prey, potentially makes them susceptible to attraction to light sources in the Browse Development Area and any negative impacts that could result. However, the absence of breeding colonies or known foraging areas at, and around, Scott Reef for these species indicates that impacts would be limited to individuals rather than populations.
- Presence of artificial light sources in the Browse Development Area may attract diurnal seabird species (e.g. terns, noddies and boobies) as they take advantage of increased prey availability and extended foraging activities. Although such attraction increases the risk of collision with facilities, incidents of collision of these species, or similar taxonomic groups, are few. Changes in foraging behaviour are unlikely to cause significant impacts at the individual or species level.
- Light sources associated with the Browse Project may negatively impact migration and nocturnal nest site selection of migratory shorebirds flying over Scott Reef or using Sandy Islet as a staging ground. Improved foraging success may occur, though this would likely be limited to areas of intertidal foraging habitat experiencing direct light spill from the activities. Based on the limited information available, Scott Reef has not been identified as important habitat for migratory shorebirds, as defined by the EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia, 2017b). Therefore, any impacts from light emission to migratory shorebirds are likely to be limited to effects at an individual level rather than at a population level.

Atmospheric noise emissions

Respondents raised concerns with respect to impacts to bird species as a result of helicopters transiting between Broome and the Browse Development Area. The Section 6.3.7 of the draft EIS/ERD discusses these potential impacts and in particular, bird species present around Roebuck Bay and Cable Beach (<1 km from the Broome Heliport). Given the high visibility and noise levels associated with helicopter movements, bird species are expected to actively avoid interaction. Any

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disturbance from helicopters in transit will be of limited duration as they pass by and impacts to bird species in the area surrounding Broome are expected to be negligible as helicopters passing by bird aggregation areas will be at significant altitude.

Impacts to bird species at Scott Reef are also expected to be negligible given the area does not represent a significant aggregation, nesting or roosting area for seabirds and migratory shorebirds; and flight paths will actively avoid roosting areas (Sandy Islet).

Bird species along the remainder of the flight path are expected to occur in low numbers. Given the altitude the helicopters will be flying at, impacts are not considered credible.

Acceptability Assessment

Alignment with the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015a) is described in the draft EIS/ERD for light emissions (Table 6-23), atmospheric emissions (Table 6-33), atmospheric noise (Table 6-36), hazardous and non-hazardous inorganic waste (Table 6-113), seabed subsidence (Table 6-149) and unplanned hydrocarbon release (Table 6-159).

Based on the assessment for light emissions (refer **Section 4.24**) further evaluation of alignment with the objectives and actions of the two Conservation Plans has been undertaken. Based on the outcomes of this re-evaluation it has been demonstrated that the activities of the proposed Browse Project are not inconsistent with the objectives and actions of the Draft Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2019) and the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015a).

4.32 MF-10: New species of Siphonophores

A number of submissions noted that a new species of Siphonophores has recently been discovered in the Kimberley Marine Park, noting that the species has not been included in the draft EIS/ERD, which means there are no specific management measures proposed and uncertainty regarding impacts.

AIMS (2020) identified fields of benthic siphonophores within the Ancient coastline at 125 m depth contour KEF in the Kimberley Australian Marine Park (AMP). The siphonophores were described as rare, free floating aggregations above the seabed.

The potential impact of seabed disturbance associated with the temporary or permanent installation, placement and decommissioning of facilities, infrastructure and equipment including the BTL was assessed and presented in Section 6.3.1 of the draft EIS/ERD.

The proposed BTL route will overlap with the Kimberley AMP, Multiple Use Zone for approximately 68 km but the route is in deep water and does not overlap with the Ancient coastline at 125 m depth contour KEF. The installation of the BTL on the seabed is estimated to result in permanent seabed disturbance (the physical footprint of the BTL) of approximately 27 km² in Commonwealth waters (refer to Table 6-9 of the draft EIS/ERD). The pipelay process will likely result in very low levels of localised and temporary resuspension and deposition of natural sediments. Installation of the BTL will not result in lasting effects to deep water benthic communities outside the direct footprint area. Given the siphonophores are free living and from the limited information available may be present, it is possible that there may be some limited disturbance. However, it is noted that these aggregations were not identified in the drop camera footage acquired during the environment survey of the BTL route undertaken to support the draft EIS/ERD. Further, a review of a representative portion of high-quality seabed imagery of the BTL route acquired by an AUV survey (which has become available post draft EIS/ERD finalisation) has been undertaken. The review of imagery found that the seabed along the Ancient coastline at 125 m depth contour KEF, was predominately unconsolidated soft sand, with only occasional solitary non-coral benthic invertebrates and demersal fish observed.

Given the above and given the predicted disturbed area and habitat type is widespread and well represented in the region, the small area of disturbance is not predicted to significantly impact benthic biota including benthic siphonophores. Proposed management measures to minimise

impacts to benthic habitats as presented in Section 6.3.1 of the draft EIS/ERD are expected to mitigate potential impacts to benthic siphonophores. These include:

- secondary stabilisation of subsea infrastructure will be limited to the level necessary to ensure pipeline integrity.
- activities will be conducted in a manner not inconsistent with the objectives, values and principles of the multiple use zones of the AMPs which are traversed by the BTL route.

4.33 MF-11: Potential impacts to fish

A number of submissions noted that a number of threatened and migratory fish species and seahorses may occur in the Project Area and may be impacted by light emissions, noise emissions and vessel interaction (particularly in relation to whale sharks).

Potential impacts to fish have been evaluated in the draft EIS/ERD with a summary provided in Section 9.2.2 of the draft EIS/ERD. This evaluation concluded that no lasting effect is predicted to occur to fish species as a result of planned activities. Potential risk posed to whale sharks from vessel interaction are assessed in 6.3.18 of the draft EIS/ERD. Whale sharks may occur within the Project Area, typically solitary individuals transiting on wider migrations to and from the seasonal aggregation site for whale sharks off the Ningaloo coast (Meekan and Radford, 2010; Wilson et al., 2006). Given this, the proposed vessel speed restrictions and compliance with the Whale Shark Code of Conduct for all vessels at the Browse Development Area, it is considered highly unlikely that a vessel strike on a whale shark will occur. Refer to response MF-4: Vessel – fauna interaction (**Section 4.26**) for further details with respect to the assessment of unplanned vessel-fauna interactions and proposed mitigation measures.

4.34 SE-1: Displacement of Aboriginal people as a result of project infrastructure

A number of submissions raised concerns with respect to potential disruption to Aboriginal peoples access to culturally significant sites.

As described in Chapter 5 of the draft EIS/ERD, no known sites of Aboriginal Heritage significance are located within the Browse Development Area according to the WA Department of Aboriginal Affairs' Aboriginal Sites Inquiry System. No displacement of Aboriginal people as a result of the proposed Browse Project is expected.

4.35 SE-2: Socio-economic benefits of the proposed Browse Project

A number of submissions questioned the socio-economic benefits of the proposed Browse Project.

As described in Section 6.4 of the draft EIS/ERD the findings of the ACIL Allen Economic Impact Assessment suggests that the proposed Browse Project is projected to provide direct economic benefit into the Western Australian economy, as well as indirect benefits through utilisation of service and support industries. This represents a significant opportunity to contribute to the economic development of Broome and the Kimberley more broadly. ACIL Allen released a series of public brochures that outline the results of their assessment and are available on ACIL Allen's website. The brochures relevant to Browse and the Burrup Hub are attached as Error! Reference source not found..

The submission of a large number of letters of support for the proposed Browse Project from individuals, businesses, business groups and local councils further support the socio-economic benefits of the proposed Browse Project.

5. ENVIRONMENTAL OBJECTIVES

In preparing response to the regulatory and public submission on draft EIS/ERD (including the State ERD), Woodside has reviewed and where appropriate revised the environmental objectives for the proposed Browse Project. The full list of environmental objectives is presented in **Table 5-1**.

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Table 5-1 Proposed Browse Project environmental objectives

No.	Environmental objective	Relevant jurisdiction	
		State	Cwlth
Air quality (including GHG emissions)			
1	Undertake the Browse Project in a manner that will not result in a reduction in lasting effect on local or regional air quality that may otherwise result in an adverse effect ³² on biodiversity, ecological integrity, social amenity or human health.	✓	✓
2	Optimise efficiencies in air emissions and reduce direct GHG emissions to as low as practicable and acceptable levels.	✓	✓
3	Actively support the global transition to a lower carbon future by net displacement of higher carbon intensity energy sources.	✓	✓
Benthic communities and habitat			
4	Undertake the Browse Project in a manner which avoids direct (i.e. physical footprint as a result of infrastructure placement) disturbance to Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).	✓	✓
5	Undertake the Browse Project in a manner that prevents changes beyond natural variation in ecosystem processes, biodiversity, abundance and biomass of marine life or in the quality of water, sediment and biota that form part of the Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).	✓	✓
6	Manage the Browse Project in a manner that limits permanent benthic communities and habitat loss within the Scott Reef local assessment units (LAU) as shown in Figure 5-1 , to the extent specified in Table 5-2 .	✓	

³² An undesirable negative change beyond natural variation

No.	Environmental objective	Relevant jurisdiction	
		State	Cwth
7	Undertake the Browse Project in a manner which prevents unplanned seabed disturbance.	✓	✓
8	Implement the “Management approach – Torosa wells in the State Proposal Area” so that a maximum Level of Ecological Protection is maintained within Scott Reef shallow water benthic communities and habitats (<75 m bathymetry).	✓	
9	Undertake the Browse Project infrastructure installation within the Continental slope demersal fish communities KEF in a manner that limits seabed disturbance to less than 0.05% of the total KEF		✓
10	Undertake the Browse Project infrastructure installation within the Seringapatam Reef and Commonwealth waters in the Scott Reef Complex KEF in a manner that limits seabed disturbance to less than 0.3% of the total KEF area.		✓
11	Undertake the Browse Project infrastructure installation within the Mermaid Reef and Commonwealth waters surrounding Rowley Shoals KEF in a manner that limits seabed disturbance to less than 0.09% of the total KEF area.		✓
12	Undertake the Browse Project infrastructure installation within the Ancient coastline at 125 m depth contour KEF in a manner that limits seabed disturbance to less than 0.03% of the total KEF area.		✓
13	Undertake the Browse Trunkline installation, operation and IMMR activities within the Kimberley Marine Park (multiple use zone) in a manner that will be not be inconsistent with the objectives of the multiple use zone.		✓
14	Undertake the Browse Trunkline installation, operation and IMMR activities within the Argo Rowley Terrace Marine Park (multiple use zone) are in a manner that will be not be inconsistent with the objectives of the multiple use zone.		✓

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No.	Environmental objective	Relevant jurisdiction	
		State	Cwth
15	Undertake the Browse Trunkline installation within the Kimberley Marine Park in a manner that limits seabed disturbance to less than 0.003% of the total park area.		✓
16	Undertake the Browse Trunkline installation within the Argo Rowley Terrace Marine Park in a manner that limits seabed disturbance to less 0.004% of the total park area.		✓
17	Undertake the Browse Project in a manner that prevents any activities ³³ occurring within the Mermaid Reef Marine Park, State marine parks or State nature reserves.	✓	✓
18	Undertake the Browse Project in a manner which prevents a known or potential pest species (IMS) becoming established in the Scott Reef system.	✓	✓
Marine environmental quality			
19	Manage the Browse Project marine discharges in a manner that prevents a change in sediment quality (as informed by baseline surveys and periodic monitoring) in areas outside of predicted impact areas ³⁴ defined in the draft EIS/ERD, to an extent which may otherwise result in an adverse effect ³² on biodiversity, ecological integrity or human health.		✓

³³ With the exception of:

- environmental monitoring or emergency/spill response activities associated with the proposed Browse Project which will be undertaken subject to obtaining any necessary approvals.
- SOLAS situations (i.e. in situations where the vessel master considers that complying with the requirement would adversely affect the safety or security of the vessel or its passengers or crew, or in situations where the vessel master is bound to provide assistance (under SOLAS Chapter V) upon receiving a distress signal from any source that persons are in distress at sea)..

³⁴ The area where a detectable change in sediment quality may occur, as determined by marine discharge modelling and described within the draft EIS/ERD

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No.	Environmental objective	Relevant jurisdiction	
		State	Cwth
20	Manage the Browse Project marine discharges in a manner that prevents a change in water quality (as informed by baseline surveys and periodic monitoring) in areas outside of predicted impact areas ³⁵ defined in the draft EIS/ERD, to an extent which may otherwise result in an adverse effect ³² on biodiversity, ecological integrity or human health.		✓
21	Manage the Browse Project FPSO produced water and cooling water discharges in in a manner that ensures the defined threshold values ³⁶ (e.g. 99% species protection or no effect concentrations) are met at the State waters 3 nm boundary, 95% of the time based on dispersion modelling results.	✓	✓
22	Manage the Browse Project marine discharges in a manner such that the Levels of Ecological Protection in the State Proposal Area as defined in the Environmental Quality Management Plan are maintained.	✓	
23	Undertake the Browse Project in a manner that will prevent an unplanned release of hydrocarbons to the marine environment that would result in an adverse effect ³² on biodiversity, ecological integrity or human health.	✓	✓
24	Undertake the Browse Project in a manner that will prevent an unplanned release of chemicals to the marine environment that would result in a change in water quality leading to an adverse effect ³² on biodiversity, ecological integrity or human health.	✓	✓
25	Undertake the Browse Project in a manner that will prevent an unplanned release of solid waste to the marine environment which would result in an adverse effect ³² on biodiversity, ecological integrity or human health.	✓	✓

³⁵ The area where a detectable change in water quality may occur, as determined by marine discharge modelling and described within the draft EIS/ERD

³⁶ The level at which if exceeded, unacceptable impacts may occur. Threshold values applied to the proposed Browse Project are described in the draft EIS/ERD

No.	Environmental objective	Relevant jurisdiction	
		State	Cwth
Marine fauna			
26	Undertake the Browse Project in a manner that prevents physical injury to marine fauna (cetaceans, marine turtles, whale sharks, dugongs, seabirds and migratory shorebirds).	✓	✓
27	Undertake the proposed Browse Project in a manner that will not disrupt migration and feeding of the East Indian Ocean Pygmy Blue Whale population.	✓	✓
28	Undertake the proposed Browse Project in a manner that will not displace the East Indian Ocean Pygmy Blue Whale population from the possible foraging area at Scott Reef.		
29	Undertake the Browse Project in a manner that will not disrupt migration, breeding, nesting, internesting and hatchling dispersal of the green turtle population at Scott Reef.	✓	✓
30	Undertake the Browse Project in a manner that will not displace the green turtle population from habitat critical to the survival of the species at Scott Reef.	✓	✓
36	Undertake the Browse Project in a manner that will not result in impacts to habitat critical to the survival of green turtles that would otherwise result in green turtle critical behaviour (migration, breeding, nesting, internesting and hatchling dispersal) being disrupted.	✓	
Socio-economic			
31	Undertake the Browse Project in a manner that prevents an adverse effect ³² on heritage values, consistent with the approach described in the draft EIS/ERD.	✓	✓
32	Undertake the Browse Project in a manner that does not to interfere with other marine users to a greater extent than is described in the draft EIS/ERD.	✓	✓

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No.	Environmental objective	Relevant jurisdiction	
		State	Cwth
33	Undertake the Browse Project in a manner that does not result in significant harm to social surrounds, consistent with the approach described in the draft EIS/ERD.	✓	✓
34	Undertake the Browse Project in a manner that prevents an adverse effect on commercially important species beyond natural variation (as informed by baseline water quality surveys and periodic water quality monitoring) such that the sustainability of commercial fishing is impacted.	✓	✓
35	Undertake the Browse Project in a manner that avoids any change in spawning biomass of a commercially important species and does not lead to changes in recruitment that may be discernible from normal natural variation (as informed by baseline water quality surveys and periodic and water quality monitoring).	✓	✓

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Table 5-2 Cumulative permanent benthic communities and habitat loss assessment for State waters around Scott Reef proposed LAUs

Benthic communities and habitat type	Original spatial extent (pre-European habitation)	Historic and approved losses	Current % remaining	Proposed extent of permanent loss from proposal	Spatial extend of cumulative loss	% remaining after proposal
Scott Reef south lagoon deepwater coral habitats	213.47 km ²	0 km ²	100%	0 km ²	0 ha	100%
Scott Reef north deepwater sediment habitat	311.26 km ²	0 km ²	100%	0.24 km ²	0.24 km ²	99.99 %
Scott Reef south deepwater sediment habitat	379.16 km ²	0 km ²	100%	0 km ²	0 km ²	100%
Scott Reef north shallow water benthic communities and habitats	179.51 km ²	0 km ²	100%	0 km ²	0 km ²	100%
Scott Reef south shallow water benthic communities and habitats	147.14 km ²	0 km ²	100%	0 km ²	0 km ²	100%

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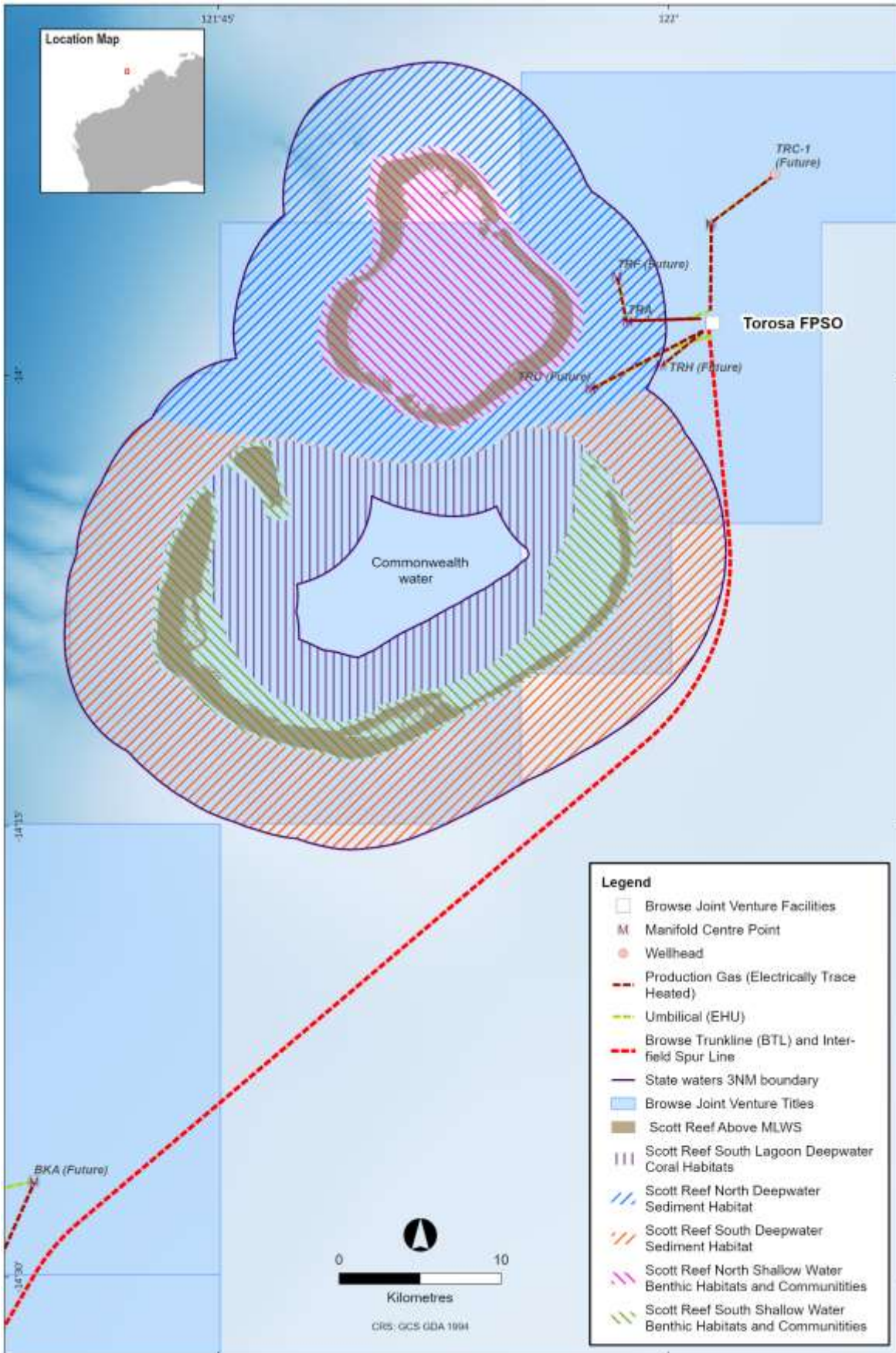


Figure 5-1 State Proposal Area – proposed Local Assessment Units (LAUs)

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6. PUBLIC SUBMISSIONS ON DRAFT STATE ERD

6.1 EPA Services summary of key issues raised

EPA Services summarised the key issues raised in the public submissions by EPA Environmental Factor. These are presented in **Table 6-1**.

Table 6-1 Woodside response to key issues raised in public submissions

No.	Key issue raised	Proponent's response
Air Quality (Greenhouse Gas)		
EPA-AQ-1	The proposal is inconsistent with Australia meeting the Paris Agreement signed in 2015 and does not meet the requirements of the State Greenhouse Gas Emissions Policy for Major Projects (State GHG Policy) as it does not contribute to meeting net zero emissions targets (net zero by 2050). "The Burrup Hub would be the most polluting project ever to be developed in Australia, with estimated total emissions of over 6 billion tonnes (gigatons) of carbon pollution across its lifetime, the proposal has profound implications for the global climate across generations and will inhibit efforts to address climate change.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
EPA-AQ-2	Proponent has not proposed adequate measures to avoid or reduce greenhouse gas emissions. All emissions should be offset.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4). <p>The GHG Management Plan is provided in Error! Reference source not found.. The GHG Management Plan objective is to continuously identify and review mechanisms to mitigate and manage GHG emissions and ensure compliance with NGER Act/SGM baseline requirements.</p>
EPA-AQ-3	The air quality modelling is based on inadequate and old data. There has been underestimation of air emissions and greenhouse gases, including methane. The proposal does not consider Scope 3 emissions.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5).

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No.	Key issue raised	Proponent's response
	Liquefied natural gas (LNG) is not a valid transition pathway. The proponent has overestimated LNG when comparing it as cleaner than coal.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
EPA-AQ-4	The proposal should been consideration should including the cumulative impacts from the Burrup Hub, which includes the Browse to NWS proposal.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7).
EPA-AQ-5	Investment in fossil fuel technology conflicts with the move towards renewable energy and Woodside should focus more on investment in renewable energy sources.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> GHG-7: Lower and zero carbon energy sources (Section 4.8).
Air Quality		
EPA-AQ-6	The proposal will contribute to negative impacts on the globally significant Murujuga Rock Art through emissions that may contribute to degradation of the rock surface patina due to acidic erosion from sulphur dioxide and nitrogen oxides.	With respect to the concerns raised within the public submissions relating to negative impacts on the globally significant Murujuga Rock Art through emissions, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).
EPA-AQ-7	Cumulative impacts on the Murujuga Rock Art should be considered.	With respect to the concerns raised within the public submissions relating to cumulative impacts on Murujuga Rock Art through emissions, please refer to, please refer to the response to SS-DAWE-1 in NWS Project Extension ERD Response to Submissions (Section 3.3.1, Table 3-8).
EPA-AQ-8	If the proposal is to go ahead, increased combustion of gas combustion in the Browse basin will result in increased release of harmful air contaminants, with the potential to cause serious health effects.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> AQ1: Impact of air emissions on public health.
Benthic Communities and Habitats		
EPA-BCH-1	Potential for significance and irreversible disturbance and contamination of the marine ecosystem from subsea drilling.	Refer to the following responses in relation to this Environmental Factor in Section 4 :

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No.	Key issue raised	Proponent's response
		<ul style="list-style-type: none"> • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20).
EPA-BCH-2	Lack of cumulative and combined impacts of the total development on significant marine values.	<p>Woodside has prepared an EQMP (Error! Reference source not found.) which addresses all marine discharges that may impact ecological integrity within the State Proposal Area. Where detectable changes above background levels have been predicted, Levels of Ecological Protection (LEP) have been proposed with them aim of achieving Environmental Quality Objectives (EQO and ensuring the maintenance of environmental values (EVs) of the State Proposal Area.</p> <p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14).
Marine Environmental Quality		
EPA-MEQ-1	Disturbance and contamination of the marine ecosystem from subsea drilling.	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20).
EPA-MEQ-2	Proponent proposes a peak disposal rate of over 5.7million litres of produce water per day containing marine toxins to Scott Reef marine flora and fauna. Mitigation is proposed as dilution. Predicted impacts are based on 'expectations'. Assessments of impacts should be based on demonstration. Best practice is avoidance by reinjection of produced water to avoid toxins entering the marine environment. A full assessment of options and justification is required.	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-4: Produced water (Section 4.18) <p>Note that dispersion modelling of the Torosa FPSO PW discharge indicates that changes in water quality will be limited to within 1,200 m of the discharge point, with no predicted impacts to waters within the State Proposal Area.</p>
EPA-MEQ-3	Lack of cumulative and combined impacts of the total development on significant marine values.	Further discussion of potential cumulative impacts to marine turtles and pygmy blue whales has been provided in Section 4.27 and Section 4.29

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No.	Key issue raised	Proponent's response
		<p>respectively. This includes additional reference to relevant conservation and recovery plans as well as the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2020).</p> <p>Further, Woodside has prepared an EQMP (Error! Reference source not found.) which addresses all marine discharges that may impact ecological integrity within the State Proposal Area. Where detectable impacts have been predicted, Levels of Ecological Protection (LEP) have been proposed with them aim of achieving Environmental Quality Objectives (EQO) and ensuring the maintenance of environmental values (EVs) of the State Proposal Area.</p> <p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29).
EPA-MEQ-4	Contamination of the marine ecosystem, including Scott Reef from hydrocarbon spills and marine discharges. The marine ecosystem supports an array of significant marine and migratory fauna, including seabirds, shorebirds, cetaceans, sea snakes and turtles.	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20).
EPA-MEQ-5	In many countries around the world, oil-based drilling fluids are considered hazardous substances. Consequently, many oil and gas producing regions have enforced strict standards which require either zero non-water based fluids (NWBF) content or very limited NWBF content (as a concentration) of drill cuttings before they can	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19).

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No.	Key issue raised	Proponent's response
	be discharged into the marine environment. Comparatively, Woodside's Browse project is proposing to discharge close to 7% NWBF concentrate (on average) into State waters. Clarify why Woodside is not implementing best practice.	
Marine Fauna		
EPA-MF-1	Contamination of the marine ecosystem, including Scott Reef from hydrocarbon spills and marine discharges. The marine ecosystem supports an array of significant marine and migratory fauna, including seabirds, shorebirds, cetaceans, sea snakes and turtles.	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31).
EPA-MF-2	Potential impacts to marine fauna due to light emissions, noise emissions, injury, and degradation of habitat.	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel - fauna interaction (Section 4.26)

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No.	Key issue raised	Proponent's response
		<ul style="list-style-type: none"> • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31).
EPA-MF-3	Lack of cumulative and combined impacts of the total development on significant marine values.	<p>Further discussion of potential cumulative impacts to marine turtles and pygmy blue whales has been provided in Section 4.27 and Section 4.29 respectively. This includes additional reference to relevant conservation and recovery plans as well as the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Commonwealth of Australia, 2020).</p> <p>Further, Woodside has prepared an EQMP (Error! Reference source not found.) which addresses all marine discharges that may impact ecological integrity within the State Proposal Area. Where detectable changes to natural background levels have been predicted, Levels of Ecological Protection (LEP) have been proposed with them aim of achieving Environmental Quality Objectives (EQO) and ensuring the maintenance of environmental values (EVs) of the State Proposal Area.</p> <p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29).
EPA-MF-4	A range of impacts to marine fauna are described in the EIS/ERD, which vary from the planned discharge of toxic contaminants into the marine environment to underwater noise and light emissions. The nature of the impacts that these activities will have will also varies significantly, according to the different behaviours between species and how they utilise the habitat. There are several elements of the Draft EIS ERD which do not provide the necessary level of detail to accurately conclude that the impact of the proposal	<p>Refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19)

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No.	Key issue raised	Proponent’s response
	is ‘acceptable’, and that the EPA’s objective for marine fauna can be achieved over the proposed 44-year lifespan of the project.	<ul style="list-style-type: none"> • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel - fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31).
Other Issues		
EPA-CAO-1	The proposal’s technology is aged and not carbon efficient and is not to be considered as a transitional fuel for the 50 year project life. Renewable energy technology is now available and are now the lowest-cost source of new power generation and could also be price-competitive for many applications by 2030. The IEA noted that “a fast-moving energy sector would change the game” for gas production and only those with “low-cost resources and tight control of costs and environmental performance would be in the position to benefit”. Browse gas, in particular, has very high CO2 content in its raw gas, so inherently doesn’t stack up well for ‘environmental performance’.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9).
EPA-CAO-2	World Energy Outlook Report (2019) states “in the sustainable development scenario, natural gas consumption increases over the next decade at an annual average rate of 0.9% before reaching a high point by the end of the 2020s. After this, accelerated deployment of renewable and energy efficiency measures, together with a pickup in production of biomethane and later of hydrogen,	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> • GHG-8: The role of gas in the future energy mix (Section 4.9).

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No.	Key issue raised	Proponent's response
	begins to reduce consumption." The IEA's supplementary report, "The Oil and Gas Industry in Energy Transitions" (2020), comments LNG demand is falling back in several Asian markets in the sustainable development scenario. There is a risk, therefore, that some LNG export facilities are not fully utilised." The project is not economically or environmentally sustainable.	
EPA-CAO-3	The proposal contributes to the unacceptable risk to Rock Art on the Burrup Peninsula from emissions of oxides of nitrogen (NOx), sulphur dioxide (SO2) and CO2 emissions from the Proposal and the broader "Burrup Hub" project will likely contribute to the formation of acid which dissolves the outer rock surface patina and degrades and destroys rock art irreversibly, and thereby will accelerate the weathering effects on the Murujuga Rock Art. DWER's Murujuga Rock Art Strategy recognises that anthropogenic emissions may have adverse impacts on the Murujuga Rock Art.	With respect to the concerns raised within the public submissions relating to negative impacts on the globally significant Murujuga Rock Art through emissions, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).
EPA-CAO-4	The proposal documentation does not provide data to enable health impact assessments over the life of the project.	Refer to the following responses in relation to this Environmental Factor in Section 4 : <ul style="list-style-type: none"> • AQ1: Impact of air emissions on public health (Section 4.13).

6.2 Support and no objection letters

Letters confirming support for and/or no objection to the proposed Browse Project were received from a number of respondents. The support / no objection letters are appended in Error! Reference source not found.. Woodside, on behalf for the BJV thanks all submitters of letters of support and no objection, for their interest in the proposed Browse Project.

6.3 EPA Environmental Factors: Air Quality and GHG emissions

Table 6-2 presents the public submissions relating to EPA environmental factor: Air Quality and GHG emissions.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

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Table 6-2 Public submissions and Proponent’s response – EPA environmental factor: Air quality and GHG emissions

No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-1	ANON-XJVE-DU3X-1	<p><i>I am deeply concerned that the West Australian and Australian governments see fit to open up new fossil fuel reserves. We have an international commitment under the Paris Agreement, as well as a moral obligation to limit activities that contribute to climate change.</i></p> <p><i>This new LNG plant will bring up enormous amounts of LNG - Woodsides website touts this as more new gas than has been extracted than the entirety of operations since startup in 1984! It will produce more emissions than the Adani mine in Queensland. This is simply not acceptable, nor wise.</i></p> <p><i>Investment should be made into electrifying our national and state domestic, business and industrial operations, using renewable energy and battery storage. Not expanding carbon-rich energy sources such as LNG. I do not support new gas projects.</i></p> <p><i>There are enormous employment opportunities in the transition to an electrified future, and thus the LNG project should not be approved on the basis of importance of employment over emissions reduction.</i></p> <p><i>I am also very concerned that the link to information provided by the EPA was Woodsides own glossy website, and that the comment period has been buried over the Christmas break. It seems very sneaky.</i></p> <p><i>I oppose this project, and urge the EPA to consider the environmental impacts and carbon emissions as just cause to disallow continuation.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8). <p>With respect to concerns raised in relation to the environmental assessment process, Woodside notes that the public comment period for both the State and Commonwealth assessment processes were extended by two weeks to account for the Christmas period, with a total of 8 weeks. Presentation of the environmental impact assessment (draft EIS/ERD) undertaken by the Proponent on the Proponent’s website is the standard process with respect to the assessment process.</p>
AQ-RES-2	ANON-XJVE-DU3K-M	<p><i>We need a moratorium of all new developments that will produce CO2. Australia is one of the highest emitters and needs to drastically rein in emissions.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>The country is on fire. It is going to get worse regardless of this development.</i></p> <p><i>But maybe if we finally start redressing what is now clearly happening, there's a tiniest chance your great grandchildren might live.</i></p>	<p>With respect to concerns raised in relation to GHG emissions, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-3	ANON-XJVE-DU3Z-3	<p><i>Seriously? We're planning on opening up more gas wells as we put out the worst fires the country has ever seen? As WA's biodiversity hotspots burn? As Australia makes international headlines for having a government full of climate change deniers?</i></p> <p><i>Our children are going to see this, they will judge us harshly.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-4	ANON-XJVE-DU35-X	<p><i>This seems like a risky, invasive operation to undertake in a sensitive ocean area when Australia's reefs are already suffering badly from ocean acidification and temperature changes. Extracting more fossil fuels instead of investing in renewable energy isn't what Australia needs today or in the future.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to the following response:</p> <ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-1 (Table 6-3).

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No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-5	ANON-XJVE-DU3H-H	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> the ancient indigenous rock art (petroglyphs) located on the Peninsula and surrounds increasing WA's greenhouse gas emissions (CO₂, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change. <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-9 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>
AQ-RES-6	ANON-XJVE-DU39-2	<p>This submission was provided as an uploaded document. Key points raised within this submission include:</p> <ul style="list-style-type: none"> By extending and increasing the extraction and production of fossil fuel with the intention of marketing LPG long after 2050, the date by which CO₂, methane and nitrous oxide emissions must be reduced to zero, this proposal undermines instead of supporting the world-wide efforts required to limit and eventually reverse the effects of human-induced global temperature rise. 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-8: The role of gas in the future energy mix (Section 4.9)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> This proposal will cause unacceptable further damage on Burrup Peninsula to the preservation of the cultural value in the oldest artwork of this nature on Earth; and undermines the Western Australian Government’s determination to seek World Heritage status in the UN for Murujuga National Park. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p>
AQ-RES-7	ANON-XJVE-DU3N-Q	<p><i>I have already made a submission in relation to the proposed extension of gas extraction on the North-West Shelf, expressing my deep concern that we must stop this development just as we must stop the Galilee Basin proposal. The catastrophic bushfires, the bleaching of our reefs, and other extreme weather events and environmental catastrophes demonstrate that no new fossil fuel extraction can occur.</i></p> <p><i>I therefore urge the EPA to respond to the three proposals before it as follows:</i></p> <ol style="list-style-type: none"> <i>1. Recommend renewing the licence for the present facility for just a decade. This should be sufficient time to either demonstrate that renewable energy is a superior energy source, economically as wealth as environmentally and for health reasons, or that there is no hope of saving the planet.</i> <i>2. Recommend that consideration of tapping up to 24 gas wells in the offshore Browse gas field in WA state waters, and a further possible 30 wells in Commonwealth waters, along with the destructive infrastructure is delayed for a decade, again to either demonstrate that we have shifted to renewable energy or that there is no hope.</i> 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) GHG-7: Lower and zero carbon energy sources (Section 4.8) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>I am concerned that the overall impact of the three proposals linked to the North West Shelf (NWS) / Burrup Hub are not being assessed together which they should be. These are massive and disruptive developments which require a careful and overall analysis of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas.</i></p> <p><i>This submission also makes a plea for mitigation. Three major conditions should be imposed on these massively profitable companies whose income is built on resources which belong to the people of Australia, including Indigenous Australians, and whose extraction will limit the futures of everyone on the planet.</i></p> <ol style="list-style-type: none"> <i>1. Offset emissions: The Barnett government's commitment to offsets must be imposed on our State's major polluters overseen by an independent regulatory body to ensure that offsets are effective.</i> <i>2. In anticipation of WA's climate policy, the proponents must submit plans showing how they will "reasonably and practicably avoid, reduce and offset emissions to contribute to the state's aspiration of net-zero emissions by 2050."</i> <i>3. Requirement that the companies reduce the emissions of their operations to near net zero in order to protect the Murujuga rock art site. The WA government recognises its value in supporting World Heritage listing. In order to protect this site from further damage and guarantee a base for a growing tourism industry, the government must insist on zero nitrogen and acid forming emissions from commercial activities on the Peninsula. All it would take Woodside, according to a Macquarie think tank, is 1.5% of one</i> 	<p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-30 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p><u>Other</u></p> <p>With respect to the recommendation regarding the extension of the NWS license renewal, please refer to the response GHG-11 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>year's annual profits to install the appropriate available technology to reduce their emissions to near zero.</i></p> <p><i>It is unlikely our State government will have the fortitude to halt this development and the Commonwealth government will be positively supportive, despite their professed commitment to emissions reduction. I therefore urge every possible mechanism that can delay expansion and limit the destruction caused by the present facility and any future facility. Every month brings more certainty that fossil fuel extraction is costing us more than it is worth, not just in the deaths of humans and animals but also in economic terms.</i></p>	
AQ-RES-8	ANON-XJVE-DU34-W	<p><i>My submission has to do with all three developments of the Burrup Hub:</i></p> <p><i>The proposed extension of the Woodside Burrup Hub is of great concern because of the inevitable increase in emissions resulting from venting, transport, processing and gas consumption.</i></p> <p><i>The effect on already damaged and irreplaceable rock art and history of WA cannot be dismissed by a company that has the capacity to offset emissions at a relatively small cost to such a huge organization.</i></p> <p><i>The contribution of carbon pollution to climate change is well documented and the Government of WA has a duty to apply the principles of net-zero emissions to this venture.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p>
AQ-RES-9	ANON-XJVE-DU3T-W	TO WHOM IT MAY CONCERN.	We acknowledge the comments made and provide the following information in response to the matters raised.

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>I write to bring your attention to what I perceive to be some fundamental problems with the expansion proposals for the Burrup Hub.</i></p> <p><i>This huge project must surely be contextualised firmly within the global issue of disruptive climate change! This context is even more important given that I believe Western Australia’s own climate policy has not yet been finalised and the EPA has only recently released draft guidelines for the assessment of projects likely to generate significant levels of environmental pollution.</i></p> <p><i>It is particularly difficult to realistically assess the long term contribution of this project to global warming and overall environmental pollution and degradation when no single authority will make an overarching assessment.</i></p> <p><i>There is little doubt however that the project will be directly responsible for a massive increase in the level of WA’s overall greenhouse gas emission. Of specific concern must be the emission of Methane and Nitrous Oxide, both are known to be enormously more damaging to attempts to reduce global warming than CO2.</i></p> <p><i>If the Burrup Hub project is given the go ahead it will become one of the largest and most polluting fossil fuel projects in the entire world.</i></p> <p><i>This would make it impossible for Western Australia to meet its policy goal of net zero emissions by 2050. Such retrograde action cannot be allowed.</i></p> <p><i>Equally important is the potential for negative and irreparable degradation to the world renowned Aboriginal rock art in the area. It is acknowledged that emission of sulphur and nitrogen dioxides have a direct, significant and negative impact on the rock</i></p>	<p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>surface patina due to acidic corrosion. A minimum response must be to invoke the Precautionary Principle, the Principle of Intergeneration Equity and enforcement of the Polluter Pays Principle.</i></p> <p><i>I believe we cannot in good faith allow the approval of projects of this scale with their inherent potential for negative environmental consequences.</i></p> <p><i>It has become increasingly clear we are on an environmental cliff edge with regard to irreversible climate change and further degradation of our natural environment and its ecosystems.</i></p> <p><i>To ignore this fact and continue on our course of enacting massive fossil fuel development and consumption is immoral and tantamount to environmental vandalism and an absolute disregard for the future generation who may wish to live in a habitable Australia.</i></p> <p><i>For these reasons I suggest it would be an unambiguous dereliction of our duty of care and obligation to future generations, the long term health of our country and the greater global community to allow this project to proceed.</i></p> <p><i>Now more than ever is the time to act with intelligence, integrity and foresight.</i></p> <p><i>Kind Regards.</i></p>	
AQ-RES-10	ANON-XJVE-DU38-1	<p><i>Dear [redacted] EPA Chair,</i></p> <p><i>Why We Reject Browse to Northwest Shelf Project in State Waters</i></p> <p><i>Allowing the extraction of vast amounts of natural gas from the Browse Basin is like igniting a firestorm that will sweep across all the fire-prone areas of the world. It is in our view an immoral action. The time has come to keep remaining fossil fuels in the ground.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p>

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		<p><i>The ongoing catastrophic fires in Eastern Australia are clearly linked to climate change, which in turn is clearly linked to increasing levels of CO₂e, which is itself clearly linked to increasing use of fossil fuels and related actions of human beings.</i></p> <p><i>Since the Browse Project will emit 200 million tons of CO₂e over its lifetime (and that does not include the even higher amounts from the burning of that gas in other parts of the world) it will emit pollution equivalent to 2.7% increase over Australia's 2005 baseline. This will jeopardize Australia's goal of the 2015 Paris Climate Agreement and put at risk any chance of holding global temperatures below 1.5C on 2005 levels.</i></p> <p><i>The current Woodside proposal will create a facility with WAs worst LNG emissions intensity and Woodside do not commit to reaching zero emissions at any time in the future.</i></p> <p><i>A serious gas leak or oil spill could, as happened with Deepwater Horizon, have serious impacts not just on Scott Reef but to the entire ocean ecology in the area. Also, during the construction phase, because the proposal is adjacent to atolls and reefs, there is the likelihood of great harm to the marine life there.</i></p> <p><i>And as if these reasons were not enough to stop the Browse Project, there is the destruction of the priceless world heritage treasures of the Burrup Peninsula which will be impacted by the expansion of the gas processing facilities there as well as related industries. We have seen for ourselves the Murujuga Petroglyphs, the oldest in the world, recording the oldest human face and the oldest and longest record (about 50,000 years) of human life on this planet. But the gas plant emissions threaten these rock carvings and the visual pollution of the gas plant towers and gas flare destroys</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-1 (Table 6-4).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>the heritage amenity and cultural identity of the Burrup Peninsula.</i></p> <p><i>There is an alternative site set aside for industrial development that is off the Burrup Peninsula: that is where the current processing plants need to moved to, and any new facility constructed.</i></p>	
AQ-RES-11	ANON-XJVE-DU3Y-2	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emission on the Burrup Peninsula and potential resultant impacts to rock art. • GHG emissions in the context of Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy. • cumulative atmospheric emissions resulting from the Burrup Hub projects. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7). <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to AQ-KIR-1 and AQ-18 in the NWS Project Extension ERD Response to Submissions (Section 3.1.3, Table 3-3).</p>
AQ-RES-12	ANON-XJVE-DU3D-D	<p><i>I am very concerned about Woodside's Expansion Plans because of their possible increase of Greenhouse Gas Emissions and all the concomitant damaging effects this would have. Specifically, I am worried that the mix of sulphur and nitrogen dioxide emissions will form strong acids which may dissolve</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>

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		<p><i>the rock surface patina and thus contribute to the destruction of the Burrup Peninsula petroglyphs. Economic considerations may become less important as the cost of renewable sources of energy decreases and the price of burning gas increases.</i></p> <p><i>I strongly believe that we have a duty to preserve and protect ancient, irreplaceable artworks for future generations. and therefore I urge you to reject Woodside's application.</i></p>	<p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to GHG-27 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>
AQ-RES-13	ANON-XJVE-DU3U-X	<p><i>Dear EPA,</i></p> <p><i>We are at the beginning of a climate emergency that is projected to accelerate. It is going to be driven by ongoing and increasing greenhouse gas emissions. Western Australia, Australia, the World, cannot continue to increase the emission of Greenhouse gases.</i></p> <p><i>It is not an exaggeration to say that, over this century, civilisation as we know it is at stake. LNG activities on the NorthWest shelf must not be expanded.</i></p> <p><i>Yours sincerely,</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-14	ANON-XJVE-DU36-Y	<p><i>Proposed Browse to North West Shelf Project: Submission</i></p> <p><i>I understand that there are three proposals regarding this development:</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p>

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		<p><i>1. to extend the NWS plant’s original approvals for onshore processing at Karratha’s NWS gas plant, and to allow it to operate until 2070.</i></p> <p><i>2.to tap up to 24 gas wells in the offshore Browse gas field in WA state waters, and a floating facility (under EPA jurisdiction).</i></p> <p><i>3.to tap up to 30 wells of the Browse field in Commonwealth waters, using a second floating facility, an 85-kilometre pipeline between, and a 900-kilometre pipeline connecting to the onshore NWS gas plant at Karratha (the federal government will assess the full impact of both offshore components).</i></p> <p><i>I consider that they are totally interdependent, so my submissions are basically the same for all three proposals.</i></p> <p><i>My major concern relates to the excessive destructive emissions from the Burrup industrial hub, and the consequent harm to the ancient, unique, and irreplaceable petroglyphs of the Burrup peninsula (Murujuga). This harm is irreversible.</i></p> <p><i>Expansion of Woodside facilities on this world heritage site would be irresponsible vandalism. I cannot understand why Woodside would develop a 900km Trunkline to facilitate that vandalism. I believe processing should be done offshore or at an onshore site nearer to the gas field and well away from the petroglyphs.</i></p> <p><i>There is now plenty of evidence of the actual deterioration and the ongoing damage to the rock patina, from the emissions. I have read the findings of scientist Dr John Black. The existing emission level is excessive. The increased emissions that would result from more gas collection and processing at the Burrup Hub would cancel out the gains made by both industry</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, including the advanced technology to reduce emissions and the World Heritage listing nomination, please refer to the response to SS-RA-31 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-12 (Table 6-3) • Marine fauna: MF-RES-16 (Table 6-5).

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		<p><i>and individual Australians who use sustainable ways to reduce their carbon emissions.</i></p> <p><i>Advanced technology now exists to cut acidic emissions to near zero. Woodside could do it at a tiny hit to their profit, I believe it is 0.25%.</i></p> <p><i>Unique heritage should be respected. Industry is necessary. But it is not necessary that they are co-located. There are strong conservation issues and also the aesthetic of industry and rock art gallery so closely co-located is unacceptable.</i></p> <p><i>In 2016 Colin Barnett said, re the proposed visitor centre, that it should not be located at Hearson Cove because of negative health impacts of emissions on visitors. Emissions have increased since then. I would not live in Karratha</i></p> <p><i>I understand also that the area is a biodiversity hotspot, home to turtle nesting grounds, whale migration pathways and vulnerable coral reef systems.</i></p> <p><i>I URGE THE GOVERNMENT TO DENY ALL FURTHER DEVELOPMENT ON THE BURRUP PENINSULA. The government should insist on a short term plan to bring emissions to near zero, with meaningful PENALTIES and a strict and specific MONITORING regime by an independent body, with PUBLIC REPORTING at regular and frequent intervals. This should be a condition of any approval, and must apply to existing processing as well as any expansion.</i></p> <p><i>Thank you for the opportunity to comment.</i></p>	
AQ-RES-15	ANON-XJVE-DU3S-V	<p><i>I would like to have my name and contact details confidential. Especially as I have potential employment as a public servant in the future.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>

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		<p><i>To the Environmental Authority Chair [redacted]. I hope this submission reaches you well and thank you for reading</i></p> <p><i>I've lived in Western Australia my entire life. I've gone to daycare, primary school, high school and completed an undergraduate major in [redacted] and at [redacted], I now study at the same university, under a Masters of [redacted], helping get students to engage with experts to highlight and educate good</i></p> <p><i>I write to urge you to cancel the entire project. There are multiple, sobering rationales for this. But on a cost-benefit analysis, under a presumption that a multilateral solution to climate change is the only possible way to tackle this issue of imminent and catastrophic environmental disaster that would generate immense issues for other facets of public and private life. Both through strains of resources, collapse of economic conditions/institutions and worsening conditions such as more varied and immersed weather events, worsening bushfire seasons etc.</i></p> <p><i>The economic boom from such a project may serve short-term economic goals for the state government, however as the EPA, your implied function is to protect the environment first and foremost. This project does not protect the environment and, actively harms it. Greatly making Australia a leading nation in non-sustainable energy sources and making our state a major complicit contributor to climate change.</i></p> <p><i>Now, I could research and produce untold pieces of evidence and testimony from our own leading science bodies and individuals (and the world) regarding the role these projects contribute to climate change. The connection is self-evident.</i></p>	<p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>If I am able to speak plainly, honestly. I'm scared. I would go research the sources but I have my own studies to focus on because I actually want to do well, so I can be good at what I want to do and that is produce good government policy so people can prosper and be happy. But [redacted] like Woodside get to integrate themselves in every facet of society so they become integral and loved by the broader population. They march in pride, they sponsor Fringe (and everything else in WA) and they cozy up to political parties and governments. So that there interests are places above the broader public's (like it's actually supposed to). It gets to the point where a body (you) who is actually invented with the idea of protecting the overall environment is forced to likely take the side of a major harmful project.</i></p> <p><i>Surely, surely - someone with sense and integrity has to stop this cult to fossil fuels this state has.</i></p>	
AQ-RES-16	ANON-XJVE-DU3C-C	<p><i>Attention Environmental Protection Authority chair [redacted]</i></p> <p><i>Dear EPA Chair</i></p> <p><i>Thank you for the opportunity to make a submission on the Proposed Browse to North West Shelf Project - State Waters - Public Environmental Review</i></p> <p><i>I am worried about the impact these proposals will have on global emissions, climate change, and WA's significant heritage, environment, marine life, sand ecology.</i></p> <p><i>Woodside's proposal to exploit WA's natural resources, will lock in highly polluting infrastructure, and continue to contribute to global climate change.</i></p> <p><i>All beings deserve to live and thrive in a safe, clean, healthy environment and have hope for a future,</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6)

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		<p><i>however, the Browse to North West Shelf Project and the North West Shelf expansion puts this at risk. The Browse project, if approved, will be the most emissions intensive development in Australia, adding an additional 7 million tonnes of CO2 just through venting and pumping the gas 900km and about another 7.6 million tonnes CO2 from processing at the North West Shelf LNG facility.</i></p> <p><i>- This project alone will emit pollution equivalent to a 2.7% increase over Australia's total 2005 baseline. Please consider the overall all emissions impact the Burrup Hub project will have, and how approval of these current projects will significantly risk the global requirement of holding temperatures to 1.5C on 2005 levels.</i></p> <p><i>These are reasons for approval NOT to be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement. Instead, Australia should be pursuing the cheap and abundant renewable resources we have available right here in WA</i></p> <p><i>- No single authority will assess the entire impact of the offshore pollution from venting, onshore pollution from processing, and emissions from burning gas overseas for the Burrup Hub. The total emissions from the extraction, venting and processing of gas, both onshore and offshore, from the proposed Browse field project will equal 200 million tonnes of CO2 over a minimum 31 years' field life (112 offshore, 88 onshore).</i></p> <p><i>-Should the proposed Woodside Burrup Hub expansion be approved, opening up the Browse and Scarborough gas fields, emissions from WA's current and proposed LNG facilities will account for 47% of WA's annual emissions. The Burrup Hub could process more gas than the entire volume extracted</i></p>	<ul style="list-style-type: none"> • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-13 (Table 6-3) • Marine fauna: MF-RES-3 (Table 6-5).

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		<p><i>from the North West Shelf since start up in 1984 4. Despite industry claims, gas is not cleaner than coal, and is not a transitional fuel</i></p> <p><i>In addition, huge amounts of methane, known as fugitive emissions, is released into the atmosphere during an LNG facility’s lifespan. These emissions escape during drilling and extraction, transportation in pipelines and storage, and eventual combustion. It’s estimated to be as much as 9% of the entire volume of the gas resource. Methane is an extremely potent greenhouse gas that traps 86 times more heat than CO2 over a 20-year period, and is responsible for 25% of global warming to date - These elevated methane levels have increased by 60% in Australia over the last 15 years and negate any advantage gas has over coal. The reality is Australian gas is being burnt in addition to – not instead of – coal, and our exports are significantly increasing global emissions. - Any new gas projects will lock in another 40-60 years of carbon pollution and are highly risky projects that will risk billions of dollars into stranded assets. The Burrup Peninsula is a place of strong environmental, ecological and heritage significance, these proposals put this all at risk</i></p> <p><i>Turning now to Heritage, the Burrup Peninsula is home to one of the largest, densest and most diverse collections of rock art, or petroglyphs, in the world - the Murujuga Petroglyphs, and the Murujuga Aboriginal Corporation are in the process of submitting a UNESCO World Heritage nomination. The rock art has deep meaning for the Traditional Owners. It provides a link to stories, customs and knowledge of their land and connects them to the events and people of the past and their beliefs today. Recent surges in industrial activity at the Burrup Peninsula has already led to</i></p>	

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		<p><i>irreparable physical damage (from construction) and chemical damage from a universal, lax approach to emissions and pollution.</i></p> <p><i>As for ecological reasons, the proposal will jeopardize several Ramsar wetlands and contradict Australia's long-standing and international commitment to the preservation of wetlands of international importance.</i></p> <p><i>The waters around WA, including around the proposed site of the works, are home to a myriad of species that are listed as critically endangered, endangered or vulnerable (see below for further information).</i></p> <p><i>- A new species of siphonophore has just been discovered in the Kimberley Marine Park, and has not been included in Woodside's Environmental Review Document (ERD), which means that there is no management plan and extreme uncertainty regarding the impact</i></p> <p><i>A series of bottle-necks between Australia, Timor-Leste, Papua New Guinea and Indonesia have created a channel for migratory aquatic organisms to travel directly through the site of the proposed offshore structures. We can only imagine how these creatures will be affected by these disruptions.</i></p> <p><i>This proposal will not only directly interrupt the migratory path of cetaceans, marine teleosts, and their predators; but all local, small-scale dependants on these natural movements are equally at risk this proposal rewards few, yet risks the total collapse of our marine ecology – not just locally but across an international area.</i></p> <p><i>We cannot afford to lock in this high-polluting, and destructive infrastructure. Please do NOT approve this proposal.</i></p>	

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AQ-RES-17	ANON-XJVE-DU3V-Y	<p><i>Dear Sir/Madam</i></p> <p><i>I am deeply concerned about the continued degradation of Murujuga (Burrup Peninsular Rock Art). It is extremely imperative that this national treasure and the heritage it contains is protected at all costs. Problems with the 3-part nature of the project as defined:</i></p> <ul style="list-style-type: none"> <i>• No one authority will assess the entire impact in terms of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas</i> <i>• Consultation launched when WA's climate policy is not yet completed, and EPA has just released draft guidelines for assessing major polluting projects. These will require proponents to submit plans showing how they will “reasonably and practicably avoid, reduce and offset emissions to contribute to the state’s aspiration of net-zero emissions by 2050.” So, none of this is included in the proposals.</i> <p><i>The Browse – NWS expansion is detrimental for many reasons:</i></p> <p><i>1. It will hugely increase WA's greenhouse gas emissions (CO2, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change, including extreme temperatures, sporadic/changed rainfall patterns, uncertainty of agricultural productivity, increased severity of hazards (bush fires, fire tornadoes, floods, cyclones, landslides, costal erosion), sea level rise and displacement of people living in lowlying areas. Importantly, inevitable fugitive release of methane and nitrous oxide during</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-34 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>

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		<p><i>gas extraction and processing add greatly to the greenhouse gas output. Methane is 34 times and nitrous oxide 300 times more powerful than CO2 in their contributions to global warming and climate change. If these projects go ahead, the Burrup Hub would be one of the largest and most polluting fossil fuel projects in the world. WA cannot expand the LNG industry and meet its policy goal of net-zero emissions by 2050!</i></p> <p><i>2. It will substantially increase total sulphur dioxide and nitrogen dioxide emissions that are released during gas processing. Emissions of sulphur and nitrogen dioxides mix with moisture in air to form strong acids which dissolve the rock surface patina and destroy the rock carvings. Measurements of rock surfaces near the Woodside gas plant show there has been a 1000-fold increase in acidity (lower pH) on rock surfaces from preindustrial times. The outer patina only forms under near-neutral conditions (pH 7) and chemical principles show that it is being dissolved once pH falls below 6.5. Removal of the outer patina destroys the Aboriginal rock art and Australia's cultural heritage.</i></p> <p><i>3. The negative impacts on human health of emissions include the effects of climate change and poor air quality for local Indigenous communities, the towns of Dampier and Karratha, visitors to Murujuga, and industry workers in the Dampier region; the former WA Premier stated in 2016 that emissions at Hearson Cove posed a potential public health threat. A recent analysis of the health of Karratha (Port Hedland and Newman) residents show that potentially preventable hospitalisations relating to lung disorders for children up to 11 years old was from 1.7 to 11.5 times more than for the Western Australian state average. Similar figures for chronic obstructive pulmonary disease and</i></p>	

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		<p><i>congestive heart failure in people over 65 years were 2.75 and 1.5 times, respectively, more than the state average.</i></p> <p><i>4. lack of cumulative accounting: the effects of total emissions from the Browse-NWS projects have not been added to emissions from all existing industry already operating on the Burrup Peninsula, emissions from ships serving Dampier Port, or the fugitive emissions and offshore venting of high-CO2 reservoirs in Commonwealth waters (EPA guidelines only apply to area of state jurisdiction); the impacts of total emissions must be calculated, considered, regulated and monitored!</i></p> <p><i>5. Woodside argues that “wholesale reductions in emissions are difficult to achieve” because they are extending the life of the existing old and inefficient plant rather than building a new plant (with modern technology & decreased emissions!). They tout that burning gas is much better than burning coal, although this is not supported by evidence.</i></p> <p><i>6. Despite Woodside's (unsupported) statements, gas is not a 'clean' alternative when all factors are considered:</i></p> <ul style="list-style-type: none"> <i>• natural gas is a fossil fuel (like oil & coal) that is ~90% methane, which is 34 times more potent than CO2 in trapping heat – it results in more warming than CO2!</i> <i>• Australian LNG creates more emissions than are reported because 'fugitive' emissions are released during all stages: drilling, extraction, transportation, storage and finally combustion. Australia's fugitive emissions have increased dramatically since 2004 and will further reduce our ability to meet emissions reduction targets</i> 	

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		<ul style="list-style-type: none"> • <i>Australian gas is not reducing emissions overseas, because Australia is actually the largest exporter of LNG and coal; LNG is being burnt in addition to coal</i> • <i>LNG is not a transition fuel because the Browse-NWS expansion project, and building all the new required infrastructure (some paid for by taxpayers), is only profitable when they are operated over decades; the calculated return is based on at least 2050-2070, yet the companies can only apply for a 12 year extension! And we know that we need to reduce emissions long before 2050 to achieve net zero.</i> • <i>The Browse–NWS project will likely become a stranded asset, especially as the cost of renewables continues to drop and the environmental cost of burning gas rises. Specific problems identified in supporting documents (Appendices): Appendix C: NWS Project Extension Cultural Heritage Management Plan (CHMP) – Incorrectly minimizes the amount of SO2 (Section 2.3.1) by omitting transport including pipelines and ships, and doesn't mention carbon compounds (CO2, CH4 and CO) which also affect cultural heritage through climate change (loss of biodiversity) and production of carbonic acid (degrades rock art). – Establishes a non-binding target to achieve 40% reduction of NOx by 31 December 2030 – Motherhood statements about implementing an adaptive management plan to address the potential impact to rock art from industrial emissions after the new DWER Strategy/Plan data are collected and released! All future tense...</i> 	

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		<p><i>Appendix E: Air quality impact assessment</i> <i>Fundamentally, the conclusions are based on insufficient data; however, while acknowledging some deficiencies, Woodside does not exercise the caution required, as dictated by the Precautionary Principle, Principle of Intergenerational Equity, and Principle of Waste Reduction. – They have not accounted for all emissions in modelling even though they say it is cumulative; there is no accounting of offshore flaring and fugitive emissions. – Incomplete/old data were used in modelling and there is not much/any reporting of recent data, when emissions were probably higher due to:</i></p> <ul style="list-style-type: none"> • <i>increased NOx when fertilizer plant starting producing in 2006; □ Karratha gas plant substantially increased production in 2008 when extra train added;</i> • <i>increased SO2 especially from shipping when Pluto started producing in 2012;</i> • <i>start up of TAN plant in 2017, but has been mostly off line;</i> • <i>doubling of iron ore mined and shipped since 2008. – They do not discuss the impact of emissions on rock art located on the islands along the shipping and pipeline route out of Dampier Port. Appendix H: Rock art literature review (includes modelling of deposition on rocks) – Woodside states (Section 2.3) that there is “robust heritage protection status”; however, State and Federal governments are not seriously monitoring or regulating to protect the rock art as evidenced by McGowan’s unsupported statement: “With appropriate management, the WA government considers that industry and tourism can</i> 	

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		<p><i>successfully co-exist with the cultural heritage and environmental values of Murujuga” (when nominating the area for World Heritage Listing). – Similarly Woodside agrees to protect the heritage “whilst recognising the economic and social benefits of the Burrup Peninsula industries for the people of WA“; what does this mean? How can it be monitored or regulated? – Appendix H reports the results of some old studies that were based on incomplete or old data (including that used in modelling) and does not state that the Senate enquiry and DWER found that CSIRO's science was inadequate; the Appendix also does not report the true level of scrutiny. While it says that 2018 Senate report recommended Murujuga Rock Art Strategy and monitoring program be initiated and funded, and the Stakeholder Group be set up, it neglects to mention that this group is heavily biased toward government and industry. – Woodside concludes that the longitudinal monitoring dataset they present is globally unique and provides useful baseline to inform future research; however, this is partly illfounded given that the methodology and results of some earlier monitoring programs have been criticized (Black and Diffey, 2016; Senate Environment and Communications References Committee, 2018).</i></p> <p><i>Resources used to construct points and for your additional information: Woodside documents and many Appendices: Click on Assessment, then Environmental Review http://www.epa.wa.gov.au/proposals/proposed-browse-nws-development Emma Young's SMH article: https://www.smh.com.au/national/woodside-s-weighty-browse-papersfinally-drop-just-in-time-for-christmas-20191218-p53l72.html</i></p>	

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		<p>https://www.cleanstate.org.au/make_a_submission http://www.ccwa.org.au/woodside_epa_christmas http://www.ccwa.org.au/woodside_must_release_pollution_data_scarborough_field_expansion_ Yours faithfully</p>	
AQ-RES-18	ANON-XJVE-DU3J-K	<p>This submission was provided as an uploaded document. Key points raised within this submission include:</p> <ol style="list-style-type: none"> 1. GHG emissions from this project are not consistent with a WA carbon budget of 1 GtCO₂ consistent with WA playing its part in achievement of Paris Agreement goals. 2. That the proposed offset of 50MtCO₂ over the life of the project amounts to 2% of the global carbon footprint of this project and is unacceptable. No actual data or significant detail is provided of how offsets will work to mitigate GHG pollution outcomes. 3. The claim that LNG provides a valid transition pathway is problematic since the UN Environment Program has estimated that current government production plans involve a 120% overshoot relative to the Paris 1.5°C pathway. There is no available carbon budget for new fossil fuel carbon polluting projects. 4. The methodology of comparative comparison in which emissions from the project are trivialized is flawed, misleading and does not represent good practice. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-8: The role of gas in the future energy mix (Section 4.9).
AQ-RES-19	ANON-XJVE-DU33-V	<p><i>I am responding to highlight my concerns about the plans for the three projects Woodside has lodged for the expansion of the Browse Basin and North West Shelf expansion.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>

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		<p><i>Overall these projects are for "short term" economic gains at the expense of long-term destructive impacts at a time when new technology (renewables) is becoming a reality.</i></p> <p><i>I am concerned:</i></p> <ul style="list-style-type: none"> • <i>about the substantial, long term, cumulative environmental impact of these projects (viz emissions)</i> • <i>that there is no single overarching authority that will assess the impact of these.</i> • <i>that the EPA has only just released draft guidelines to assess major polluting projects such as these so it would be good to see how Woodside's plans address how they will "reasonably and practically avoid, reduce and offset emissions to contribute to the state's aspiration of net -zero emissions by 2050".</i> • <i>that the extension of operation for onshore processing at Karratha's NWS plant until 2070 is well beyond the mooted WA policy goal of net zero emissions by 2050.</i> • <i>about the impact on the Rock Art.</i> <p><i>Although LNG is mooted as "clean" fuel, this is semantic as LNG is a fossil fuel (that is predominately methane, a much more potent greenhouse gas than carbon dioxide).</i></p> <p><i>There needs to be cumulative accounting of the total emissions for such projects alongside all existing ones, including the fugitive emissions released at all stages in a project's life.</i></p> <p><i>These projects will be one of the largest fossil fuel developments globally and increase the challenge for</i></p>	<p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-8: The role of gas in the future energy mix (Section 4.9). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-30 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p><u>NWS Project extension</u></p> <p>With respect to the specific issues raised in relation to the NWS Project Extension, please refer to the response GHG-13 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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		<p><i>Australia to meet its international obligations for reduction of greenhouse gas emissions.</i></p> <p><i>LNG might be seen as a transition fuel as the world moves to greater reliance on renewable energy and greatly reduces its dependence on fossil fuels, so it is inappropriate to be considering new polluting developments at this stage with their long-term polluting effects. Will this lead to the new development being “stranded assets”?</i></p> <p><i>As a member of Friends of Australian Rock Art (FARA), I am also concerned about the increased impact these extra projects will have on the petroglyphs. Already the pH of the rock surfaces near the existing Woodside gas plant have changed markedly (from near neutral conditions pH7) to more acid (to pH 3.81). This results in the outer patina dissolving so destroying the Aboriginal Rock Art and Australia’s unique cultural heritage. The impact of emissions from these proposed projects on rock art located on the islands along the shipping and pipeline route out of Dampier Port also needs to be considered.</i></p>	
AQ-RES-20	ANON-XJVE-DU3W-Z	<p><i>The Burrup Hub projects, together, will be one of the largest fossil fuel developments in the world. To proceed with these projects will cancel out all attempts by individual Australians and businesses who are all trying to do their bit and reduce emissions. A recent report by CSIRO and the AEMO (Gencost 2019-20) shows that renewables, are competitive with gas, so there is no financial reason to continue with this project.</i></p> <p><i>We cannot proceed with the Burrup Hub without breaking our international and national commitments to carbon reduction; the project, which is planned to</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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		<p><i>continue till 2070, is clearly incompatible with zero emissions until 2050.</i></p> <p><i>Please consider the lifetime emissions of this project and compare them to what is required to mitigate climate change. Please think of future generations to whom we have a responsibility that we will be abrogating if we allow this to proceed.</i></p> <p><i>Yours sincerely,</i></p>	<ul style="list-style-type: none"> • GHG-8: The role of gas in the future energy mix (Section 4.9).
AQ-RES-21	ANON-XJVE-DUVQ-W	<p><i>Objection 1: Greenhouse gas emissions.</i></p> <p><i>The proponent has stated that the proposed Browse to North West Shelf Project - State waters would produce an average 3.5-4mtpa CO2e, rising to 6-8mtpa CO2e during peak years. It has elsewhere stated that a total of 200 million tonnes of CO2e would be emitted from the project over a 30-year lifetime (equivalent to 6-7mtpa CO2e).</i></p> <p><i>To address this impact, the proponent suggests it will offset a quarter of the project's emissions, i.e. 50 million tonnes of CO2e over the lifetime of the project (or 1.6mtpa CO2e) via the Federal Government's SafeGuard Mechanism, and that this would be achieved by buying Australian Carbon Credit Units (ACCU's).</i></p> <p><i>There are two objections with this:</i></p> <p><i>a) Net emissions from the project, even with the offset proposed, will still be a minimum 150 million tonnes CO2e by the year 2030, making a mockery of the State Government's policy released in August 2019, of net zero emissions by the year 2050 for all major new projects.</i></p> <p><i>b) There is nothing in the Federal Safeguard Mechanism to enforce even the small offset described. Grammatically obscure sentences such as the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4).

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		<p><i>following from page 24 of the draft ERD seem to have been inserted to confuse or placate readers of the document, while committing the proponent to zero offsets.</i></p> <p><i>"Based on current Safeguard Mechanism (SGM) requirements, it is anticipated that reservoir CO2 emissions will contribute to the proposed Browse to NWS Project exceeding any facility baseline by approximately 50Mt CO2 -e, which would need to be offset in accordance with the rules of the SGM."</i></p> <p><i>In summary, the proponent fails to address how it will protect the State's environmental objectives for air quality/greenhouse gases - relying instead on obfuscation and confusion and treating the State Government's 2050 target as irrelevant. The impact of such a single project being given carte blanche to emit such high amounts of CO2e will be not just the pollution itself from this project but the precedent it establishes for all other highly polluting major projects.</i></p> <p><i>This project should only proceed if it is required to offset 100% of its CO2e emissions (fugitive, from flaring and energy-related, etc) through a watertight agreement.</i></p>	
AQ-RES-22	ANON-XJVE-DUVM-S	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emissions resulting from third party processing of Browse Gas • GHG emissions • employee accommodation and housing • potential impacts to national heritage values including rock art 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>Please note the incorrect statement in the submission with regards to the relevant preliminary Environmental Factors as determined by the EPA. The correct preliminary Environmental Factors for this Proposal are</p> <ul style="list-style-type: none"> • Marine Environmental Quality • Benthic Communities and Habitats • Marine Fauna

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		<ul style="list-style-type: none"> • ability of Aboriginal groups to access the water and coastal land • potential impacts to marine environmental quality • potential impacts to marine fauna • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • Air Quality. <p>It is also noted that the submission includes reference to activities not related to the proposed Browse Project (for example, dredging). As such, these are not addressed further in these responses.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to air emissions on the Burrup Peninsula, including potential impacts to the Murujuga rock art site, please refer to the following responses in the NWS Project Extension ERD Response to Submissions:</p> <ul style="list-style-type: none"> • AQ-11 (Section 3.1.3, Table 3-3). • GHG-30 (Section 3.2.3, Table 3-7).

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			<p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-5 (Table 6-3) • Marine environmental quality: MEQ-RES-12 (Table 6-4) • Marine fauna: MF-RES-4 (Table 6-5) • Consultation and other submissions: CAO-RES-3 (Table 6-6).
AQ-RES-23	ANON-XJVE-DUMQ-M	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, particularly: <ul style="list-style-type: none"> ○ GHG emission estimates including fugitive emissions ○ Australia’s obligations under the Paris Agreement ○ Australia’s GHG emissions ○ Coal to gas switching ○ potential damage to infrastructure (and resultant impacts to the marine environment) as a result of the increased intensity of tropical storms as a result of climate change. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). <p>In relation to the increase in the intensity of tropical storms, Woodside have been operating in harsh environments for decades, including operational areas</p>

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			<p>prone to cyclones. Woodside’s design standards ensure that current and future assets are designed appropriately for a range of variables including extreme weather events and sea conditions. We review the input data every 5 years to ensure that it’s still appropriate and conduct risk assessments when our understanding of future weather extremes change.</p>
AQ-RES-24	Australian Parents for Climate Action (ANON-XJVE-DUMT-Q,	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular: <ul style="list-style-type: none"> ○ the need to reduced global GHG emissions ○ the assertion that the Proposal is not Ecologically Sustainable Development ○ global gas supply and demand and in particular the revised 2019 WEO Sustainable Development Scenario ○ gas as a transition fuel and coal to gas switching ○ Burrup Hub cumulative emissions ○ Australia’s obligations under the Paris Agreement ○ offsets and mitigation ○ Western Australia GHG policy. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9)

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AQ-RES-25	ANON-XJVE-DUMY-V	<p><i>Thank you for the opportunity to make a submission. I am concerned about the impact of emissions from the North West Shelf expansion project on the indigenous rock art of the Burrup Peninsula. In particular, I am disappointed that Woodside's expansion plans appear to ignore opportunities to move the site of some industrial emissions further away from the Burrup Peninsula.</i></p> <p><i>There are good reasons to believe that emissions of NOx from onsite fossil fuel combustion could contribute to the acceleration of rock weathering and thereby hasten the degradation of the petroglyphs. I accept that the LNG processing facility will require significant energy inputs, which, given today's technologies and costs, means a significant amount of fossil fuel combustion. However, Woodside could elect to change its operating model to rely, at least to a greater extent than it proposes to, on electricity generated off-site and transmitted to where it is needed.</i></p> <p><i>I accept that there are likely to be important operational reasons for Woodside to prefer onsite generation. However, it seems likely that Woodside could make such an approach to meeting its energy needs workable, were it pressured to do so and that such an approach could also be reasonably cost effective.</i></p> <p><i>By shifting its energy supply model now, Woodside could gradually reduce its scope 2 greenhouse emissions over time as the supply of renewable energy across the NWIS increases. This would also allow Woodside to conserve a larger share of gas landed onshore to be exported rather than burned in production.</i></p>	<ul style="list-style-type: none"> ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12). <p>We acknowledge the comments made and provide the following information in response to the matters raised. Note that the onshore LNG processing facility including its location and means of energy generation is outside the scope of the Browse Project State ERD.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following in Section 4:</p> <ul style="list-style-type: none"> GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-7: Lower and zero carbon energy sources (Section 4.8). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p>

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		<p><i>Woodside is not alone among our very large mining and petroleum operators in placing a premium on maintaining a very high degree of control over its operations. I don't challenge the reasonableness of this in theory. However, where, in practice, this approach exposes a national treasure like the Indigenous Rock Art of the Burrup Peninsula to an increased risk of harm, while forcing Woodside to forego opportunities for future greenhouse emission reduction, I think it is a philosophy that deserves to be subjected to careful scrutiny.</i></p> <p><i>I encourage the EPA to consider whether Woodside has given adequate consideration to the alternative of off-site electricity production as an alternative to it burning so much fossil fuel onsite.</i></p> <p><i>Yours Sincerely</i></p>	
AQ-RES-26	ANON-XJVE-DUMD-7	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • Principles of Ecologically Sustainable Development in relation to potential impacts to rock art • North-West Shelf Project Expansion and in particular: <ul style="list-style-type: none"> ○ GHG emissions • GHG emissions resulting from the propose Browse Project and particular: <ul style="list-style-type: none"> ○ cumulative emissions from extraction, onshore processing and customer use of the gas ○ Western Australia Climate Policy. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5)

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			<ul style="list-style-type: none"> ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12). <p><u>Air quality</u></p> <p>With respect to the specific issues raised in relation to the NWS Project Extension, please refer to the response GHG-41 in the NWS Project Extension ERD Responses to Submission (Section 3.2.3, Table 3-7).</p> <p>The submission also raised concerns relating to Principles of Ecologically Sustainable Development which were specific to the NWS Project Extension. A response to these concerns is provided in the response to GHG-KIR-5 in the NWS Project Extension ERD Responses to Submission (Section 3.2.2, Table 3-5).</p>
AQ-RES-27	ANON-XJVE-DUMA-4	<p>This submission was provided as an uploaded document.</p> <p>The submission relates to GHG emissions and in particular:</p> <ul style="list-style-type: none"> projected emissions Australia’s performance against Paris Climate Agreement global gas supply and demand and in particular the revised 2019 WEO Sustainable Development Scenario coal to gas switching challenges to the assertion that gas is a “Clean, Affordable, Reliable Energy” the GHG emission contribution of the proposed Browse Project and potential resultant socio-economic and cumulative impacts mitigation the acceptability of the proposed Project, particularly in relation to: 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).

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		<ul style="list-style-type: none"> ○ the Paris Agreement ○ the role of gas ○ Principles of Ecologically Sustainable Development. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> ● GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) ● GHG-7: Lower and zero carbon energy sources (Section 4.8) ● GHG-8: The role of gas in the future energy mix (Section 4.9) ● GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) ● ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).
AQ-RES-28	ANON-XJVE-DUM8-U	<p><i>My name is [redacted], I migrated to Australia 33 years ago from the - I came to the “lucky country”</i></p> <p><i>Yet over that 33 years I have witnessed our ever growing greed, at the expense of the natural world. As a recreational scuba diver, I have literally watched marine life and reef disappear.</i></p> <p><i>It has been under stress for 30 years. Perhaps we were somewhat ignorant back then, but not now, we know the effects of carbon emissions, disturbance and death of our ecosystems. Hence the concept of this complex and risky development to extract more gas seems untenable</i></p> <p><i>I understand this project will span some 900 kms, tapping into numerous gas fields across multiple basins, with scores of wells, and hundreds of Kms of pipeline. crisscrossing state and commonwealth waters and multiple Environmental regulators, complex web of overlapping or underlapping responsibilities across this complex multifaceted project.</i></p> <p><i>I must assume that neither State or commonwealth EPA 's could entertain this project, as it intends to</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> ● GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) ● GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Fracking</u></p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project and a total of three reservoirs in one basin are being targeted for development.</p>

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		<p><i>extract and process gas for up to 50 years – taking us to 2070 (yet we seek to cut emissions to net zero by 2050) this intention is a total mismatch and would be misleading to citizens.</i></p> <p><i>As a layman it is not my role to report to you all the facts and risks – I must trust that you have these in hand from experts internal, external and neutral in scrutiny. There has been much work to inform the public of risks, and I have been well read and informed of these. Hence, it is clear even as a layman that there are many and varied risks, to countless ecosystems. We also know that Potential fracking is dangerous to already compromised drinking water sources.</i></p> <p><i>There is no logic or benefits to this project from an environmental or climate security point of view. Adding to emissions and extending any fossil fuel project into 2070 is unethical, and unnecessary. The environmental risks are of a colossal scale, for no gain to humanity or our earth as we have the capacity to generate energy for the future in other viable and low impact ways.</i></p> <p><i>If you approve this project (any part of this project) – it is contradictory your responsibilities as Protectors of the Environment, destabilising climate further, and locking in horrendous consequences already happening throughout our country.</i></p> <p><i>I entrust in your role to actively Protect our natural Environment, essential ecosystems, and future of our children, what will they say – when the planet is unliveable because we simply “wanted more gas”.</i></p>	
AQ-RES-29	ANON-XJVE-DUMU-R	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, and in particular: 	We acknowledge the comments made and provide the following information in response to the matters raised.

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ the magnitude of GHG emissions ○ Australia’s obligation under the Paris Agreement ○ renewable energy ● potential impacts to wetlands ● potential impacts to rock art ● impacts to cultural integrity resulting from displacement of Aboriginal people ● potential impacts to marine fauna including marine turtles, sea snakes, cetaceans, seabirds and shorebirds and fish ● the potential for an unplanned hydrocarbon release and resultant impacts ● potential impacts to Scott Reef resulting from an unplanned hydrocarbon release ● potential impacts during construction, especially drilling. <p>The full submission can be found in Error! Reference source not found.</p>	<p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following in Section 4:</p> <ul style="list-style-type: none"> ● GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) ● GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) ● GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4). <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts of emissions to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-21 in the NWS Project Extension ERD Responses to Submission (Section 3.3.3, Table 3-10).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> ● Benthic habitats and communities: BCH-RES-6 (Table 6-3) ● Marine environmental quality: MEQ-RES-12 (Table 6-4) ● Marine fauna: MF-RES-5 (Table 6-5) ● Consultation and other submissions: CAO-RES-4 (Table 6-6).

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No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-30	Doctors' Reform Society of Western Australia (ANON-XJVE-DUM6-S)	<p>This submission was provided as an uploaded document. The submission relates to GHG emissions and in particular the impacts of climate change on human health.</p> <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
AQ-RES-31	ANON-XJVE-DUMC-6	<p><i>Dear Environmental Protection Authority chair [redacted],</i></p> <p><i>I am writing to you today to lodge a submission as I am deeply passionate about keeping global temperatures below 1.5 degree increase. I work in climate change policy and I am acutely aware of the scientist's projections and the climate change impacts that will increase in severity with rising greenhouse gas emissions.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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		<p><i>No approval should be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement. Therefore this project is incompatible with the Paris Agreement, and Australia's commitment to that agreement. Global emissions are required to peak as soon as possible, and then reduce drastically before 2050.</i></p> <p><i>The Browse project, if approved, will be the most emissions intensive development in Australia, adding an additional 7 million tonnes of CO2e just through venting and pumping the gas 900km and about another 7.6 million tonnes CO2e from processing at the North West Shelf LNG facility. This project alone will emit pollution equivalent to 2.7% increase over Australia's total 2005 baseline.</i></p> <p><i>Approving this project, would be irresponsible.</i></p> <p><i>More specifically, in terms of air quality:</i></p> <p><i>This proposal will have significant implications for air quality, particularly considering the data used in the proponents environmental review is based on ambient air monitoring undertaken during 2009-2015.</i></p> <p><i>This project will emit significant greenhouse gas emissions, with no clear management plans on how these emissions will be controlled, in a time when emissions must be decreasing.</i></p> <p><i>The Browse Basin will be the State's most emissions intensive LNG facility -- with an emissions intensity of above the average for Australian LNG exports.</i></p> <p><i>There is also no mention of obtaining an emissions-free goal in Woodside's own assessments.</i></p> <p><i>In terms of Social Surroundings (Heritage):</i></p>	<ul style="list-style-type: none"> • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Responses to Submission (Section 3.3.2, Table 3-9).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-11 (Table 6-4) • Marine fauna: MF-RES-6 (Table 6-5).

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		<p><i>The proposals threaten the cultural integrity by threatening the ability of traditional owners to access and use the area as they have done for millenia.</i></p> <p><i>A change in either ocean chemistry or air quality could drastically alter the local environment and with it; the species distribution in the area. While changes to flora and fauna populations affect the ecology of waterways, social values relating to waters, and may drastically alter the landscape; destroying continuous Indigenous cultural elements relating to our northern coasts.</i></p> <p><i>In terms of Marine Environmental Quality:</i></p> <p><i>Several threatened and endangered marine species that exist in the area surrounding the proposal, including but not limited to:</i></p> <ul style="list-style-type: none"> <i>- Five species of marine turtles’ classified as threatened under the BC Act</i> <i>- the vulnerable and migratory Green Turtle (Chelonia mydas),</i> <i>- the endangered and migratory Leatherback Turtle (Dermochelys coriacea),</i> <i>-the endangered and migratory Loggerhead Turtle (Caretta caretta),</i> <i>- the vulnerable and migratory Hawksbill Turtle (Eretmochelys coriacea), and</i> <i>-the vulnerable and migratory Flatback Turtle (Natator depressus).</i> <p><i>There are sixteen sea snake species were identified as potentially occurring in the Proposal area. One of these species— the short-nosed sea snake (Aipysurus apraefrontalis), is classified as critically endangered under the Environment Protection and Biodiversity Conservation Act and threatened under the WA Biodiversity Conservation Act.</i></p>	

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		<p><i>A large number of seabird and shore bird species (or species habitat) may occur near the Proposal; these include species classified as threatened and migratory under the EPBC Act or specially protected under the BC Act.</i></p> <p><i>Shallow water fish species have been recorded in the waters of the Dampier Archipelago, comprising: 456 coral reef species; 116 mangrove species; 106 soft-bottom species, and 67 pelagic species.</i></p> <p><i>In the event of a hydrocarbon accident: (e.g. gas leak or oil spill), there is an extreme likelihood that this area will never recover.</i></p> <p><i>Depending on its severity (i.e. volume, hydrocarbon type and location), a hydrocarbon release would have the potential to impact water and sediment quality and alter habitats, as documented by studies of hydrocarbon concentrations in deep sea sediments following the blowout of the Deepwater Horizon.</i></p> <p><i>This could subsequently alter fauna behaviour, cause fauna injury or mortality, impact the aesthetic value of an area and alter the function, interests and activities of other users.</i></p> <p><i>Scott Reef will be most vulnerable to any hydrocarbon release as detailed by Woodside in Risk Scenarios 1 to 3 3 4.</i></p> <p><i>Coral communities have the potential to be impacted from exposure to floating hydrocarbons through smothering and coating, and exposure to dissolved and entrained hydrocarbons.</i></p> <p><i>Exposure to dissolved and entrained hydrocarbons (≥50 ppb and 100 ppb, respectively) has the potential to result in lethal or sub-lethal toxic effects to corals and other sensitive sessile benthos within the upper</i></p>	

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		<p><i>water column, including upper reef slopes (subtidal corals) and reef flat (intertidal corals).</i></p> <p><i>3 Event of a major hydrocarbon release at the seabed; cf Table 6-158 wherein: “scenario 1 had a high probability of affecting sediments associated with Scott Reef and Seringapatam Reef..” 4 Event of release between containers representing non-standard protocols</i></p> <p><i>Should a hydrocarbon release occur at the time of coral spawning (at potentially affected coral locations), there is the potential for a significant reduction in successful fertilisation and coral larval survival.</i></p> <p><i>Cetaceans, such as the Indo-Pacific humpback dolphin, that have direct physical contact with entrained or dissolved aromatic hydrocarbons may suffer ingestion of hydrocarbons either directly or via bioaccumulation through food.</i></p> <p><i>This may have flow on impacts to offspring as migratory cetaceans tend to travel in the area at-term or post-partum.</i></p> <p><i>Marine turtles, such as the green turtle, olive ridley turtle, flatback turtle and hawksbill turtle which all rely on the proposal area, are vulnerable to the effects of hydrocarbons at all life stages.</i></p> <p><i>Construction of infrastructure will have significant impact on the marine life</i></p> <p><i>The proposal also sits adjacent to atolls and reefs that are home to aquatic mammals during breeding, considering the elements of construction - especially drilling - and the proximity to nursing ground, the potential to harm calves and/or effect auditory function is severe.</i></p>	

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		<p><i>Conservation Advice for the short-nosed sea snake includes ensuring there is no anthropogenic disturbance in areas where the species occurs.</i></p> <p><i>Given sea snakes occur predominantly in shallow regions of the EMBA (the environment that may be affected), such as Scott Reef, Ashmore and Cartier, Rowley Shoals and other small offshore shoals and reefs, the construction of two floating LNG platforms and accessory structures will have a significant impact on the species.</i></p> <p><i>Thank you for reading my submission. I hope that you consider each of the different and important components and determine that the environmental risk is too great to approve this project.</i></p> <p><i>Kind regards,</i> <i>[redacted]</i></p>	
AQ-RES-32	ANON-XJVE-DUMM-G	<p><i>I am concerned that, while the WA State Government has a commitment to zero carbon emissions by 2050, the policies it is pursuing in the support for, and expansion of, the LNG industry, in the absence of any other strategies to reduce emissions, is setting WA and Australia on a course to fail our international commitments to keep global warming to 2 degrees centigrade - 1.5 degrees aspirational. The existing levels of LNG production, together with domestic consumption and exports will cause that failure and any expansion will lead to greater failure, while committing WA to destructive emissions for decades, or the prospect of stranded assets in the face of declining global demand for fossil fuels.</i></p> <p><i>I strongly request that the environmental impacts of the proposals be examined, beyond those represented by the proponents, because I understand that devious means are being employed to break up the whole</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Air quality (GHG emissions)</p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4)

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		<p><i>proposal into myriad small pieces and various elements, such as the venting of CO2 in international waters are being omitted from their declarations.</i></p> <p><i>I understand the WA Government's predicament in being seen to protect the state's economy, but I am aware that the benefits in jobs, royalties and tax payments are ephemeral while the profits flowing to overseas interests are massive.</i></p> <p><i>If these projects are to proceed, there MUST be adequate emissions reduction or offsets set and policed. The simplest way to ensure this is to put a price on the emissive content of the resources at the point of extraction.</i></p> <p><i>I expect the EPA to prepare well founded and truthful recommendations regardless of any opposition or blow-back. Our futures depend on it.</i></p>	<ul style="list-style-type: none"> GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7).
AQ-RES-33	ANON-XJVE-DUMR-N	<p>This submission was provided as an uploaded document. The submission relates to GHG emissions and in particular:</p> <ul style="list-style-type: none"> methane and radon emissions fracking. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5). <p><u>Air Quality</u></p> <p>Radon is a naturally occurring phenomenon in hydrocarbon reservoirs and is expected to occur within the Browse reservoirs. This is identified in the draft EIS/ERD as Naturally Occurring Organic Materials (NORMs) (Section 6.3.12 of draft EIS/ERD). Radon has a short half-life (around 3.8 days) and is expected to decay during the processing and transportation of Browse gas. In the domestic natural gas stream, Radon</p>

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			<p>is expected to meet the existing AEMO spec (600 Bq/m³), and will continue to decay during transmission in the pipeline. Low levels of NORMs may also occur in the PW stream.</p> <p><u>Fracking</u></p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
AQ-RES-34	Sustainable Energy Now (ANON-XJVE-DUV7-3)	<p>Submission relates to GHG emissions and in particular:</p> <ul style="list-style-type: none"> • methane emissions • fugitive emissions • reservoir emission estimates • global gas demand projections • emissions intensities • mitigation, management and offsetting • Burrup Hub cumulative emissions • State, national and international climate policies and agreements. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8)

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No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-35	ANON-XJVE-DUKK-C	<i>Please do not extend, renew or start more projects of this nature. It is time to clean up our act.</i>	<ul style="list-style-type: none"> GHG-8: The role of gas in the future energy mix (Section 4.9). <p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-36	ANON-XJVE-DUK5-P	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions and in particular <ul style="list-style-type: none"> State, national and international climate policies and agreements the transition to renewable energy sources WA emissions offsetting employment opportunities damage to wetlands in the event of an oil spill potential impacts to Scott Reef potential impacts to marine fauna potential impacts to national heritage values including rock art potential health impacts to local communities resulting from air emissions on the Burrup Peninsula. Socio-economic impacts <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9). <p>Further, the submission references and draws on a 2019 report “Runaway Train: The Impact of WA’s LNG industry on meeting our Paris Targets and National Effort to tackle Climate Change” prepared by the CCWA in conjunction with Clean State.</p> <p>All of Woodside’s current and proposed projects are regulated by the Australian Government’s Safeguard Mechanism to ensure their emissions stay within agreed limits, which are set to ensure Australia meets its commitments under the Paris Agreement. The report is unclear on Australia’s climate rules, its Paris Agreement commitments, or how cleaner natural gas is helping the world meet its energy needs while reducing emissions.</p> <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Responses to Submission (Section 3.3.2, Table 3-9).</p> <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-2 and AQ-3 in the NWS Project Extension ERD Responses to Submission (Section 3.1.3, Table 3-3).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p>

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			<ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-7 (Table 6-3) • Marine fauna: MF-RES-17 (Table 6-5) • Consultation and other submissions: CAO-RES-12 (Table 6-6).
AQ-RES-37	ANON-XJVE-DUKT-N	<p><i>To whom it may concern:</i> <i>This is in regard to the Browse development including:</i></p> <ul style="list-style-type: none"> • <i>Proposal 1: Up to 24 offshore gas wells and a floating facility in the offshore Browse gas field in state waters, under Western Australian EPA jurisdiction (Browse to NWS Project – State waters).</i> • <i>Proposal 2: Up to 30 offshore gas wells of the Browse field in Commonwealth waters, using a second floating facility, an 85-kilometre pipeline between, and a 900-kilometre pipeline connecting the lot to the onshore North West Shelf gas plant at Karratha (Browse to NSW Project – Commonwealth waters)</i> • <i>Proposal 3: Gas processing onshore at Karratha’s existing North West Shelf gas plant - by extending the plant’s original approvals to allow it to operate until 2070</i> <p><i>We are concerned with the greenhouse gas emissions of this development.</i></p> <ul style="list-style-type: none"> • <i>The proposals assert that gas is a ‘clean’ fuel. All evidence indicates otherwise. Gas is still a fossil fuel and is a major driver of global greenhouse gases from end use, flaring and fugitive emissions.</i> • <i>The Browse proposals argue that the greenhouse gas emissions from the development are acceptable based on the International Energy</i> 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9).

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		<p><i>Agency (IEA) 2018 World Energy Outlook (WEO) “Sustainable Development Scenario” forecast for gas. The IEA has recently released the 2019 WEO and this substantially revises gas demand and supply estimates under the Sustainable Development Scenario. The IEA state that this scenario is aligned with achieving Paris Climate Agreement objectives.</i></p> <ul style="list-style-type: none"> • <i>The project documentation states that gas demand will increase to 2040, including increasing in the Asian market by 130%, and also that LNG exports can reduce emissions through coal-to-gas switching. Now, the 2019 WEO Sustainable Development Scenario indicates gas demand would peak sooner (global peak by late 2020s and Asia peak in late 2030s), that there would be much lower Asian growth overall (31% not 130%), coal-to-gas switching is less feasible economically, and LNG faces uncertainty in terms of scale of imports, their durability and price competitiveness. Currently, there is still an over-supply of LNG and several new projects and expansion projects are planned, including development of Woodside’s Scarborough field. Why then, should Browse also be developed, when it fails to deliver ‘clean’ energy, supply may not be warranted, it will contribute more total emissions than most countries?</i> • <i>Current 2019 Australian Government projections indicate that Australia will not meet its Paris Climate Agreement emissions reduction commitment without the use of Kyoto carry-over credits. The Browse proposals are presently unaccounted for in Australia’s emissions projections, yet they will add around 3% to</i> 	

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		<p><i>Australia’s annual emissions. How will this be accommodated for Australia to meet its Paris commitments?</i></p> <ul style="list-style-type: none"> • <i>No one authority will assess the entire impact of the development on account of the approvals documentation being split into three parts.</i> • <i>There is no cumulative impacts assessment for greenhouse gas emissions. This is concerning because it fails to place the Browse development in the context of the broader Burrup hub and northern Australia developments (which already produce significant emissions). A cumulative impact assessment would quantify the emissions from multiple, proposed fossil fuel projects and how these would affect Australia’s ability to meet its Paris Climate Agreement commitments.</i> • <i>The documentation does not adequately or convincingly demonstrate how these major polluting proposals will contribute to Western Australia’s aspiration of net zero by 2050. At best the Browse to NWS Project Draft EIS/ERD commits to offsetting around 25% of direct emissions in an ‘average’ operating year and the NWS Project Extension commitment is <1%. How is this acceptable for a major polluting activity that seeks to operate to 2070?</i> <p><i>For the reasons above, the Browse development is not consistent with ecologically sustainable development, it does not support intergenerational equity for our kids, and the emissions from this project are not ‘acceptable’ as claimed.</i></p>	

No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-38	ANON-XJVE-DUK9-T	<i>It is madness to prolong the production and use of gas when the world is burning, flooding etc.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-39	ANON-XJVE-DUKN-F	<i>It is time that the wanton destruction of this country stopped. Your job is to ensure that the environment is protected, not pander to the desires of corrupt, greedy corporations and politicians. If you do this then you will not only ensure that this project does not go ahead but that those that you have improved using flawed practices are reviewed and stopped.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-40	ANON-XJVE-DUKD-5	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions, particularly with respect to whether gas should be considered a transition fuel and Australia obligations under the Paris Agreement Burrup Hub air emissions and potential impacts to rock art potential impacts to wetlands potential impacts to marine fauna, particularly in relation to potential underwater noise impacts potential impacts to Commonwealth marine parks potential impacts to Scott Reef 	<p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> potential impacts to marine environmental quality around Scott Reef. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-7: Lower and zero carbon energy sources (Section 4.8). <p><u>Air quality</u> With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-KIR-1 in the NWS Project extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p> <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Benthic habitats and communities: BCH-RES-8 (Table 6-3) Marine environmental quality: MEQ-RES-2 (Table 6-4) Marine fauna: MF-RES-6 (Table 6-5).
AQ-RES-41	Denmark Environment Centre (ANON-XJVE-DUK8-S)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions potential impacts to national heritage values, including rock art potential impacts (in particular as a result of underwater noise emissions during drilling) to marine fauna including marine turtles, sea snakes, seabirds and migratory shorebirds, and fish. potential impacts as a result of an unplanned hydrocarbon release 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u> With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> potential impacts to wetlands potential impacts to Scott Reef, particularly during drilling impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-7: Lower and zero carbon energy sources (Section 4.8). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Benthic habitats and communities: BCH-RES-9 (Table 6-3) Marine environmental quality: MEQ-RES-3 (Table 6-4) Marine fauna: MF-RES-7 (Table 6-5) Consultation and other submissions: CAO-RES-5 (Table 6-6).
AQ-RES-42	Murujuga Aboriginal Corporation (MAC) (ANON-XJVE-DUKU-P)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found. The submission relates to:</p> <p><u>Air quality and GHG emissions</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to air quality and GHG emissions are provided below:</p> <ul style="list-style-type: none"> need to adequately consider the relation of the Proposal to state and national emissions budgets. Specific reference was made to Australia’s obligations under the Paris Agreement, Western 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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		<p>Australia's climate policy, and the proposed Burrup Hub Projects in the context of Climate Analytics reports relating to Western Australia's carbon budget.</p> <ul style="list-style-type: none"> • need to consider fugitive emissions • need to consider the importance of methane within emissions • need to consider the impacts of climate change on coastal ecosystems • need to consider the Impacts of ocean acidification on Murujuga • need to consider the Impacts of climate change on health and wellbeing • need to consider the impacts of sea level rise on Murujuga • need to consider the impacts of sea level rise on Murujuga rock art • need to consider the impact of increasing bushfires on rock art • need to demonstrate Free, Prior and Informed Consent • need to align the proposal with Woodside's Climate Change Policy • impact on air quality on human health. The submission acknowledges that offshore emissions are unlikely significantly impact air quality within the Murujuga area due to dispersal effects, and notes that concerns regarding onshore emissions are raised in MACs submission relating to the NWS Project Extension ERD. 	<ul style="list-style-type: none"> • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p>It is noted that with respect to GHG emission the submission is largely based on a report prepared by Climate Analytics with respect to the impact of the proposed Browse Project on Western Australia 'carbon budget'. Please refer to AQ-RES-54 of this table for Woodside response to the Climate Analytics report.</p> <p>Woodside notes that key to the report provided by Climate Analytics is the assumption on page 2 of "A 1.5°C Compatible Carbon Budget for Western Australia" which states</p> <p><i>"To develop a carbon budget for Western Australia, we draw upon the modelling framework that gives these global results and apply it within the West Australian context so that the CO₂ emissions budget as well as the energy system transformation dynamics are consistent with the global results."</i></p> <p>Woodside disagrees with this key assumption and therefore all conclusions following this. Climate change is a global issue – it should be dealt with internationally, or by national governments acting upon international agreements. Unilateral provincial action undermines this effort.</p> <p>In response to the specific recommendations made by MAC in relation to GHG emissions:</p>

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		<ul style="list-style-type: none"> Note that potential impacts of offshore emissions on seabird area addressed in MF-RES-8 (Table 6-5). <p>MAC submitted the following key recommendations in relation to air quality and GHG emissions:</p> <p>MAC recommendation 9 - Produce more transparent and accurate calculations demonstrating the impacts of fugitive emissions.</p> <p>MAC recommendation 10 - Collaborate with MAC to devise culturally relevant carbon farming projects on country.</p> <p>MAC recommendation 11 - Produce accurate modelling to demonstrate how sea level rise will impact Murujuga rock art.</p> <p>MAC recommendation 12 - Collaborate with MAC to devise a plan to protect rock art from sea level rise.</p> <p>MAC recommendation 13 - Study the impacts of increasing bushfire intensity and frequency on Murujuga rock art.</p> <p>MAC recommendation 14 - Support the MAC to create a cultural burning program for the protection of rock art and continuation of cultural practices.</p> <p>MAC recommendation 15 - Fund research into aquaculture projects that will be resilient in an increasingly acidic ocean.</p> <p><u>Marine fauna</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to marine fauna are provided in MF-RES-8 (Table 6-5).</p> <p><u>Consultation</u></p>	<p><u>MAC recommendation 9</u></p> <p>Please refer to the response GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5)</p> <p><u>MAC recommendation 10</u></p> <p><i>Carbon farming projects on country</i></p> <p>The Project Area for the proposed Browse Project is located over 100 km from Murujuga at its closest point (the NRC tie-in). The Browse Development Area and State Proposal Area are located ~900 km from Murujuga (Figure 1-1) Outside of the proposed Browse Project, Woodside has undertaken a preliminary assessment regarding potential on country carbon farming projects within the Murujuga National Park and none of the Clean Energy Regulation approved carbon methodologies are viable at this stage.</p> <p>Woodside will collaborate with the Prescribed Bodies Corporate that MAC membership comprises regarding potential carbon farming projects.</p> <p><u>MAC recommendation 11 and 12</u></p> <p>As outlined in Chapter 7 of the draft EIS/ERD, the proposed Browse Project is not predicted to result in a significant or measurable impact on sea level. Gas is the ideal partner for renewables has the potential to offset higher GHG intensity fuels and thereby assisting to meet Paris commitments.</p> <p><i>Sea level rise impacts on Murujuga rock art</i></p> <p>Woodside (in its corporate capacity) has entered into a Sponsorship Agreement with the National Climate Change Adaptation Research Facility hosted by Griffith University to complete a Climate Risk Scan Report to develop a clear understanding of the climate change risk for the Burrup Peninsula taking into account both natural and cultural assets. The scan will involve reviewing</p>

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		<p>The specific concerns raised by MAC and MACs recommendations relating to consultation are provided in CAO-RES-14 (Table 6-6).</p>	<p>existing information, holding stakeholder workshops where the climate projections for the region would be discussed and explain existing climate risks in the area. The scan will consider:</p> <ul style="list-style-type: none"> • biophysical risks to the artwork • climate risks • governance risks • changing land uses and local economies which could impact centre and sustainability of the petroglyphs. <p>As part of the project the National Climate Change Adaptation Research Facility will provide the Rock Art Foundation Committee, which MAC is a member, a Climate risk scan report which would include advice on what risks should be taken into account in future plans. They will also produce a short case study which can be used by the Murujuga Ranger Program and the Living Knowledge Centre.</p> <p>In addition to reviewing climate related risks to the rock art, the study will also support the development of the Living Knowledge Centre. The project will deliver an infrastructure design climate risk and adaptation report (including plain language summary sheet). This will outline climate risks and principles for designing the Living Knowledge Centre. Additionally, a technical analysis will be provided exploring the ability for the centre to serve multiple adaptation functions for the community.</p> <p><u>MAC recommendation 13</u></p> <p>In addition to the response provided in response to MAC recommendations 12, in response to MAC recommendation 13, we do not propose undertaking a</p>

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			<p>separate study regarding the impacts of increasing bushfire intensity.</p> <p><u>MAC recommendation 14</u></p> <p>In addition to the response provided to MAC recommendation 12, in response to MAC recommendation 14, we do not propose creating a separate cultural burning program.</p> <p><u>MAC recommendation 15</u></p> <p>In addition to the response provided to MAC recommendation 12, in response to MAC recommendation 15, we do not propose funding separate research into aquaculture projects.</p> <p><u>Air quality</u></p> <p>With respect to offshore emissions impacts on human health, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • AQ-1: Impact of air emissions on public health (Section 4.13). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine fauna: MF-RES-8 (Table 6-5) • Consultation and other submissions: CAO-RES-14 (Table 6-6).
AQ-RES-43	Doctors for the Environment (ANON-XJVE-DUK6-Q)	<p>This submission was provided as an uploaded document. The submission relates GHG emissions and in particular to the impacts of climate change on human health.</p> <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>

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			<p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8). • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
AQ-RES-44	Albany Community Environment Centre (ACEC) (ANON-XJVE-DUKS-M)	<p><i>Woodside proposes to create three new projects to expand Liquefied Natural Gas (LNG) production in WA. The ACEC object to these proposals due to Greenhouse Gas emissions, marine environment and impact on cultural heritage.</i></p> <p><i>Greenhouse Gas Emissions</i></p> <p><i>According to Woodside:</i></p> <p><i>“We propose to create a regional LNG hub on the Burrup Peninsula, where we have been safely and reliably operating for more than 30 years. Our vision for the Burrup Hub involves the proposed development of some 20 to 25 trillion cubic feet of gross dry gas resources from Scarborough, Browse and Pluto,</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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		<p><i>relying on our proven LNG facilities – Pluto LNG and the Karratha Gas Plant.”</i></p> <p><i>“The Burrup Hub could process more gas than the entire volume extracted from the north west shelf since startup in 1984.”</i></p> <p><i>https://www.woodside.com.au/our-business/burrup-hub</i></p> <p><i>Woodside - YouTube</i></p> <p><i>In page 17 of the Executive review of the proponent states that:</i></p> <p><i>“The Proposal will contribute up to 0.03% of global greenhouse gas emissions and this contribution is assessed as contributing to a slight impact (i.e. increase) to global emissions.”</i></p> <p><i>How was the figure of 0.03% of global greenhouse gas emissions arrived at? Does it include the emissions of the gas being burned by consumers, or only the emissions produced by mining and processing? What is the actual amount? Please provide more detail.</i></p> <p><i>“It was not possible to quantitatively assess the impact of the Proposal to any regional, state or global climate changes.”</i></p> <p><i>Why is a quantitative assessment of impacts on climate change not possible? Surely if a percentage is known, it is possible to access local global, Australia, and statewide climate modeling (as has been done regionally on page 40 of the document) and note that known impacts of climate change the project will be contributing to?</i></p> <p><i>“While the Proposal will contribute directly to a slight increase in global greenhouse gas emissions, natural gas has the potential to contribute significantly to the reduction in global greenhouse gas emissions by displacing higher carbon intensive power generation</i></p>	<ul style="list-style-type: none"> • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-8: The role of gas in the future energy mix (Section 4.9). <p>With respect to the quantitative assessment of impacts on climate change, the statement quoted in the submission refers to the NWS Project Extension ERD (not the proposed Browse Project draft EIS/ERD). As stated in the proposed Browse Project EIS/ERD, “it is estimated that Scope 1 and 3 emissions from the proposed Browse to NWS Project will contribute in the range of 0.06% to 0.15% of global GHG emissions depending on the NDC scenario considered”. Further, the draft EIS/ERD discusses potential impacts of climate change on receptors.</p> <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-18 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine fauna: MF-RES-9 (Table 6-5).

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		<p><i>(e.g. coal-gas energy switch). As such, the Proposal may result in a net reduction in global emissions.”</i></p> <p><i>What specific trade agreement ensures that LNG from these projects will actually be displacing any other high carbon energy sources, and to a significant enough level to meet Australia’s commitments to the Paris Agreement of “limiting global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees”?</i></p> <p><i>With growing global population and energy demands, is it not likely that natural gas will be used as well as other high carbon energy sources? Will not this set of proposals result in LNG producing nearly half of W.A.’s Greenhouse Gas emissions? Might this be worth mentioning in the Environmental Revision Document?</i></p> <p><i>Liquefied Natural Gas (LNG) is methane (APPEA – What is LNG?), a greenhouse gas with a radiative forcing of at least 84 times CO2 within twenty years (Myhre et al Pg. 74). The Australian Petroleum Production & Exploration Association (APPEA) states “Electricity produced from gas produces 50-70% less greenhouse gas emissions than current coal-fired power generation facilities.” (APPEA – How Natural Gas can Minimise Greenhouse Emissions) however, when considering full life-cycle assessment and including fugitive emissions LNG can have higher emissions than coal (Jamarillo et al), and the APPEA’s and Woodside’s statements are thus worth examining in light of possible bias and comprehensiveness. Additionally, gas is not even mentioned as a viable Energy System Transition in the IPCC’s Special Report ‘IPCC, 2018: Global Warming of 1.5°C...’ (pg.s 324-327) and again an industry bias in advertising it as such is worth critiquing.</i></p>	

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		<p><i>Cultural Heritage</i></p> <p><i>Additionally, due to emissions on a local scale, will not the projects' release of nitrogen dioxide and sulphur dioxide increase acidification leading to the degradation of Murujuga/Burrup Peninsula rock art? (Are not acidity levels on the surface of rocks adjacent to the Woodside LNG facility now 1000 times higher than before industry was established there in the 1980s?) The projects are not consistent with maintaining priceless, irreplaceable rock art.</i></p> <p><i>Marine Life (Please refer to Table 6-5 for responses in relation to potential impact impacts to marine fauna)</i></p> <p><i>The waters around the proposed site of the works are home to many species that are listed as critically endangered, endangered or vulnerable including turtles and sea snakes and interrupts the migratory path of multiple species of cetaceans.</i></p> <p><i>Of the following marine mammals who migrate through the area, the first is listed as Vulnerable under the EBPC: Humpback whale (<i>Megaptera novaeangliae</i>), Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>), Indian Ocean bottlenose dolphin (<i>Tursiops aduncus</i>), and Dugong (<i>Dugong dugon</i>). As well as a Critically Endangered Short-nosed Sea snake (<i>Aipysurus apraefrontalis</i>)</i></p> <p><i>The region hosts several migratory turtles, the first two Endangered and the last three Vulnerable under the EBPC: Leatherback Turtle, Leathery Turtle, Luth (<i>Dermochelys coriacea</i>),</i></p> <p><i>Loggerhead Turtle (<i>Caretta caretta</i>), Green Turtle (<i>Chelonia mydas</i>), Hawksbill Turtle (<i>Eretmochelys coriacea</i>) and the Flatback Turtle (<i>Natator depressus</i>).</i></p> <p><i>Woodside's Environmental Revision Document shows Biologically Important Areas (BIAs) for Humpback</i></p>	

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		<p><i>Whales (as well as for Flatback, Green, and Hawksbill turtles) within the development envelope. In the case of Humpback Whales, what is being done to ensure that there will be no impact from the project on the whale's as they migrate? What is being done to ensure that there will be no impact from the project on the other marine mammals and reptiles?</i></p> <p><i>We urge rejection of the project, as it is inconsistent with decreasing greenhouse gas emissions, as well as impacting cultural heritage and marine life.</i></p> <p><i>References</i></p> <p><i>North West Shelf Project Extension – Environmental Revision Document - Revision 1 – December, EPA Assessment No. 2186, EPBC 2018/8335 2019 - Woodside</i></p> <p><i>https://www.woodside.com.au/our-business/burup-hub</i></p> <p><i>Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura and H. Zhang, 2013: Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.</i></p> <p><i>https://www.appea.com.au/oil-gas-explained/oil-and-gas/what-is-liquefied-natural-gas-lng/</i></p>	

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		<p>https://www.appea.com.au/industry-in-depth/policy/greenhouse/how-natural-gas-can-minimise-greenhouse-emissions/</p> <p>Australian Petroleum Production & Exploration Association (APPEA)</p> <p>Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electricity Generation</p> <p>Jamarillo et al Environ. Sci. Technol. 2007, 41, 6290-6296 Australia 1.46% of global emissions 541 924 Gg CO₂-e 2013 (excluding land use...)</p> <p>United Nations Framework Convention on Climate Change (UNFCCC) Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015</p> <p>IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.</p>	
AQ-RES-45	ANON-XJVE-DUK1-J	<p><i>I am a resident of [redacted] and I don't care how significant the financial benefits of this project may be - I am 100% against this proposal. We are in a climate emergency and the last thing we need is a project like this. To even contemplate this proposal displays how selfish we are as a country. We have already seen significant impacts of climate change in all parts of the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p>

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		<p><i>world, obviously this has recently been evident in Australia with the bushfires and floods. We MUST lead by example to the world and reduce our carbon emissions, not approve new projects like this!! The suffering of wildlife due to climate change caused disasters is truly devastating, and to add fuel to this already out of control fire that is climate change is utterly disgraceful.</i></p> <p><i>For the record, I am a [redacted] and I would personally benefit from a booming economy - but some things a more important than a sugar hit from the fossil fuel industry. I prioritise the protection of nature above my personal pay cheque and its time others did the same.</i></p> <p><i>Please, set an example to Australia and the world by putting a stop to this project.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
AQ-RES-46	The Beeliar Group (ANON-XJVE-DUKC-4)	<p>Submission relates atmospheric emissions (including GHG emissions) includes 50 submission grouped into the following 20 topics.</p> <ul style="list-style-type: none"> • suggested outcomes from the State and Commonwealth assessments • Woodside and the joint venture partners have failed to mitigate their companies' exposure to climate risk • decision—makers must consider the Paris Agreement mitigation objectives • the proposals are not ecologically sustainable development • the two proposals are inextricably linked, and the separate assessments obscure the overall carbon footprint 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5)

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		<ul style="list-style-type: none"> • decision—makers must consider cumulative emissions • decision-makers must recognise that all greenhouse gas emissions contribute to climate change • for the Commonwealth assessment, the relevant events or circumstances for the Scope 1 and Scope 3 emissions are the physical effects associated with climate change • decision-makers should not apply a simple mechanistic notion of causation in assessing impacts and should consider Australia’s partial responsibility for climate change • a basis for evaluating the significance of a project’s emissions • decision-makers should not accept Woodside’s claims of emissions reductions if LNG displaces coal in import countries and should instead accept Woodside’s admission that the correct proposition is that gas has benefits over coal in generating electricity • failure to consider the IPCC Special Report on Global Warming of 1.5 °C • IEA perspectives on LNG & IEA scenarios • emission intensities for LNG derived from the Browse reservoirs • in adequacy of measures to avoid and reduce greenhouse gas emissions, need for carbon capture and storage, inadequacy of offsets for residual greenhouse gas emissions • Woodside uses an internal carbon price to guide its decision-making and is well positioned to 	<ul style="list-style-type: none"> • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).

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		<p>accommodate offset costs for all residual emissions</p> <ul style="list-style-type: none"> • the offsetting of all residual emissions is practicable • methane emissions & Methane Guiding Principles • LNG is a driver of a rise in greenhouse gas emissions in Australia and Western Australia • the current Commonwealth framework does not adequately constrain greenhouse gas emissions and is best seen as setting a floor for the regulation of large facilities. <p>The full submission can be found in Error! Reference source not found.</p>	
AQ-RES-47	ANON-XJVE-DUKM-E	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • ecological risk to marine communities surrounding Scott Reef • potential impacts to marine fauna including listed threatened and migratory species that frequent the development area, particularly as a result of light and underwater noise emissions • the potential for ecological disasters as a result of unplanned hydrocarbon releases and resultant impacts on Scott Reef and marine fauna • potential impacts to the Murujuga Petroglyphs as a result of air emissions on the Burrup Peninsula • GHG emissions, and particular: <ul style="list-style-type: none"> ○ emissions intensity ○ historical air quality monitoring ○ Australia’s obligations in respect to the Paris Agreement. 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>Note that the submission states that reservoir emission in Commonwealth waters have not been included in calculations of total emissions. Woodside confirms that as per Chapter 7 of the draft EIS/ERD, reservoir emissions have been included in the emissions calculations.</p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7). <p><u>Air quality</u> With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p> <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Benthic habitats and communities: BCH-RES-10 (Table 6-3) Marine environmental quality: MEQ-RES-5 (Table 6-4) Marine fauna: MF-RES-10 (Table 6-5) Consultation and other submissions: CAO-RES-7 (Table 6-6).
AQ-RES-48	ANON-XJVE-DUKR-K	<p><i>WA is the only Australian state with increasing greenhouse gas emissions (GHGe). Australia's emissions also continue to increase, with it not being on track to achieve its Nationally Determined Contribution/target under the Paris Agreement. This target has been considered as insufficient to achieve the objectives of the Paris Agreement and limiting global warming to 1.5°C, meaning that our ability to</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u> With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p>

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		<p><i>reach this insufficient target is even more shocking. The recent report by the IPCC confirms the importance of limiting warming to 1.5°C in order to avoid adverse impacts to the environment and people. Scientific experts have revealed that climate change has already had demonstrated adverse impacts on WA and has significant predicted impacts. To avoid these impacts, scientific evidence reinforces that global warming must be limited to 1.5°C, which requires rapid reductions in GHGe. This is supported by the EPA's proposed new environmental objective for the Environmental Factor Guideline for Greenhouse Gas Emissions, which is to reduce net GHGe and in order to minimise the risk of environmental harm associated with climate change.</i></p> <p><i>First and foremost, the separation of the Woodside's "Burrup Hub" project into separate proposals, is inappropriate. It is clear from Woodside's website and diagrams that the proposals are all connected to each other. Assessing each proposal individually has prevented the total, cumulative and aggregated impact of GHGe from the total project from being considered. These must be considered by the EPA and DoEE in assessing the Browse Proposal.</i></p> <p><i>The total (scope 1 and 3) GHGe of the proposed Browse to NWS Development (Browse Proposal) are estimated to be 36.8 MtCO₂-e per annum. This means that the Browse Proposal will contribute 0.09-0.15% of global GHG emissions in 1.5°C and 2°C NDC pathways respectively. This will increase WA, Australian and global GHGe, and therefore is not consistent with limiting warming to 1.5°C, or reducing Australia or WA's GHGe, or the EPA's environmental objective of reducing net emissions.</i></p> <p><i>The mitigation and offsetting measures proposed by Woodside in the EIS/ERD only propose to avoid,</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • GHG-11: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).

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		<p><i>reduce or offset a very small proportion of the Browse Proposal's total GHGe. In particular, Woodside only proposes to offset GHGe that it is already legally required to offset under the Safeguard Mechanism, as a result of exceeding the baseline. The Safeguard Mechanism has been heavily criticised for being ineffective in reducing emissions, so the fact that the Browse Proposal exceeds its baseline under this Mechanism demonstrates that it is clearly unacceptable. If the Browse Proposal is allowed to proceed, it must at the very least be required to achieve a net reduction outcome and net zero emissions by 2050.</i></p> <p><i>While Woodside relies on market substitution claims (that LNG will replace coal and reduce global GHGe), it fails to sufficiently substantiate these claims. Accordingly, these claims cannot be accepted by the EPA or DoEE.</i></p> <p><i>The Browse Proposal is also clearly inconsistent with the environmental/ESD principles in the EP Act and the EPBC Act, Australia's international obligations and NDC under the Paris Agreement and the WA Government's net zero emissions target announced late last year.</i></p> <p><i>Given the above and adverse impacts the substantial GHGe from the Browse Proposal will have on species, ecosystems and and social, economic and cultural impacts, it cannot be considered acceptable or allowed to proceed. The EPA and DoEE must therefore recommend against approval of the Browse Proposal.</i></p>	
AQ-RES-49	ANON-XJVE-DUKB-3	This submission was provided as an uploaded document. The submission relates to:	We acknowledge the comments made and provide the following information in response to the matters raised.

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		<ul style="list-style-type: none"> • potential issues in relation to future decommissioning and impacts on the marine environment • potential impact to the marine environment from the installation of Project infrastructure • socio-economic impacts and benefits • GHG emissions including potential impact of climate change on a wide range of receptors including the world’s oceans • potential impacts to national heritage values including rock art • potential impacts to human health as a result of air emissions. <p>The full submission can be found in Error! Reference source not found.</p>	<p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Responses to Submission (Section 3.3.2, Table 3-9).</p> <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-2 and AQ-3 in the NWS Project Extension ERD Responses to Submission (Section 3.1.3, Table 3-3).</p> <p>It should be noted that this submission speaks to air emissions from the NWS Projects onshore infrastructure and the technology used with respect to NOx emissions. With respect to concerns raised in relation to the technology used by the NWS Project on the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-KIR-1 in the NWS Project Extension ERD Responses to Submission (Section 3.1.2, Table 3-2).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p>

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			<ul style="list-style-type: none"> Marine environmental quality: MEQ-RES-6 (Table 6-4) Consultation and other submissions: CAO-RES-8 (Table 6-6).
AQ-RES-50	ANON-XJVE-DUKV-Q	<p><i>The appropriate conclusion and recommendation for the EPA to draw in relation to this proposal is simple. Essentially, the EPA can either recommend that new emissions be allowed, or recommend that they should not be allowed. It seems fairly common sense as to which of these would be consistent with its statutory obligations and the expectations of the community.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
AQ-RES-51	Australian Marine Conservation Society (AMCS) submission to North West Shelf assessments 2191 and 2186	<p>This submission was provided as an uploaded document.</p> <p>The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions and in particular, the need to reduce carbon emissions, Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy. potential cumulative impacts Scott Reef and the ability to understand these potential impacts adequately enough to be able to assess them. potential impacts to marine fauna and critical habitat for endangered species, including marine turtles and cetaceans. <p>Note that the submission refers to and supports other submissions from the conservation section including the Conservation Council of Western Australia (CCWA) rather than providing detailed comments. The submission registers opposition for the proposal due to</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>CCWA submission</u></p> <p>The AMCS submission expresses support for the CCWA submission. Woodside’s response to the CCWA submission is provided in response AQ-RES-53 (Table 6-2).</p> <p><u>Air quality (GHG emissions)</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11)

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		<p>concerns with respect to carbon pollution and impacts on marine life.</p> <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Benthic habitats and communities: BCH-RES-11 (Table 6-3) • Marine fauna: MF-RES-11 (Table 6-5).
AQ-RES-52	CCWA / Clean State	<p>This submission was provided as uploaded documents. The submission includes two parts:</p> <ul style="list-style-type: none"> • Browse Burrup Hub Report - a detailed report on carbon emissions from the proposed Burrup Hub project, as well as environmental and heritage impacts. • A submission that summaries the outcomes of the Browse Burrup Hub Report and provide further specific comment on the proposed Browse Project GHG emissions. <p>The submissions specifically relate to:</p> <ul style="list-style-type: none"> • GHG emissions and climate change particularly in relation to: <ul style="list-style-type: none"> ○ the magnitude of emission from the proposed Burrup Hub Proposals ○ the carbon intensity of Browse gas including methane content and global warming potential ○ global gas demand projections ○ cumulative GHG emission from the Burrup Hub Proposals 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7)

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		<ul style="list-style-type: none"> ○ latest climate science, carbon budgets and global analysis of climate change trends and impacts ○ Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy ○ coal to gas switching the role of gas in the future energy mix ○ Woodside’s efforts to avoid and reduce carbon emissions from the proposed Browse Project ○ mitigation efforts for the NWS LNG facility ○ offsetting and the SGM ● impacts on cultural heritage - Murujuga rock art ● risks to the health of people and communities from atmospheric emissions on the Burrup Peninsula ● potential impacts to marine life including endangered marine and migratory species from subsea drilling, seismic testing, industrial noise, light pollution, and heavy shipping operations ● risks from fracking to supply gas to Burrup Hub ● socio-economic impacts ● risk to investors and shareholders. <p>Note that the submission makes reference to the NWS Project Extension ERD. Where the submission relates to the NWS ERD and not the proposed Browse Project, this part of the submission has been addressed in the NWS Project Extension ERD Response to Submissions. The full. The full submission (both documents) can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> ● GHG-8: The role of gas in the future energy mix (Section 4.9) ● GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) ● GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the following responses in the NWS Project Extension ERD Response to Submissions</p> <ul style="list-style-type: none"> ● GHG-51 (Table 3-7, Section 3.2.3) ● SS-RA-46 (Section 3.3.3, Table 3-10). <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to SS-RA-18 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-3).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> ● Marine fauna: MF-RES-12 (Table 6-5) ● Consultation and other submissions: CAO-RES-9 (Table 6-6).

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AQ-RES-53	Conservation Council of Western Australia (CCWA)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.. Note that the Browse Burrup Hub Report prepared by Clean State and referenced above was also submitted by CCWA. This report can be found in Error! Reference source not found.. The submission relates to:</p> <p><u>Consultation and other submissions</u></p> <p>The specific concerns raised by CCWA in relation to consultation and other submissions are provided in CAO-RES-10 (Table 6-6).</p> <p><u>GHG emissions and climate change</u></p> <p>The submission raised concerns in relation to:</p> <ul style="list-style-type: none"> • the magnitude of emission from the proposed Burrup Hub Proposals and its acceptability • the impact of climate change on environmental receptors • cumulative GHG emission from the Burrup Hub Proposals • Woodsides efforts to avoid and reduce carbon emissions from the proposed Browse Project • Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy • coal to gas switching the role of gas in the future energy mix • latest climate science, carbon budgets and global analysis of climate change trends and impacts • mitigation efforts for the NWS LNG facility • offsetting and the SGM • coal to gas switching the role of gas in the future energy mix 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).

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		<ul style="list-style-type: none"> • the Principles of Ecologically Sustainable Development including: <ul style="list-style-type: none"> ○ Precautionary principle ○ Principle of intergenerational equity ○ Principle of biological diversity and ecological integrity ○ Improved valuation, pricing and incentive mechanisms • acceptability under the EP Act including: <ul style="list-style-type: none"> ○ Emission reduction measures - CCWA emphasise that for the Proposal's GHGe to be considered consistent with the EPA's environmental objective and acceptable under the EP Act, it must achieve a net reduction in GHGe. As this measure will result in the Proposal increasing WA's GHGe, they cannot be considered acceptable. ○ Offsetting measures – CCWA emphasise that the cost or convenience of offsetting measures is not a valid consideration for the EPA. If the Proponent cannot effectively reduce or offset all the Proposal's residual emissions to achieve a net reduction outcome, the Proposal cannot be considered environmentally acceptable or consistent with the EPA's GHG Guideline. ○ CCWA's position is that given the information provided in the submission and the inadequacy of the proposed mitigation and offsetting measures, it is clear that the Proposal will increase, rather than reduce, GHGe and climate change impacts and 	<p>Note that as described in Section 4.4, Woodside has prepared a GHG Management Plan for the proposed Browse Project and has attached the plan as Error! Reference source not found..</p> <p>With respect to comments made in relation to GHG emissions related to the NWS Project Extension, please refer to response GHG-RES-52 (Section 3.2.3, Table 3-7).</p> <p>With respect to acceptability under the EP Act:</p> <ul style="list-style-type: none"> • Emission reduction measures – the EPA's environmental objective to reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change. Woodside notes that reducing Western Australia's net emissions does not prohibit emissions from industrial activities; rather, it means a reduction and balancing levels of CO₂ emissions with carbon removal beyond natural processes, through carbon offsetting, or removing or sequestering CO₂ from the atmosphere to make up for emissions elsewhere. Given the Scope 1 emissions for the referred scope within Western Australian jurisdiction (i.e. within the State Proposal Area) are <100,000 tpa CO₂e, and the planned mitigation and offsetting measures, Woodside consider that the Proposal is not inconsistent with the EPA Environmental Objective. • Offsetting measures – Further to the above response in relation to emission reduction measures, mitigation will include offsetting of CO₂ emissions in accordance with the SGM requirements. This mechanism will ensure proposed Browse Project emissions meet regulatory requirements, including as implemented to achieve Australia's international aspirations and commitments.

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		<p>therefore cannot be considered environmentally acceptable by the EPA under the EP Act.</p> <ul style="list-style-type: none"> ○ The market substitution claim should not be accepted unless the Proponent can demonstrate the actual reductions they claim in the form of verified carbon credits or other verified accounting mechanism. ○ In CCWA’s view, the impacts of the Proposal’s substantial GHGe are not consistent with, or acceptable under, the environmental principles of the EP Act <ul style="list-style-type: none"> • acceptability under other aspect or receptor requirements including State, Federal and International standards, laws, policies and guidelines including: <ul style="list-style-type: none"> ○ In relation to the acceptability of the Proposal under the Paris Agreement, the Proponent merely states that the Proposal has the potential to contribute to the reduction in global GHGe by displacing higher carbon intensive power generation (e.g. coal burning). As addressed above, these claims of market substitution are not sufficiently substantiated or proven by credible evidence. Accordingly, allowing the Proposal to proceed, without mitigation or offsetting measures that can effectively ensure that its substantial GHGe are reduced or achieve a net benefit outcome, is inconsistent with the objectives of the Paris Agreement. ○ The draft EIS/ERD acknowledges that the emissions reduction task to achieve Australia’s 	<ul style="list-style-type: none"> • Effect of Proposal on GHG emissions – as detailed in GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) ERM undertook a life cycle assessment (LCA) of the proposed Browse Project and Scarborough Development. ERM’s independent expert analysis, critically reviewed by CSIRO, shows the proposed Browse and Scarborough projects could avoid 650 Mt of CO2 equivalent (CO2-e) emissions (392 Mt for the proposed Browse Project) between 2026 and 2040 by replacing higher emission fuels in countries that need our energy. • Market substitution – refer to above response in relation to the effect of the Proposal on GHG emissions. • Environment principles of the EP Act – please refer to ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12). <p>With respect to acceptability under other aspect or receptor requirements including State, Federal and International standards, laws, policies and guidelines, please refer to:</p> <ul style="list-style-type: none"> • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) <p><u>Air quality</u></p> <p>Woodside notes that the approach taken of directing the reader to the NWS Project Extension ERD with respect to potential impacts in relation to third party processing of Browse gas is consistent with the approved Environmental Scoping Document for the assessment under the EP Act.</p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World</p>

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		<p>NDC is currently 328 MT CO₂-e. Despite the Proposal having the potential to increase Australia’s emissions, the Proponent states in the draft EIS/ERD that it is not expected to prevent Australia meeting its NDC commitments.⁴⁰ In our view, this argument is completely false and unfounded. By causing substantial GHGe, the Proposal will increase Australia’s GHGe and further jeopardise our ability to achieve our insufficient NDC. Accordingly, the Proposal is not consistent with Australia’s NDC commitments under the Paris Agreement.</p> <ul style="list-style-type: none"> ○ In our view, allowing the Proposal to proceed with a maximum lifetime of 44 years and substantial additional GHGe cannot be considered consistent with the target of net zero GHGe by 2050. Given WA’s GHGe continue to increase, achieving net zero emissions implies a decrease, rather than increase, in emissions. <p><u>Air quality</u> The submission raises concerns with respect to:</p> <ul style="list-style-type: none"> • onshore processing of the Browse gas by the NWS JV, being addressed within the ERD for the NWS Project Extension Proposal (EPA 2186, EPBC 2018/8335) • lack of consideration of indirect and cumulative impacts of emissions on rock art • potential impacts on human health. <p><u>Environmental values of Scott Reef</u> The specific concerns raised by CCWA in relation to marine environmental quality and impacts to the</p>	<p>Heritage listing nomination, please refer to the response to SS-RA-47 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-21 in the NWS Project Extension ERD Response to Submissions (Section 3.1.3, Table 3-3).</p> <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-7 (Table 6-4) • Marine fauna: MF-RES-13 (Table 6-5) • Consultation and other submissions: CAO-RES-10 (Table 6-6).

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No.	Submitter	Submission and/or issue	Response to comment
		<p>environmental values of Scott are provided in response MEQ-RES-7 (Table 6-4).</p> <p><u>Marine fauna</u></p> <p>The specific concerns raised by CCWA in relation to marine fauna are provided in response MF-RES-13 (Table 6-5).</p>	
AQ-RES-54	CCWA / Climate Analytics	<p>This submission was provided as two uploaded documents:</p> <ul style="list-style-type: none"> • A 1.5°C Compatible Carbon Budget for Western Australia • impact of Burrup Hub for Western Australia’s Paris Agreement Carbon Budget. <p>These submissions analyse the impact of the Burrup Hub LNG projects for Western Australia’s carbon budget under the Paris Agreement and its net zero emissions 2050 goal, building on a study published earlier on Western Australia’s carbon budget under the Paris Agreement.</p> <p>Both of these submissions can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>Woodside notes that key to the reports provided by Climate Analytics is the assumption on page 2 of “A 1.5°C Compatible Carbon Budget for Western Australia” which states</p> <p><i>“To develop a carbon budget for Western Australia, we draw upon the modelling framework that gives these global results and apply it within the West Australian context so that the CO2 emissions budget as well as the energy system transformation dynamics are consistent with the global results.”</i></p> <p>Climate change is a global issue and the response should be substantially coordinated internationally, or by national governments acting upon international agreements.</p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10).
AQ-RES-55	DWERDT247368 CMS17489 (name redacted)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular the offsetting and abatement of reservoir emissions • the potential for the establishment of a Pilbara Carbon Capture and Storage Hub • produced water discharges from FPSO. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to concerns raised in relation to GHG emissions, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10). <p>With respect to the establishment of a Pilbara Carbon Capture and Storage Hub, there is currently no proposal for such a facility. As such, it cannot be considered as part of the assessment of the proposed Browse Project.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to PR discharge from the FPSO facilities, please refer to:</p> <ul style="list-style-type: none"> Marine environmental quality: MEQ-RES-8 (Table 6-4).
AQ-RES-56	Friends of Australian Rock Art Inc (FARA) (ANON-XJVE-DUKA-2)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions and in particular the cumulative emissions from the Burrup Hub projects, impacts to receptors from climate change and planned mitigation and offsetting measures potential impacts to Murujuga Rock Art potential impacts to human health resulting from air emissions. <p>The full submission can be found in Error! Reference source not found. It should be noted that the majority of the submission related to the NWS Project Extension ERD. Where the submission relates to the NWS Project Extension ERD, the submission has been addressed within the NWS Project Extension ERD Response to Submissions.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site, please refer to the following responses in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10):</p> <ul style="list-style-type: none"> • SS-RA-36 (Section 3.3.3, Table 3-10) • SS-RA-37 (Section 3.3.3, Table 3-10) • SS-RA-38 (Section 3.3.3, Table 3-10) • SS-RA-39 (Section 3.3.3, Table 3-10) • SS-RA-40 (Section 3.3.3, Table 3-10) • SS-RA-41 (Section 3.3.3, Table 3-10). <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-23 of the NWS Project Extension ERD Response to Submissions (Section 3.1.3, Table 3-3).</p>
AQ-RES-57	Submission on Browse-Burrup Hub_Redacted	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • socio-economic considerations of the proposed Browse Project • GHG emissions and potential impacts on Australia's heritage and environmental receptors. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
			<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Consultation and other submissions: CAO-RES-11 (Table 6-6).
AQ-RES-58	Wilderness Society of WA	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • impact on marine fauna including seabird and migratory shorebirds, marine mammals, marine reptiles and fish • impacts on marine water quality and in particular the use of Non-water based drilling fluids (NWBF) • GHG emissions. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>The submission states that Wilderness Society of WA agrees with the findings and recommendations contained in Sustainable Energy Now's assessment submission. As such, with respect to GHG emissions, the reader is referred to response AQ-RES-34 above which provides Woodsides response to the Sustainable Energy Now submission.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-9 (Table 6-4) • Marine fauna: MF-RES-14 (Table 6-5).
AQ-RES-59	ANON-XJVE-DUMB-5	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular: <ul style="list-style-type: none"> ○ the substantial increase in GHG emissions which will compound the impacts of climate change on Australia and the world ○ the fugitive release of methane and nitrous oxide during gas extraction and processing. ○ lack of cumulative accounting 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ Woodside claims that gas is cleaner than coal ○ gas as a transition fuel and coal to gas switching ○ the prospect of Browse becoming a stranded asset ● potential impacts to cultural heritage including Murujuga Rock Art and specifically: <ul style="list-style-type: none"> ○ the NWS Project Extension Cultural Heritage Management Plan ○ sulphur dioxide and nitrogen dioxide emissions ● The negative impacts of emissions on human health include the effects of climate change and poor air quality for local Indigenous communities, residents of Dampier and Karratha, visitors to Murujuga, and industry workers on the Burrup peninsula <p>The full submission can be found in Error! Reference source not found. It should be noted that the majority of the submission relates to the NWS Project Extension ERD. Where the submission relates to the NWS Project Extension ERD, the submission has been addressed in the NWS Project Extension ERD Response to Submissions.</p>	<ul style="list-style-type: none"> ● GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) ● GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) ● GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) ● GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) ● GHG-7: Lower and zero carbon energy sources (Section 4.8) ● GHG-8: The role of gas in the future energy mix (Section 4.9) ● GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-34 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p>With respect to concerns raised in relation to public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-EPA-1 of the NWS Project Extension ERD Response to Submissions (Section 3.1.1, Table 3-1).</p>
AQ-RES-60	ANON-XJVE-DUVK-Q (redacted), ANON-XJVE-DUVZ-6	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> ● industrial development on the Burrup Peninsula 	<p>We acknowledge the comments made and provide the following information in response to the matters raised. P</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • the risk posed by the proposed Browse Project in consideration of the increased GHG emissions that will result, the declining market for gas and the environmental risks posed • monitoring of Emissions on the Burrup • the World Heritage Listing for the Rock Art on the Burrup and potential impacts from emissions • GHG emissions and in particular: <ul style="list-style-type: none"> ○ Australis obligations under the Paris agreement and penalties that should be applied if targets are not met ○ Technologies available to reduce emissions from NWS Project processing facility to net zero ○ the global shift to non-fossil fuel based technologies • potential impacts to human health from emissions on the Burrup Peninsula. <p>The full submission can be found in Error! Reference source not found. It should be noted that the majority of the submission relates to the NWS Project Extension ERD. Where the submission relates to the NWS Project Extension ERD, the submission has been addressed in the NWS Project Extension ERD Response to Submissions.</p>	<p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p>With respect to the concerns raised relating to GHG emissions specific to the NWS Project Extension, please refer to the response to GHG-27 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7)</p> <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World</p>

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No.	Submitter	Submission and/or issue	Response to comment
			<p>Heritage listing nomination, please refer to the response to SS-RA-28 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p> <p>With respect to concerns raised in relation to emissions monitoring and public health impacts from emissions from the Burrup Hub on the Burrup Peninsula, please refer to the response to AQ-10 of the NWS Project Extension ERD Response to Submissions (Section 3.1.3, Table 3-3).</p>
AQ-RES-61	ANON-TCUY-7GQ2-6	<p>This submission was provided as an uploaded document.</p> <p>Note that while this submission has been submitted in response to the proposed Browse Project draft EIS/ERD (and title re: Proposed Browse to NWS Project – State Component), the contents relate primarily to the NWS Project Extension ERD, including reference to the nominated preliminary key environmental factors, emissions estimates and rock art. Where the submission relates to the NWS Project Extension ERD, the submission has been addressed in the NWS Project Extension ERD Response to Submissions.</p> <p>In relation to the proposed Browse Project, the submission relates primarily to:</p> <ul style="list-style-type: none"> • the potential impacts associated with an unplanned hydrocarbon release on marine environmental quality • the newly identified species of siphonophores • socio-economic impacts. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised relating to GHG emissions specific to the NWS Project Extension, please refer to the response to GHG-29 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p> <p><u>Air quality</u></p> <p>With respect to the concerns raised relating to air emissions on the Burrup Peninsula, please refer to the response to AQ-11 in the NWS Project Extension ERD Response to Submissions (Section 3.1.3, Table 3-3).</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-10 (Table 6-4)

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No.	Submitter	Submission and/or issue	Response to comment
AQ-RES-61	Clean State (petition)	<p>This submission was provided as an uploaded document. The submission is a paper petition submission and has been signed by multiple signatories. The submission states:</p> <p><i>I reject the proposed Browse Basin and North West Shelf gas projects</i></p> <p><i>Dear Dr Tom Hatton (Chairperson EPA WA)</i></p> <p><i>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG.</i></p> <p><i>We cannot allow the Burrup Hub to become the most polluting fossil fuel project in Australia. Every year until 2070, these projects will emit 95mtpa of carbon pollution which is equivalent to 24 of the largest, dirtiest coal fired power station in WA. This will have devastating impacts on our climate for generations.</i></p> <p><i>I strongly urge you to reject Woodside’s proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.</i></p> <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • Consultation and other submissions: CAO-RES-13 (Table 6-6). <p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>GHG emissions</u></p> <p>With respect to the concerns raised in relation to GHG emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

Proforma submissions

The following submissions represent ‘proforma submissions’ where a template of a submission has been prepared by an organisation, enabling members of the public to provide a submission. An option is also often provided to provide additional comments to the submission. Proforma submissions and additional text relating the Air Quality and GHG emissions environmental factor, as well as the Proponent’s response are provided below.

PRO-AQ-RES-1	Proforma submission	<i>Header: Don’t approve the proposed Browse Basin and North West Shelf LNG projects</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :
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No.	Submitter	Submission and/or issue	Response to comment
		<p>Dear [redacted] Chairperson EPA WA, I am writing regarding the proposed Browse Basin and North West Shelf projects. If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.</p> <p>Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years cannot go ahead.</p> <p>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.</p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-2	Proforma submission	<p>Header: Reject the proposed Browse Basin and North West Shelf LNG projects</p> <p>Dear [redacted] Chairperson EPA WA, I am writing in response to the current consultations on the Browse Basin and North West Shelf extension projects. If the proposed Burrup Hub extension projects proceed, the Burrup Hub will be Australia's</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<p><i>largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world.</i></p> <p><i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions</i></p> <p><i>Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia’s policy goal of net zero emissions by 2050</i></p> <p><i>The claims made by Woodside that gas is a ‘clean’ fuel contributing to reduced emissions are unsubstantiated and misleading. In 2019, LNG overtook coal as the most significant driver of pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change.</i></p> <p><i>The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i></p> <p><i>The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside’s proposal.</i></p>	<ul style="list-style-type: none"> • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-3	Proforma submission	<p><i>To [redacted] Chairperson Environmental Protection Authority WA and [redacted] Secretary Department of Environment and Energy,</i></p> <p><i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf (NWS) expansion projects and the catastrophic effect these would have on the ancient petroglyphs of the Burrup Peninsula.</i></p> <p><i>The proposed increase in emissions of sulphur and nitrogen dioxides, mixed with moisture, will form additional strong acids which have been proven to dissolve the rock surface patina and thus the rock carving images which form a vital part of Aboriginal Australia's cultural heritage.</i></p> <p><i>The impacts of this increase in total cumulative emissions on the Burrup Peninsula must be calculated, considered, regulated and monitored. Only then can the actual emissions from the Browse-NWS expansion projects be calculated to estimate the extra harm they will do to the environment and the ancient rock art.</i></p> <p><i>Approvals for the Burrup Hub should not go ahead until the State's government's Rock Art Strategy Stakeholder Committee has activated the promised monitoring program.</i></p> <p><i>"I am totally against it: I don't want any more industry to be built in this area. I've been out here my entire life and there's rock art that I've noticed which is actually starting to fade away. I mean why would UNESCO want to approve World Heritage Listing in a place where they're going to continue to develop more industry... I want to see the rock art given first priority, and I really want to see World Heritage Listing, because it brings protection with it.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-49 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p>[redacted].</p> <p>Quotation from 2019 ABC RN Singing the Stones Radio Documentary https://aus01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.abc.net.au%2Fradionational%2Fprograms%2Fearshot%2Fsinging-the-stones%2F11261158&data=02%7C01%7Cinfo.epa%40dwer.wa.gov.au%7Ca4ded36121374909fe7f08d7afbc2a94%7C53ebe217aa1e46feb88e9d762dec2ef6%7C0%7C0%7C637171095012336814&sdata=%2FUCJ9JRehuAJgdVNH6E1iBVy6zaSdwll7bKFxoR05pE%3D&reserved=0 'The destruction of our country is now out of control with Woodside preparing, with the active assistance of the WA State government, for the wholesale destruction of these ancient carvings that link us spiritually with our ancestors.</p> <p>[redacted]</p> <p>I urge you and the EPA to consider the longevity and well-being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry.</p>	
PRO-AQ-RES-4	Proforma submission (additional text)	<p>I am alarmed that these projects are being considered as, the Burrup Hub would become one of the largest and most polluting fossil fuel Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. There are towns in Western Australia already successfully making use of wind to supply almost half of their town's power needs. We have the technology and the expertise to build more wind farms.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-5	Proforma submission (additional text)	<p>As Australia burns, I write to you regarding the proposed Browse Basin and North West Shelf projects.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-6	Proforma submission (additional text)	<p><i>WA must tackle its emissions through the creation of jobs and investment in renewable technologies, including large-scale solar in the Pilbara and Kimberley which would permit the export of clean, renewable power to our neighbours in Indonesia, Singapore and Timor. We must rapidly move away from all types of fossil fuels, including LNG.</i></p> <p><i>I thank you in advance for your proactive, enlightened stance on this crucial issue.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-7	Proforma submission (additional text)	<p><i>If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand the LNG industry.</i></p> <p><i>I strongly urge you to reject Woodside’s proposal as we should be pursuing the cheap and abundant renewable resources available in WA.</i></p> <p><i>Please advise me of your decision and the reasons for it, by email.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-8	Proforma submission (additional text)	<p><i>You have a duty of care to the people and our environment and wildlife. It is reprehensible that you even entertain the idea of these gas mines. It would be an absolute dereliction of duties to approve this. Our country is on fire. I cry every day because 1.25 billion animals have burned alive holding their babies in their arms. Our irreplaceable forests are burned beyond recognition like an atomic bomb has been dropped on us, and most of our country was already in severe drought. Arsonists started the fires, and climate change is the reason the fires became so big and spread so far. You have no business approving any</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>gas mine that will pump huge amounts of pollution into the air. Our emissions need to go down, it is our commitment in the Paris Agreement and approving these mines would be in failing to live up to our commitment. It would in fact make you culpable in the destruction that will follow and creating the poisonous air we will be breathing. You need to protect life in WA, not a gas mine.</i></p>	
<p>PRO-AQ-RES-9</p>	<p>Proforma submission (additional text)</p>	<p><i>If these projects were to proceed, it would result in one of the largest and most polluting fossil fuel. WA has the resources and technology for a rapid transition to renewable energy. We should be embracing job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution. A large scale LNG project cannot go ahead.</i> <i>We need clean jobs and renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal..[redacted]</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
<p>PRO-AQ-RES-10</p>	<p>Proforma submission (additional text)</p>	<p><i>If the proposed Browse Basin and North West Shelf projects were to proceed, Western Australia would not meet its policy goal of net-zero emissions by 2050. Fossil fuel is dying and to propose such projects harms Australia's more profitable tourism, agricultural and housing industries.</i> <i>WA has the resources and technology to lead the world in a rapid transition to renewable energy, geographically we are in a perfect spot for solar and wind projects. We should be embracing the potential for job opportunities and regional development in the renewables sector.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-11	Proforma submission (additional text)	<p><i>Gas is not part of the solution for climate change, it only emits more carbon into the air, to disastrous effects such as this summer's fatal bushfires. Australia is one of the countries to be hit the hardest by climate change, and so it would likely be destroyed itself by bushfires, storms, cyclones and the rising sea levels set to hit Australia regardless. It is unsustainable and a drain on our natural resources.</i></p> <p><i>I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA, before it is too late to even try.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-12	Proforma submission (additional text)	<p><i>Why do I even have to write this? Why in God's name is it even being considered? Just grow a set & do the right thing, instead of the expedient thing! Please!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
PRO-AQ-RES-13	Proforma submission (additional text)	<p><i>And any further damage and disruption to Burrup is petroglyphs can not be condoned. This is a World Heritage listed site of national and global significance, containing the oldest known portrait of a human being on the planet. It is a place of extreme cultural value and definitely not the location for a gas plant</i></p> <p><i>Also had is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World</p>

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		<i>potential for job opportunities and regionally.</i>	Heritage listing nomination, please refer to the response to GHG-68 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-14	Proforma submission (additional text)	<i>PLEASE think carefully before considering approval of this project. The science tells us we should be very wary of gas. Is it really necessary... do the benefits really outweigh the costs to the whole world. Think globally.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-15	Proforma submission (additional text)	<p><i>There is no doubt in my mind that our devastated Australia has been driven by climate change.</i></p> <p><i>Hotter temperatures and drier conditions in Australia are contributing to a longer fire season. Australia has now burnt through more than 10 million hectares, and killed more than a billion Australian fauna. The incredible toll this heating up crisis is taking on us, our environment, wildlife and air quality is immeasurable. The costs of all the words of politicians, but no real action, has crippled our country</i></p> <p><i>I am very concerned that the gov't's 'business as usual' stance will destroy Australia, unless the government actually acts on the obvious climate change through powerful new legislation, and urgently reduce our emissions. Bear with me a moment - think about it, Australia is already a hot place, what happens when it suddenly gets hotter by a few degrees, remember this is not Greenland where it gets warmer and the ice melts and they can now go outdoors some more. While that happens in Greenland - we're getting cooked!</i></p> <p><i>I urge the EPA not to allow this massive carbon producing demon to destroy us!</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-AQ-RES-16	Proforma submission (additional text)	<p><i>I know it is difficult for some people to believe, but the proposed Browse Basin and North West Shelf projects will be a planetary nightmare, just like the bushfires that are ravaging our country. If we don't meet that goal, we're toast; burnt toast, at that.</i></p> <p><i>Development in carbon farming and the renewables sector. Gas is neither part of the solution for climate change, nor the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years should not even be considered.</i></p> <p><i>Western Australia must reduce its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG.</i></p> <p><i>I strongly urge you to reject Woodside's proposal, and instead pursue the cheap and abundant renewable resources we have here in WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-17	Proforma submission (additional text)	<p><i>We have already seen, Australia-wide, the devastating effects of climate change, with only a 1 degree rise in world temperatures. We cannot afford to add any more carbon-dioxide to the atmosphere.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-18	Proforma submission (additional text)	<p><i>For australia's sake STOP.</i></p> <p><i>The only people to benefit from this project in the long term are the backers and the profiteers. Make a choice for the people, not the magnates!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-19	Proforma submission (additional text)	<i>We MUST get our Energy Policy into THIS century with Clean Renewables - NOT more polluting Fossil Fuels!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-20	Proforma submission (additional text)	<i>Please note I ask this despite the fact that the decision would be financially detrimental to me personally as a Woodside shareholder.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-21	Proforma submission (additional text)	<i>We are 5 years away from enough RENEWABLE energy for the whole planet. Why are we doing this?</i> <i>Isn't the bush-fires raging across the width and breadth of this country a big enough hint to what is happening to the planet?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-22	Proforma submission (additional text)	<i>First, it is disheartening as a citizen to see the strength of influence that the major energy companies have over our state public bodies such as the EPA, paid for by taxation to monitor and mediate international corporate influences not necessarily acting in our best interest. The degree of trust in politicians and their government agencies depends on their performance. The capitulation of the EPA to Woodside in a context of low transparency deserves an erosion of confidence from the public. OK, so big deal that can be ignored. But only in the short term as the banking sector (rock bottom in public trust) found out.</i> <i>I'm objecting to the expansion (without apparent limit or control by government) of the Burrup gas projects. It again reflects the hegemony that international companies have over our government in relation to development of our resources. And we get little for it</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3)

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		<p><i>except higher carbon emissions, temporary employment and persistently high local gas prices.</i></p> <p><i>I want you to show some courage and reinstate forceful controls over these companies and PUBLICLY explain your position -especially if you renege on the independence of your own advice. That, or resign.</i></p> <p><i>In summary, I am writing about your involvement in the current consultations on the proposed Browse Basin and North West Shelf projects, and about your approach to it with the knowledge that emissions will negate the gains made by real efforts (often coming at a personal cost) from caring people and industries with an interest in this country beyond a financial one.</i></p> <p><i>You have the scientific facts at hand. Use them. Carbon emissions from the Burrup Hub will have a negative effect on the environment's carbon levels for lifetime magnitudes.</i></p> <p><i>The global impacts of these projects must be considered in a scientific and humanitarian view, not a monetary viewpoint. The very rich in these companies can avoid global warming consequences - away from rising sea levels, away from violent weather events, away from increases in disease, away from the flood of desperate people moving to first world arenas. Those most negatively affected by climate change are the least able to deal with its impacts. It is for these reasons that I strongly urge you to reject Woodside's proposal.</i></p>	
PRO-AQ-RES-23	Proforma submission (additional text)	<i>Please please think of the climate disaster we are leaving our children and grandchildren.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-24	Proforma submission (additional text)	<p><i>We need to stop supplying easy gas- it's delaying transition to cleaner more renewable forms of power. We need to be 50% cut in emissions by 2030- for a 50% of living on a habitable planet/ not real good odds for my children.opening these projects will seal the dark fate of future generations</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-25	Proforma submission (additional text)	<p><i>As my address below shows, I am not one of your constituents however, the emissions emitted from this proposed project will not recognise the various boundary lines we have imposed on the landscape; they will impact across all sectors of our shared world. If we are to have any chance of limiting global warming to 1.5°, we cannot afford to grant Woodside the approvals required to commence this project</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-26	Proforma submission (additional text)	<p><i>My name is [redacted], and I am from [redacted]. I write to you regarding the proposed Browse Basin and North West Shelf projects, and to formally request that these projects are NOT to be approved. Should these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we truly cannot afford to expand our LNG industry.</i></p> <p><i>We already have the resources and technology for a rapid transition to renewable energy. Instead of starting up more gas projects, we should instead be embracing the potential for job opportunities and regional</i></p> <p><i>WA has already suffered through catastrophic bushfires this season. We cannot go on embarking on heavy carbon emitting projects; it is non-viable for the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p>environment and all living beings, instead, WA needs to look at reducing emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels.</p> <p>Once again, I strongly urge you to reject Woodside's proposal. The risk/cost benefit analysis does not weigh up.</p>	
PRO-AQ-RES-27	Proforma submission (additional text)	<p>Having just spent the last month out fighting fires NSW that scientists link directly to climate change, I implore you on the strongest possible terms to reject the proposal which will undoubtedly exacerbate our current drought, fire and extreme weather problems.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-28	Proforma submission (additional text)	<p>As a final note, my postcode should not negate my high concern. Being a now quite mature Australian, and citizen of this Planet. We will all suffer through ill-advised environmental destruction for short term gain.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-29	Proforma submission (additional text)	<p>This is not the time to be investing in high emissions projects. We must drastically reduce our emissions in line with the science of climate change.</p> <p>Our futures, that of your children and grandchildren are in your hands.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-30	Proforma submission (additional text)	<p>We know that CO2 emissions from fossil fuels are exceeding what the planet can cope with. If the proposed Burrup Hub projects proceed, the Burrup Hub will be</p> <p>The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.</p> <p>Considering approving new LNG projects that will</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<i>continue to pollute at a large scale for the next 50 years is indefensible.</i>	<ul style="list-style-type: none"> GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-31	Proforma submission (additional text)	<i>WE SHOULD BE DEVELOPING AND USING EXISTING RENEWABLE OPTIONS RATHER THAN SUPPORTING AND CONTINIUNG AN INDUSTRY THAT THAT BENEFITS FEW BUT NEGATIVELY AFFECTS EVERYONE.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-32	Proforma submission (additional text)	<i>Please take the environment into consideration and the longer term effects - not just on ourselves but future generations.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-33	Proforma submission (additional text)	<i>Come to Melbourne and breath the most dangerous polluted air in the World if you're happy that is the future.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-34	Proforma submission (additional text)	<i>If you have not noticed the country is burning!!! When the whole world is burning will you stop !!!</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-35	Proforma submission (additional text)	<i>You have the public duty & personal ability to do your job, Save the environment and protect Australia's future, let's we how deep the corruption in WA runs.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-36	Proforma submission (additional text)	<i>I strongly urge you to reject Woodside’s proposal as the state should be pursuing the cheap and abundant renewable resources we have available right here in WA.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-37	Proforma submission (additional text)	<i>Now more than ever before it imperative that everything possible is done to protect every aspect of the environment.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-38	Proforma submission (additional text)	<i>HOW DARE YOU! The life-time emissions of these projects must be considered. It is for these reasons that I strongly INSIST you to reject Woodside’s proposal.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-39	Proforma submission (additional text)	<p><i>If one day, there's a Royal Commission into what corporations were allowed to spew into our atmosphere, knowing what we now know about Climate Change, will you feel comfortable with what the EPA is allowing to go through? I, for one, don't want the Burrup Hub to become the most polluting fossil fuel project in Australia! Do you?</i></p> <p><i>Hence If these projects were to proceed, the Burrup Hub would become one of the largest most polluting fossil fuel projects not just here, but IN THE WORLD. If Western Australia is to meet its policy goal of net-zero emissions by 2050, how can we expand this industry?</i></p> <p><i>Please don't allow pressure from politicians to</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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		<i>influence your ability to do your job and make the right, independent decisions.</i>	
PRO-AQ-RES-40	Proforma submission (additional text)	<i>The last thing we need is a large project that will increase our carbon emissions. We should be 100% focused only on wind, solar and hydro power and lowering fossil fuel exploration and use.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-41	Proforma submission (additional text)	<i>Australia's largest and most polluting ofossil fuel project, and one of the largest fossil fuel developments anywhere in the world.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-42	Proforma submission (additional text)	<p><i>I write in sadness today because our country is facing a long road to recovery after a summer of catastrophic bushfires. These fires have occurred after many warnings, first from science and then from the broader community, that climate change is real and presents an immense threat to the Australian continent.</i></p> <p><i>Scientists tell us that as a global community we must reduce the emission of greenhouse gases by 45% by 2030. That leaves us ten short years to undertake the most challenging restructure of our economy, society and way of life we have ever attempted. I would argue that as a wealthy nation, and as a fossil fuel exporter, Australia and Western Australia should be a leader in this struggle, by refusing to allow any further expansion of fossil fuel extraction.</i></p> <p><i>We simply cannot afford for these Woodside projects</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>to proceed. They would make the Burrup Hub one of the largest and most polluting fossil fuel</i></p> <p><i>It will leave the workers in that industry vulnerable, as those facilities become stranded assets in the near future.</i></p> <p><i>I strongly urge you to reject Woodside’s proposal as the state should be pursuing the cheap and abundant renewable resources we have available right here in WA. Please, do the right thing for us all.</i></p>	
<p>PRO-AQ-RES-43</p>	<p>Proforma submission (additional text)</p>	<p><i>I write as a lay person who on reading the public material available find it incredible that WA is even considering allowing a project that will cause such high levels of pollution.</i></p> <p><i>I’m sure you will receive many fully documented responses but mine is simply from the heart. Do we really need the mantle of having one of the largest and most polluting fossil fuel developments anywhere in the world on our doorstep.</i></p> <p><i>Please reject this on the grounds of common sense and protecting our environment for my 10 grandkids.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-44</p>	<p>Proforma submission (additional text)</p>	<p><i>Every 16 tonne of natural gas combustion provides 44 tonne of CO2 - more than some coals!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-45</p>	<p>Proforma submission (additional text)</p>	<p><i>The devastating climate change related fires of the Eastern Seaboard is a wake up call to every single Australian. We must free ourselves from coal and gas ASAP. Fossil fuel is not the future. You and your committee have the ability to signal change by denying this project.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-46	Proforma submission (additional text)	<i>This month my family & I narrowly escaped losing our home to bushfires. These fires were exacerbated by climate change, fuelled by our mining & export of fossil fuels. It is time to stop any new projects, forgo any extensions & bring to a timely close all ongoing projects, for the sake of our planet. It could only be considered by someone who has already given up on the future of our planet.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-47	Proforma submission (additional text)	STOP FOSSIL FUEL PRODUCTION AND INVEST IN RENEWABLES	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-48	Proforma submission (additional text)	<i>I fully support the following points and I want to make this one first: the current bushfire emergency is a foretaste of what is to come if we do not URGENTLY act to limit greenhouse gas emissions. We cannot afford the proposed extension by Woodside. We cannot afford any expansion of oil, gas and coal - we need to start phasing them out NOW.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-49	Proforma submission (additional text)	<i>As a deeply concerned mother of 5 children, I am very well aware of the impacts of climate change and in particular, the role of fossil fuels in our environment's demise. I am therefore writing with regard to the current consultations on the Browse Basin and North West Shelf extension projects.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-50	Proforma submission (additional text)	<i>Even though I obviously do not live in the area, I am concerned for Australia and the planet and so should you be.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-51	Proforma submission (additional text)	<i>The life-time emissions of these projects and their contributions to global emissions of CO2 and methane must be considered. It is for these reasons that I strongly urge you to reject Woodside’s proposal.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-52	Proforma submission (additional text)	<i>Even though I do not live in WA, this issue is a global issue, concerning all who live on this planet. The one we call home. The one that is unique. The one we must look after. The one we have been destroying. The one that will be subjected to disaster after disaster, because we have not listened, we have been totally out of balance. To restore some balance and avoid total apocalypse, we must act on this without delay. And is a radical way. Climate action demands that we transition to renewable energy and sustainable practices. That we stop new fossil fuel projects. Now.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-53	Proforma submission (additional text)	<i>I object to it taking so long to get this project up and going! What’s wrong with you people, why the hell can’t you approve this wonderful project faster? God speed,</i>	We acknowledge the comments made and thank you for your interest in the proposed Browse Project.
PRO-AQ-RES-54	Proforma submission (additional text)	<i>WE ONLY HAVE ONE PLANET AND IT BELONGS TO ALL LIFE _ PLEASE STOP DESTROYING IT</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-55	Proforma submission (additional text)	<i>If the proposed Burrup Hub extension projects proceed, the Burrup Hub will be Australia’s largest and most polluting fossil fuel project, and one of the largest fossil fuel developments in the world. The extent of emissions that would result from gas</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<p><i>collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.</i></p> <p><i>The science is telling us that the earth has passed a series of critical systems tipping points. (1) We can no longer afford to extract fossil fuels. Doing so is suicide.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-56	Proforma submission (additional text)	<p><i>The life-time emissions of these projects must be considered. We have a responsibility to include all ultimate emissions of any fossil fuels we export. All add to global heating and its disastrous consequences.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-57	Proforma submission (additional text)	<p><i>Tom, for my children, your grandchildren, all the wild and wonderful creatures of this world - we cannot allow this proposal to go ahead. Greed can not be the driving factor here. You can not allow the profits into the pockets of Woodside and the political cowardice and fear of the Government blindsides all the evidence that you and I know screams this is a terrible project to approve. My stomach churns at the thought of it - especially given the time we are in with my friends on the east coast rebuilding their family properties ravaged by fire.</i></p> <p><i>If this project goes ahead we are responsible for future climate damage. How will we look our children and grandchildren in the eyes and tell them we did all we can? The future needs courage and leaders. We are relying on the EPA to lead the way.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-58	Proforma submission (additional text)	<p><i>See the facts below. You cannot let these projects go ahead. Australia will become uninhabitable, or a dangerous place to live (it already is if you look at the fires, one yesterday less than a kilometre from our house) due to climate change. We cannot afford any</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<p><i>more warming caused directly by fossil fuels. I feel betrayed by the Premier of Western Australia [redacted], signing off on no fossil fuels by 2050 and now pushing for this. I do believe our governments are corrupt and in the pockets of Woodside, Chevron, Whitehaven etc because these projects are not in the public interest, let alone the natural environment. They don't care about Koalas who can't move fast enough to escape bushfires.</i></p> <p><i>Please for once, protect our environment. Our children are only 11 years old, I want them to have a world for their life that isn't miserable.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-59	Proforma submission (additional text)	<p><i>I am writing in response to the current consultations on the Browse Basin and North West Shelf extension projects. And I write in the light of the fires now engulfing Australia. It would be an extremely irresponsible action to approve such fossil fuel projects when the emphasis must now be for Australia, and all countries, to leave fossil fuels in the ground and support renewables and transition projects for people and communities. Surely these fires are a wake up call for all.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-60	Proforma submission (additional text)	<p><i>We have seen from the current state of our country that climate change has brought catastrophic consequences to our environment, our food industry, air quality, water supply and therefore peoples lives. This is just the beginning if we don't make drastic changes now. You are there for the people to protect us from this happening. Please step up and enforce these changes to enable a brighter future than we are looking at now.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-61	Proforma submission (additional text)	<i>I am living with bushfires and global warming is already here. Please do not exacerbate the situation. Look to renewables not fossil fuels that will heat the planet even more.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-62	Proforma submission (additional text)	<i>Morally this development is wrong and not complying with the community or international expectations.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-63	Proforma submission (additional text)	<i>Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, and proposed supporting infrastructure like the Subsea 7 pipeline bundle project for Heron Point will breach our international carbon reduction obligations, and push our national</i> <i>At a time when we are seeing the devastating results of climate change caused by rising emissions resulting in horrendous bushfires throughout Australia, it would be sheer madness to allow this expansion to go ahead.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-64	Proforma submission (additional text)	<i>Although not a resident of WA, our current bushfire crises confirm that we can't afford to be parochial about issues facing the planet, therefore</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-65	Proforma submission (additional text)	<i>While I live on the east coast of Australia, right now we are experiencing the predicted impact of a warming and drying climate due to climate change. The bushfires are horrendous. We must reverse the levels</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<i>of carbon pollution we are pumping into our atmosphere or, like a billion animals on the east coast this summer, face extinction.</i>	<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-66	Proforma submission (additional text)	<i>An ecological conversion is overdue!</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-67	Proforma submission (additional text)	<i>It's insane to consider signing any new contracts, any extension or supporting any proposal. Fossil fuel extraction must end.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-68	Proforma submission (additional text)	<i>I can only change how I impact the planet, I'm calling on you to prevent the impact of others, please.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-69	Proforma submission (additional text)	<i>As bushfires rage throughout many parts of Australia we are brought face to face with the necessity of taking positive action to curb climate change. We desperately need to take positive steps to reduce fossil fuel use. Maybe you could invest in solar power</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-70	Proforma submission (additional text)	<i>What we are currently living through in the worst bush fire season in our history is telling a strong message that we simply must heed. We need to stop polluting our earth we don't have another.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-71	Proforma submission (additional text)	<i>As a original western Australian I am horrified you would look at granting any extension to this project. Our country is on fire and the mining and gas fracking have so much to answer for. It is clear that donations (or as we call it bribes) get many of these approved.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-72	Proforma submission (additional text)	<i>LNG is a fossil fuel with pollution at every stage of its development and use, and cannot be considered a solution to address climate change.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-73	Proforma submission (additional text)	<i>We need energy - but it must be renewable energy. Your company's rapacious greed for profit won't be impressive when the planet is dead. Do you really want to go down in history alongside Mr Morrison? Shame on both of you.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-74	Proforma submission (additional text)	<i>The CO2 and other emissions already in the atmosphere have created the bushfires in eastern Australia this summer. These have resulted in 30 deaths, an enormous number of hospital admissions, the loss of livelihoods for countless small businesses, over 1 billion animal deaths, and loss of over 10 million hectares of farmland and natural habitat. The proposed project would lock in even more severe summers in the future.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-75	Proforma submission (additional text)	<i>But of course you pollys won't listen to any of the above, as I see it you are determined to ensure all life on Earth is exterminated in the pursuit of some so-called "economy" for the already privileged. The President of the United States of America [redacted]</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<i>himself, and Prime Minister of Australia [redacted]from marketing are living proof, Do; please prove me wrong?</i>	
PRO-AQ-RES-76	Proforma submission (additional text)	<i>At some time people who have the ability must put a stop to our continuing dependence on fossil fuels and drive the development of new and sustainable technologies. This is the time. You are one of those people, Tom.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-77	Proforma submission (additional text)	<i>When will stop this mindless idea of endless economic and population growth. We are doing to much damage to our planet I have seen it for years a s a farmer.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-78	Proforma submission (additional text)	<i>We must start using our intelligence and act as a planet, for we are all in great peril!.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-79	Proforma submission (additional text)	<i>As a previous resident of WA, I am appalled at the thought that there would be approval for fossil fuel projects in the northwest. As the ongoing drought and fires show, the country is heading on a slippery slope ride to a tipping point in destroying our way of life along with the uniquely Australian environment and wildlife.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-80	Proforma submission (additional text)	<i>The Burrup Hub project proposals are sheer lunacy. Neither Australia nor the world can afford the environmental and human cost. Surely the EPA cannot endorse such an enormous additional contribution to atmospheric pollution, at the very time when the need</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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No.	Submitter	Submission and/or issue	Response to comment
		<i>to drive emissions down is more urgent than ever.</i>	
PRO-AQ-RES-81	Proforma submission (additional text)	<p><i>I am astounded that the political party for which I voted would even consider the proposed development of the 'Burrup Hub'.</i></p> <p><i>This 'Burrup Hub' would be one of the largest fossil fuel developments in the world. And this at a time of our Global Heating Crisis!</i></p> <p><i>The narrow and dying interests of Woodside are desperate to exploit our resources. They are pushing this proposed development where they know there is weak governance.</i></p> <p><i>The world is now faced with a moral imperative</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-82	Proforma submission (additional text)	<i>PLEASE for the sake of my grandchildren and yours, do the right thing and reject Woodside's LNG projects.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-83	Proforma submission (additional text)	<p><i>The emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.</i></p> <p><i>The carbon emissions from the Burrup Hub will have a serious detrimental impact for decades to come.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-84	Proforma submission (additional text)	<p><i>Please find a more Natural and Sustaining method. The Future of the Ecosystem that supports our Race, and all other Living species are at stake. Seek out your Competition and Band Together.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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PRO-AQ-RES-85	Proforma submission (additional text)	<i>It is time to look and preserve the sustainability of our once wonderful planet. For each and every creature and all flora and fauna on earth.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-86	Proforma submission (additional text)	<p><i>As a resident of [redacted] for nearly 10 years North West Shelf gas extraction is the single greatest source of air pollution in our state, dwarfing road vehicle emissions.</i></p> <p><i>In particular, uncontrolled emissions of methane during the extraction process pose a particularly dangerous threat, as they have at least 25 times as great a greenhouse effect as carbon dioxide. Natural gas companies have shown quite a lax approach to stemming such emissions.</i></p> <p><i>Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub would breach our international carbon reduction obligations and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.</i></p> <p><i>I thank you in advance for your enlightened, forward-thinking stance on this crucial issue.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-87	Proforma submission (additional text)	<i>The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time when Western Australia needs to be taking our contribution to global carbon emissions very seriously, and in light of the recent fires, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-88	Proforma submission (additional text)	<p><i>Do you know EPA Chair that the temperature of the earth, land, oceans and atmosphere, has increased by 1% since the industrial revolution?</i></p> <p><i>This seems like a minuscule temperature increase, but the earth has not been this warm for over 50 000 000 years. Life on earth can therefore not adapt to such a sudden increase in temperature, which is what 100 years is in physical adaptation terms.</i></p> <p><i>Life on earth cannot survive the heating of the surface and the atmosphere of the planet because of the shortage of water on land the heating causes. Hence the droughts all over Australia and other parts of the world as well.</i></p> <p><i>The heating of the planet is caused by the burning of fossil fuels such as LNG that loads the atmosphere with CO2. If all the forests, plants, especially the trees had not been bulldozed then perhaps the CO2 may have been absorbed, but there are not enough trees and other plants left, to stop the planet heating.</i></p> <p><i>The oceans have been absorbing heat as well, but that absorption process has slowed down. If you would like to learn more about how the burning of fossil fuels is killing life on earth, you may like to listen to Professor Will Steffen, he's an expert on the effects of temperature increase or climate change if you will. An innocuous term that the IPCC has decided to keep on using, even though they know it is an emergency, but stupidly they do not want people to get anxious. You can ask Professor Mark Howden who is also a climate change expert and on the IPCC.</i></p> <p><i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions. The claims made by</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<p><i>Woodside that gas is a 'clean' fuel contributing to reduced emissions are a lie, unsubstantiated and misleading.</i></p> <p><i>The carbon emissions from the Burrup Hub will have a significant detrimental impact and cause death and destruction for decades to come. At a time where Western Australia needs to be taking contribution to global carbon</i></p>	
<p>PRO-AQ-RES-89</p>	<p>Proforma submission (additional text)</p>	<p><i>As a grandmother and carer of this 1 planet that we live on, I am totally sick and appalled each day, i hear of more and more fossil fuels being spewed into the atmosphere.! Where IS the care and commonsense in the world , seeming run by TOO large company's you included...that put \$ before health. SHAME , shame. sad and sick! writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-90</p>	<p>Proforma submission (additional text)</p>	<p><i>As a grandparent I am deeply concerned about the life-time emissions of these project. As a concerned citizen that I strongly urge you to reject Woodside's proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-91</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects & existing exploitation of Gorgon gas field. Evidence to date indicates that the sequestration of CO2 is both a technical and practical failure and open reporting of progress needs to be openly reported and audited. Further, if more projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel ...</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-92	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. These projects are entirely unacceptable and irresponsible from a global and climate-change perspective!</i></p> <p><i>... development in carbon farming and the renewables sector. Gas is not part of the solution for climate-change, or the solution to sustainably power Western Australia into the future.</i></p> <p><i>Please understand, it is your climate-responsibility and global-responsibility to reject these projects, and any that are not totally and environmentally-sustainable for now and into the future (which includes all coal, oil and gas projects). Our children's lives depend on you making the moral choice for the planet. You are the Environmental PROTECTION Agency...the title of your organisation says it all. Please do not allow political or industry pressures to divert your attention from where your true and ONLY responsibility lies...protection of our environment.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-93	Proforma submission (additional text)	<p><i>Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, would breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project would make it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. The carbon emissions from the Burrup Hub, if allowed to go ahead would have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking it's contribution to global carbon emissions seriously, approving new LNG projects that would continue to pollute at a large scale for the next 50 years is indefensible.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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		<i>The life-time emissions of such projects must be considered. It is for these reasons that I strongly urge you to reject Woodside’s proposal</i>	
PRO-AQ-RES-94	Proforma submission (additional text)	<i>I’d like to add that this is completely contrary to caring for the health and well being of all Australians and our natural environment as demonstrated by the catastrophic events of this summer. Furthermore it is incompatible with concerns for closing the gap and the health of my Kimberley patients who are already marginalised and stand to suffer disproportionately from the effects of climate change.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-95	Proforma submission (additional text)	<i>We are supposed to be limiting pollution not drastically adding to it. Trying to slip in poisonous projects like this before the door finally slams on them worldwide ensures that the future for our children, grandchildren, etc., will be all the more dangerous.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-96	Proforma submission (additional text)	<i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. Decisions of this nature, made now, will overwhelmingly influence the well being of future generations. We therefore have a huge responsibility to ensure that what we decide now does not negatively impact the world we leave to our kids & theirs. The impact of fossil fuel mining on our atmosphere & climate has never been clearer then now, at this shocking time of climate emergency. Any new projects particularly as large as the proposed Burrup Hub projects, will have devastating impacts on our climate. I am bound by my responsibility to the world & future generations to ask you not to allow this climate destroying program to get started. Your responsibility to inter-generational equity & your duty of care to us all as Chairperson of EPA WA, is to ensure it is not</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • Environment principles of the EP Act – please refer to ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).

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		<i>allowed.</i>	
PRO-AQ-RES-97	Proforma submission (additional text)	<i>We must leave a healthy, living, complete planet to our children. To that end I strongly urge you to reject Woodside's proposal. We should be pursuing the cheap and abundant renewable resources we have available right here in WA. I am, of course, writing regarding the proposed Browse Basin and North West Shelf projects.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-98	Proforma submission (additional text)	<p><i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains any made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.</i></p> <p><i>LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change or be considered as an acceptable Transition Fuel.</i></p> <p><i>The carbon emissions from the Burrup Hub will have a significantly detrimental impact on emissions for decades to come. At a time where Western Australia needs to be taking serious action to reduce their contribution to global carbon emissions. Approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
PRO-AQ-RES-99	Proforma submission (additional text)	<i>Look, I don't expect this small contribution to get anywhere BUT!! I love my country and all country for that fact. Please stop hurting this land ?? If not for us but our next generations ??</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-100	Proforma submission (additional text)	<i>With the devastating impact across Australia of the recent intense bushfires caused by climate change - it is clear that we cannot continue with business as</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<p><i>usual. Australia must meet its international carbon reduction obligations. This project is incompatible with these objectives and to allow it to proceed would be negligent in the extreme. I therefore strongly urge you to reject Woodside’s proposal.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-101</p>	<p>Proforma submission (additional text)</p>	<p><i>If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand the LNG industry.</i></p> <p><i>Gas is no longer a viable ‘transition’ fuel. We have the resources and technology for a rapid transition to renewable energy.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
<p>PRO-AQ-RES-102</p>	<p>Proforma submission (additional text)</p>	<p><i>I'm a Nurse, Mother, and Grandmother.</i></p> <p><i>What good is it for any of us ordinary exceptional Australians to recycle, reduce plastic, plant trees and consume less if projects like this blow any of our attempts to be responsible stewards to a healthy country and planet out of the water..literally. The Central bank is talking about stepping in to curb Australias current leaderships disregard for real action on carbon emissions reduction and climate change action. Insurance agencies are now demanding leadership on real climate action as its not good for business..I see that you have a real opportunity to redirect private enterprise by signaling that your department won't allow for climate polluting ventures to go ahead on your watch..of course after you've considered the Science and are prepared to act on it. Below is the intelligently worded letter that you will be</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>receiving in abundance by now. Every one sent is from a concerned citizen. What you do affects not just your state or even Australia it affects the world.</i></p> <p><i>Please show the country you're serious about handing on to my kids ..the next generation.. not a scorched Earth but a healthy future.</i></p>	
PRO-AQ-RES-103	Proforma submission (additional text)	<p><i>I believe you have the opportunity to be remembered as someone who made the right choice and rejected further fossil fuel development in favour of renewables.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-104	Proforma submission (additional text)	<p><i>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. Australia must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as Australians should be pursuing the cheap and abundant renewable resources we have.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-105	Proforma submission (additional text)	<p><i>I visited the Burrup Peninsula 2 years ago and was in awe of the Aboriginal petroglyphs. Having previously visited the much smaller but still wonderful and celebrated collection in Namibia I was astounded and horrified that the wonderful archeological treasure was at risk from and hidden almost fossil fuel infrastructure. These treasures belong to the world and need to be celebrated and protected.</i></p> <p><i>The proposed Browse Basin and North West Shelf projects would further damage these treasures which belong to our First Nation people and make the Burrup</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-61 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>

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		<i>Hub become one of the largest and most polluting fossil fuel ...</i>	
PRO-AQ-RES-106	Proforma submission (additional text)	<i>All governments need to be extremely careful about signing contracts without clauses to get out! Locking us into the project from get go is irresponsible given the state of our environment but signing it to 2070 is negligent. Likewise not charging fossil fuel companies taxes, environmental fees or donations is again negligent!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-107	Proforma submission (additional text)	<i>I would like to shorten and personalise this email to persuade you of my sincerity and genuine concern. But I cannot delete any of the following comments. They are all so exactly what I want to say. I can only add that today in Victoria we are recovering from, in less than three weeks, catastrophic bushfires, furious windy days, days when we had the worst air quality in the world thanks to distant fires, drenching rains and now rain full of precious top soil, now damaging our rivers. The unexpected damage to both us and our economy are just the beginning if we do not take every drastic action we can to leave fossil fuels in the ground.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-108	Proforma submission (additional text)	<i>Please take your obligations to the environment seriously and don't condemn us and future generations to the consequences of more CO2 in the atmosphere. How will you look your children in the eye knowing you could have stopped these emissions and didn't.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-109	Proforma submission (additional text)	<i>We are the highest emitters per person on this planet of greenhouse gases. By approving this project you would be increasing our emissions and contributing to the climate change and destruction of this country and the planet</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-110	Proforma submission (additional text)	<p><i>As an Australian citizen I am deeply concerned by the proposed Browse Basin and North West Shelf projects. If these Burrup Hub projects proceed, they will become the largest and most polluting fossil fuel projects in Australia, and one of the largest fossil fuel developments anywhere in the world.</i></p> <p><i>Climate change has had a devastating impact on the east coast of Australia and the atmosphere has no boundaries. Individuals and industry are working hard to decrease their carbon emissions and the only way we can hope to live in a world that can sustain humans is to keep all fossil fuels in the ground. The evidence suggests that there is a risk of fugitive gas emissions each step of the way in the production of LNG; including extraction, gas collection and processing.</i></p> <p><i>The creation of new carbon emission sources and the extension of existing large scale ones, will be a breach of our international obligations, and an abrogation of your responsibility to the Australian people. The carbon emissions this project would produce means that the Burrup Hub is fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.</i></p> <p><i>Woodside claims that gas is a 'clean' fuel and makes a contribution to the goal of reducing emissions. The scientific evidence unequivocally refutes these claims, which are deliberately designed to mislead.</i></p> <p><i>LNG has become the most significant driver of climate change in the world; overtaking coal in 2019. As stated previously, there is pollution at every stage of its development and use and there is no basis on which it could be considered a solution to address climate change.</i></p> <p><i>All of Australia, at every level, needs to take their contribution to carbon emissions seriously. There is no</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>Planet B. The Burrup Hub would have a significant and long lasting impact on global warming, and a detrimental effect on our very existence. Western Australia has relied on the fossil fuel industry for economic prosperity, but it is well placed to pursue renewable energy projects which will provide a safe, more sustainable future. I have travelled extensively through WA and have witnessed innovation and renewable energy sources being employed successfully from Marble Bar to Albany. Knowing that the technology exists and is currently being deployed makes even the contemplation approving any new LNG projects indefensible and a dereliction of your role to consider environmental impacts.</i></p> <p><i>With my whole heart, on behalf of all Australians, I ask you to reject Woodside’s proposal. I want my children and grandchildren to have a chance at growing up in a world of opportunity and hope. The lifetime emissions of this project will directly contribute to global warming and make a huge impact on future generations. It is in your hands but I hope you have the strength and courage to think beyond the short- term economic benefits to a few, and consider the long-term prosperity of us all.</i></p>	
PRO-AQ-RES-111	Proforma submission (additional text)	<p><i>THE TRANSITION TO A FOSSIL FUEL FUTURE IS IN YOUR HANDS.</i></p> <p><i>I IMPLOR YOU TO OPEN YOUR MIND AND BE PART OF THE EVOLUTIONARY PROCESS.</i></p> <p><i>BE A LEADER - NOT A FOLLOWER - AND SEND WOODSIDE PACKING!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).

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PRO-AQ-RES-112	Proforma submission (additional text)	<i>Every day I am signing petitions and writing to ministers or CEOs about some or other environmentally disastrous decision Incredible that despite recent events we are continuing on this path to a dead planet.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-113	Proforma submission (additional text)	<i>The carbon pollution created by the proposed Burrup Hub projects makes it fundamentally incompatible with Western Australia’s policy goal of net zero emissions by 2050. Approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i> <i>The claims made by Woodside that gas is a ‘clean’ fuel contributing to reduced emissions are unsubstantiated and misleading. LNG is a fossil fuel and its use cannot be considered a solution to address climate change.</i> <i>The life-time emissions of these polluting projects must be considered. It is for these reasons that I strongly urge you to reject Woodside’s proposal.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-8: The role of gas in the future energy mix (Section 4.9).
PRO-AQ-RES-114	Proforma submission (additional text)	<i>The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking seriously its contribution to global carbon emission, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-115	Proforma submission (additional text)	<i>I know the EPA isn't allowed to consider greenhouse emissions in your environmental impact assessments. Which is truly the dumbest thing I have EVER heard of, and I've heard some dumb things before now.</i> <i>So... putting aside the most obvious reason why this project should be canned, consider VERY carefully the impact on turtle breeding areas.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>Turtles are some of my favourite animals, and we are so lucky to have them in WA. They are very significantly under threat, in large part because of our warming climate. Because the sex of baby turtles is determined by the temperature of the eggs as they mature, rising temperatures are leading to greater chances of sex imbalances and more challenges for turtles to breed.</i></p> <p><i>So please give this very high importance in your assessment.</i></p> <p><i>I also agree with the other points in the Conservation Council form letter, below.</i></p>	
PRO-AQ-RES-116	Proforma submission (additional text)	<p><i>I worked as a Chemical Engineer for Woodside in the 1980's. I worked on the Burrup and in Japan on the design team of the first LNG plant. I understand the science.</i></p> <p><i>What was known then, but very much hidden, that is the impact of fossil fuel plants like this proposal on our climate, is now very much a living reality. I now live in the Blue Mountains surrounded by bushfires that are still burning, watching ecosystems and animals and the land I love destroyed. It is heartbreaking. Our whole community and many others around Australia are in shock and trauma with our evacuation bags still packed at the front door-for weeks.</i></p> <p><i>Climate change is here. There is no more time to continue business as usual.</i></p> <p><i>So, with my engineering background that I have long left, my understanding of climate science and where we are heading if we continue to develop new fossil fuel projects and burn more CO2, and my strong request that this project be declined in the face of</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>gathering climate change and very close tipping points, I endorse the following letter. I too urge you to decline Woodside's proposal. Thank you.</i></p>	
<p>PRO-AQ-RES-117</p>	<p>Proforma submission (additional text)</p>	<p>NO NO NO WOODSIDE</p> <p><i>As the Climate Change Created Drought, Rips the guts out of our precious soils here at our Quairading Farm...</i></p> <p><i>It deeply saddens me to report that our meager twenty five year efforts here in demonstrating drought proofing in "Revisioning the Drylands W.A. Project" appears insufficient to avoid considerable present to long term species loss...</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-118</p>	<p>Proforma submission (additional text)</p>	<p><i>I beseech you all at the EPA our "Protection" judge, to do something REAL with your children in heart. Regrettably Western Australia is a very very dirty player in global emissions. If you doubt me its not surprising, as our press here is pathetic in truth news. Our big business ~ mostly low tax paying multi nations, governments and you as our "mouse" EPA Environmental Protection Authority, or more honestly... "Environmental Destruction Agency" are not helping to move to the Zero Carbon Economy. Mother Nature has simply had enough! What was once called pollution, is now softly labeled as carbon tonnes... yes tonnes of massive costly problems. We All have no choice but to act now, to slow down her wrath. Dim witted delusionary politics, complacency and illusions of distraction, will not stop the horrors of slow Australian heat death, as we steer reluctantly with "Too Little Too Late"</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>towards a “Zero Carbon Circular Unividual Society”. One of our biggest exports is dust or top soils, jeopardising our feeding capacity. Global Heating is No Joke, limiting food and clean water, currently leading to poverty wars and desperate anarchy. Surely we must change immediately to Clean Fuels... There are immediate fast track solutions. So We Beseech you to not allow these dirty enterprises to compromise all of our futures.If you promote this foolish project you are simply in bed with the dinosaurs and are traitors to your esteemed occupation. If you value a safer, cleaner, W.A. and this World, please use your full powers, to stop this destructive, dirty, vain multinational Woodside with their partners, with their ludicrous gas proposals.Respectfully as a very outraged citizen</i></p>	
<p>PRO-AQ-RES-119</p>	<p>Proforma submission (additional text)</p>	<p><i>Woodside could be investing in renewables rather than being so focused on creating more emissions. It is likely that within 5 years there will be international pressure and embargoes on Australia for it's role in excessive global emissions. Let's not learn this lesson the hard way. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources available in WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
<p>PRO-AQ-RES-120</p>	<p>Proforma submission (additional text)</p>	<p><i>I trust you are aware that Australia is burning. Show me your level of understanding between fossil fuels and the rising temperatures around the globe. Your position as a Decision Maker is most important today because it is will impact our future in either a positive or a very negative way.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>You have a challenge and an opportunity here. But your time is limited. Are you strong enough to see the crisis we are facing? The resources and technology for a rapid transition to renewable energy already exist. Show me what you value. Prove you love Australia and are willing to fight for a safe, sustainable future. Please reject Woodside's proposal.</i></p>	
PRO-AQ-RES-121	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. Even this goal fails to meet scientific standards which would require net zero emissions by 2030 if we are to avoid catastrophic climate change.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-122	Proforma submission (additional text)	<p><i>I write in response to the the proposed Browse Basin and North West Shelf projects. , the Burrup Hub will be It will also further degrade on of the most significant human collections of art in the world.</i></p> <p><i>I've visited the Burrup peninsula as a younger man when working as an engineer in the Pilbara for Hammersly Iron. friend and I made a week long rock climbing trip to Dolphin Island. We were absolutely astounded when I stumbled (literally) on the art. The extent of it is just unbelievable. I researched it afterwards and it become even more incredible to me. It transcends ices ages, climate change and tells an incredible story on anthropology. I really think it should be a world heritage site and there's more appropriate locations to build an enormous industrial hub.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised within this submission relating to compatibility of the proposed extension of the Burrup Hub with the World Heritage listing nomination of the Murujuga Cultural Landscape, please refer to the response to GHG-177 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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PRO-AQ-RES-123	Proforma submission (additional text)	<i>I have grandchildren, do you? I would dearly love for them and their children to experience Australian flora and fauna as we have.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-124	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects, together, potentially, the largest and most polluting fossil fuel projects in the world.</i></p> <p><i>Western Australia will not be able to meet its 'policy' goal of net-zero emissions by 2050 if there is expansion of the LNG industry. Australia will also be in breach of our Paris Treaty Agreement carbon emissions.</i></p> <p><i>Gas is not a 'transition' fuel. It is similar to coal when all emissions from extraction, process, transport and use are taken into account.</i></p> <p><i>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable energy technologies and manufacturing using clean energy.</i></p> <p><i>We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-125	Proforma submission (additional text)	<p><i>I am writing in response to the current consultations on the proposed Burrup Hub and associated gas fields. I have no doubt that you are already aware of the following, but I believe that it will give important context to enrich my argument.</i></p> <p><i>If current trends in GHG emissions continue, the world is on track to 3-5 degrees of warming (WMO, 2019), the consequences of which will seriously impact the lives of every single Western Australian. The GHG</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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		<p><i>emissions driving climate change accumulate from the emissions of many, both big and small. Australia, as the highest emitter per capita of green house gases in the world, has a major role to play in what is in all honesty a struggle to preserve the livability of our planet.</i></p> <p><i>To do our part in keeping emissions under 2°C, Australia must cut its emissions by 30% by 2025 (Climate Change Authority, 2015).</i></p> <p><i>In your opinion EPA Chair, how is Woodside's proposed Burrup Hub and Browse Basin and NWS extensions consistent with the urgent need to reduce this State's emissions, especially those in scope 3? How can the EPA justify letting these projects go ahead when Woodside willingly admits the Burrup Hub will produce more gas than has ever been extracted from the North West Shelf, when, once burnt, this carbon will contribute to the worsening of bush fires and droughts that put the lives and livelihoods of so many ordinary Australians at risk?</i></p> <p><i>Under the Environmental Protection Act 1986, the objective of the EPA is to: protect the environment. Where the environment is defined as "living things, their physical, biological and social surroundings.." My question to you, sir, is don't the humans of Australia fit into the Act's definition of the environment? Does the EPA therefore not have a responsibility to protect all Australians who will, now and in the future, be affected by climate change?</i></p>	
PRO-AQ-RES-126	Proforma submission (additional text)	<p><i>The only moral response to Woodside's proposal is rejection. Rejection because the emissions these projects will produce, across all 3 scopes, are not consistent with the EPA's obligation to protect Australia's environment and Australia's people.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>Any social benefit derived from these projects is short term and insignificant when compared to the steps backwards they would produce from the necessary meeting our emissions reductions goals.</i></p> <p><i>Sir, I do not mean to sound patronising but rejecting Woodside's proposal will take courage. I sincerely hope that you find the courage to do what is right and necessary in the face of those who seek to profit from continuing our destructive addiction to fossil fuels. If you do find the courage to make the right decision, and I know you will, then you will have played a not insignificant role in the fight to change climate change. Please do not let Woodside's Burrup Hub and Browse Basin go ahead. [redacted]</i></p>	
<p>PRO-AQ-RES-127</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects.</i></p> <p><i>Currently Australia is experiencing extreme temperatures, long lasting drought, overall drying of the environment including the water table and surface water.</i></p> <p><i>All of these conditions are a result of too much carbon in the atmosphere which is largely a result of ignorant fossil fuel companies and governments throughout the world putting economic growth and extreme wealth for a few over the general population health and well-being. As you are well aware a balanced healthy environment is the essence of good health for animals and humans.</i></p> <p><i>It is time for you to stand up to the government and not let the short sighted policy's of getting re-elected take precedence over the survival of human beings.</i></p> <p><i>This is a turning point, please put us first and do what is right for the future.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-128	Proforma submission (additional text)	<p><i>The implications for this area are therefore highly damaging and toxic. This adds to our current climate crisis.</i></p> <p><i>This area is of significant indigenous heritage. Desecration through development displays enormous disrespect and wilful oversight.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised within this submission relating to compatibility of the proposed extension of the Burrup Hub with the World Heritage listing nomination of the Murujuga Cultural Landscape, please refer to the response to GHG-183 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>
PRO-AQ-RES-129	Proforma submission (additional text)	<p><i>WA is crying out for leadership on climate. We need the EPA to take the strongest possible actions to prevent new fossil fuel developments, while we work with all other available processes to stop the current burning of fossil fuels and protect and restore native forests and other carbon dense ecosystems.</i></p> <p><i>Please reject the Browse Basin and NW Shelf LNG projects and help get us on track to dealing responsibly with climate change.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-130	Proforma submission (additional text)	<p><i>Please spend your money on renewable projects. They will make more money in the long term. You don't want to be left with a stranded asset.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-131	Proforma submission (additional text)	<p><i>Additionally the priceless and sacred rock art at Murujuga National Park - the world's most significant concentration of ancient petroglyphs - will suffer even more disruption and threat than it already endures</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<p><i>should this project proceed. This rock art is an international treasure whose protection has already been mismanaged by the Western Australian government over several decades. I am lucky to regularly introduce international visitors to the Pilbara's national parks through my work in the region, and I feel intense shame to call myself Western Australian when explaining to our international guests that a gas plant has been permitted to be installed in the heart of one of the world's most significant archeological sites. Every visitor I have hosted at the Burrup has been baffled as to why this has been allowed, especially given that our State's scale and climate present obvious alternatives for the production of sustainable fuel and power. The world is watching our State and our country at the moment, and relying on us to show leadership in regard to addressing climate change. Please do not fail them, or your constituents by supporting these repugnant, greed-driven projects.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised within this submission relating to compatibility of the proposed extension of the Burrup Hub with the World Heritage listing nomination of the Murujuga Cultural Landscape, please refer to the response to SS-RA-50 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>
PRO-AQ-RES-132	Proforma submission (additional text)	<p><i>Enough is enough. We must recognise the damage that carbon intense industries pose and respond appropriately to safeguard our future for us and our ancestors.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-133	Proforma submission (additional text)	<p><i>At this time when many of us mourn devastating climate changed fires, we need to pull back from such projects.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-134	Proforma submission (additional text)	<p><i>In relation to the proposed Browse Basin and North West Shelf projects, I urge the EPA to oppose their approval and encourage our WA government to invest in renewable energy.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<p><i>An article titled ‘Bushfires Reap What Australia’s Carbon Exports Have Sown’ by David Fickling in Bloomberg Opinion on 7 January sums up the issue for us as a responsible global citizen.</i></p> <p><i>Prime Minister of Australia [redacted]’s focus on Australia’s 1.3 per cent share of global emissions takes no account of our contribution via the export of coal and LNG. Adding exports to our total makes Australia the sixth largest global emitter, after China, USA, Russia, India and Saudi Arabia.</i></p> <p><i>WA’s contributions through exports of LNG from the Browse Basin are already significant. If the proposed projects proceed, the Burrup Hub will become one of the largest and most polluting fossil fuel projects in the world and WA would not be able to meet its policy goal of net zero emissions by 2050.</i></p> <p><i>The scientific evidence is clear that LNG is not a transition fuel, creating about the same amount of emissions as coal does.</i></p> <p><i>Those who believe Australia should go on supplying the ‘drug’ of fossil fuels to the world argue that someone else will do it if we don’t. This means we must do more than stop the supply; we must help the ‘addicts’ recover. In so doing, we can swap our fossil fuel exports for renewable energy.</i></p> <p><i>We can work with our major customers in Japan, South Korea, China, Taiwan, and India, and stop ‘pushing’ coal fired power stations in places like Vietnam. Instead we can export solar panels to remote Indian villages; wave energy to South Korea; liquid hydrogen to Japan; and solar and wind energy by subsea cables to Indonesia. These projects are within our reach, particularly with government investment in their development.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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PRO-AQ-RES-135	Proforma submission (additional text)	<p><i>Greenhouse gas emissions are a highly significant environmental factor in your consideration of environmental significance of major projects such as this. This is the case in your consideration of the proposed Browse Basin and North West Shelf projects. Indeed I submit that we need to reach the goal of net zero emissions much sooner - by 2030. In this we need to shift to 100% renewable energy for WA as an emergency - by 2025.</i></p> <p><i>In addition, the threat of air emissions of NOx and SOx by Woodside's LNG mining and others on the world class Burrup Aboriginal Rock Art must be removed. This is another compelling reason to reject the proposed Browse Basin and North West Shelf LNG as totally environmentally unacceptable.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8). <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-51 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>
PRO-AQ-RES-136	Proforma submission (additional text)	<p><i>Tell the Premier what you think of his relationship with the big polluters! Or do you support this?</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-137	Proforma submission (additional text)	<p><i>I am a medical doctor currently working in Perth, WA. We are at an 'tipping point'. Australia, as we know it, is changing. Our climate is changing - and the negative social, environmental, and health impacts of the abyss into which we stare, should not be underestimated.</i></p> <p><i>We must - Manage the Avoidable, and Avoid the Unmanageable. For without swift and decisive action - we will soon run out of options - and it will be 'unmanageable'. Just as these fires have been.</i></p> <p><i>With this in mind projects in the world.</i></p> <p><i>We have to take heed of the warnings at this time. The health impacts of the changing climate - and the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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		<p><i>impact on our vulnerable WA population will result in a Health Crisis. Heat waves, extreme weather, fire events - and the physiological and psychological damage done by this.</i></p> <p><i>If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.</i></p>	
PRO-AQ-RES-138	Proforma submission (additional text)	<p><i>I do hope the the Australian bush fires will prompt you to be a much better environmental advocate than industry advocate. We should stop subsidising fossil fuels and subsidise things that support improvement in our environment, not the converse.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-139	Proforma submission (additional text)	<p><i>IT WOULD BE A MISTAKE OF MASSIVE PROPORTION SHOULD WOODSIDE BE GIVEN APPROVAL TO EXPAND LNG PRODUCTION IN THE NW SHELF. WE ARE EXPERIENCING THE DEPRESSINGLY NEGATIVE EFFECTS OF TOO MUCH CO2 IN THE ATMOSPHERE AT THIS RELATIVELY EARLY STAGE OF CLIMATE HEATING. TO 'ADD FUEL TO THE FIRE' WILL BE SEEN BY FUTURE GENERATIONS AS AN ACT OF INSANITY, THE APPROVAL OF WHICH WILL MOSTLY BENEFIT A COMPANY THAT PAID NO TAX LAST FINANCIAL YEAR AND ITS SHAREHOLDERS, THE MAJORITY NON AUSTRALIAN.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-140	Proforma submission (additional text)	<p><i>The planet can no longer afford unsustainable projects like this and we need to innovate and think differently rather than committing to long term destruction.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-141	Proforma submission (additional text)	<p><i>The proposed Browse Basin and North West Shelf projects must not go ahead. Australia is already in the spotlight for our government's failure to respond to climate change, and this proposal clearly demonstrates that lack of vision. These projects would become one of the largest and most polluting fossil fuel projects in the world. How can Western Australia fulfil its goal of net-zero emissions by 2050 if we continue to expand our LNG industry?</i></p> <p><i>We have the resources and technology for a rapid transition to renewable energy, and we should be taking advantage of job opportunities and regional development these offer in carbon farming and renewables. Gas is not part of the solution for climate change or a solution for WA's power needs. A large-scale LNG project with a lifespan of over 50 years is completely irresponsible.</i></p> <p><i>At this critical time we should be investing in renewable technologies that create clean energy and rapidly divesting from all fossil fuels, including LNG. Please reject Woodside's proposal. We need to be developing the cheap and abundant renewable resources that are available right here in WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-142	Proforma submission (additional text)	<p><i>Please take these submissions seriously. It used to seem like a far-off thing to say "no jobs on a dead planet" etc, but it's all ramping up now, the consequences of what we've done previously.</i></p> <p><i>Projects like this no longer have legitimacy. We have to protect the future and the present and look for alternative ways to create energy, and to live well without destroying what's around us and what literally provides our requirements for life.</i></p> <p><i>And so, Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>anywhere in the world - this is unacceptable.</i></p> <p><i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions - this is unacceptable and infuriating.</i></p> <p><i>obligations, and push our national reduction goals out of reach - why agree to goals if we are going to break them?</i></p> <p><i>The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050 which in itself is already too little too late.</i></p> <p><i>You must begin rejecting projects like this, or we will be in greater and greater strife in the coming years, and there are people directly responsible for this - don't be in this category any longer.</i></p>	
PRO-AQ-RES-143	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects.</i></p> <p><i>The bushfires, the rapid and accelerating melting of glaciers all over the world and increases in temperature show that we must transition to renewable energy fast before there is a climate catastrophe with food shortages, displacement of millions of people and increased possibilities of war. Too long Australians have done nothing or too little.</i></p> <p><i>Yet, Australia has the best conditions for going 100% renewable. Stupidly Australia hasn't realised any of these business potential.</i></p> <p><i>We cannot continue like this. We cannot afford paying more and more in relief yet causing more and more damage to our climate. Stop the madness.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<p><i>Going renewable creates many new jobs.</i></p> <p><i>All of this is a no brainer. Not knowing why there is this enormous resistance to doing what makes sense and is morally and economically sound, leaves only few possibilities: governments are bought or corrupt and really are not governing for the people.</i></p>	
PRO-AQ-RES-144	Proforma submission (additional text)	<p><i>4 Tidal power stations can provide most of australia's power needs.</i></p> <p><i>Please evaluate closely that option and suggest it to the state government.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-145	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. I could not believe the size of the project.</i></p> <p><i>IT BEGGARS BELIEF THAT SUCH DESTRUCTIVE PROJECTS ARE STILL BEING CONSIDERED NOW THAT WE KNOW THE DEVASTATION THEY CAUSE.</i></p> <p><i>Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. WA should be LEADING initiatives for job opportunities and regional</i></p> <p><i>I want our industries to be part of the solution NOT part of the problem.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-146	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects.</i></p> <p><i>projects in the world, which quite clearly to me is an appalling thought.</i></p> <p><i>If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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No.	Submitter	Submission and/or issue	Response to comment
		<i>our LNG industry.</i>	<ul style="list-style-type: none"> GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-147	Proforma submission (additional text)	<p><i>If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot allow our LNG industry to further expand..</i></p> <p><i>Gas is being hailed by its supporters as a ‘transition’ fuel. It is not when that transition period covers decades of production.. We have the resources and technology for a rapid transition (less than one decade) to renewable energy generation and storage. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector.</i></p> <p><i>Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years cannot be allowed to proceed.</i></p> <p><i>Western Australia can tackle its emissions through investment in renewable technologies which will create skilled jobs into the future. As we do this we can rapidly move away from all types of fossil fuels, including LNG.</i></p> <p><i>I strongly urge you to reject Woodside’s proposal when we can be pursuing the cheap and abundant renewable resources we have available right here in WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-148	Proforma submission (additional text)	<p><i>The life-time emissions of these projects must be considered in light of the ongoing impacts upon the quality of life for future generations.</i></p> <p><i>It is for these reasons that I strongly urge you to reject Woodside’s proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects.</i></p> <p><i>On behalf of myself, my children, the future generations to come and the earths biosphere, I object to this project in the strongest possible terms.</i></p> <p><i>1 Fugitive emissions; Australia is at a point where we need to be reducing our greenhouse gas emissions, yet at this point our emissions are rising. The fugitive gas emissions from the extraction of Gas, particularly involving fracking and the release of Methane, will result in significantly adding to Australia's emissions.</i></p>	<p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
<p>PRO-AQ-RES-149</p>	<p>Proforma submission (additional text)</p>	<p><i>It is ironic that Australia's reserves of Oil, Gas and Uranium, thought to be an asset, are actually an achilles heel that, due to the pressure for revenue if stifling what really needs to happen, a national energy policy, and innovation away from exporting a product which will become toxic stranded assets in the foreseeable future.</i></p> <p><i>Environmental and Indigenous; There is a big groundswell of opposition towards Fracking the the expansion of the Gas industry in general. The indigenous groups are lining themselves up for a battle and they have the backing of a board spectrum of the wider Australian public, who, due to recent events, are awakening from their lethargy in regards to the wider threat of climate change and the fossil energy business as usual scenario. Add to that the more frequent droughts and the prospect of the contamination of ground water supplies, and the entire expansion of the gas industry just does not make sense.</i></p> <p><i>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. You must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8). <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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		<i>to reject Woodside’s proposal as the State should be pursuing the cheap and abundant renewable resources we have available right here in WA, to enable an orderly transition that must and will occur anyway.</i>	
PRO-AQ-RES-150	Proforma submission (additional text)	<i>We really have to turn our abundant energies entirely towards renewables. Alternatively, read James Lovelock's 2009 "The Vanishing Face of Gaia". He has convinced me nuclear is the way to go.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-151	Proforma submission (additional text)	<i>Surely the drought and tragic bushfires are evidence enough that we need to stop approving fossil fuel projects.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-152	Proforma submission (additional text)	<i>I am a geologist writing regarding the proposed Browse Basin and North West Shelf projects. Fossil fuels are not the future!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-153	Proforma submission (additional text)	<i>The time for change is now and you, the EPA, have the ability to make this happen. We need you to protect our environment. For now and future generations.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-154	Proforma submission (additional text)	<p><i>Recent and ongoing bushfires have increased the danger the ongoing use of fossil fuel will make the planet uninhabitable not just for man but for all mammalian species.</i></p> <p><i>Governments of Australia must come to the realisation that the wealth created by the income from fossil fuels production is at the expense of the survival of all of us and of all creatures great and small. The duty owed is to the people.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-155	Proforma submission (additional text)	<p><i>Dear reader, Please stand in full responsibility for the actions you act out on this earth in your life time. You will feel sorry after seeing what happened to this world and knowing you could have change the outcome. It is okay for you to take a moment and think this through, think about all aspects of this action. Think about all levels of life involved, think about your own feelings and how you would feel if your comfort space would be taken over for reasons unknown to you. Just imagine. Please take some time in silence and reflect your life's choices. What karma are you putting on yourself? Why would you put the idea of financial gain over the knowledge of natural (and perfect as it is) wildlife. I ask you to please feel in your body what the best action is in this situation. Feel what your body is telling you, you know somewhere in your body when something is off, and I hope you listen to this signal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-156	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford not to expand our LNG industry. CSIRO regards gas is a 'transition' fuel. CleanState and other environmental activists who have no clue claim it isn't. We have the resources and technology for a rapid transition to renewable energy. We should be</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<p><i>embracing the potential for job opportunities and regional development in gas as the solution for climate change, and the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years should obviously go ahead. Western Australia must tackle its emissions through the creation of clean jobs and investment in transition fuels and renewable technologies. I strongly urge you to accept Woodside’s proposal as we should be pursuing the cheap and abundant resources we have available right here in WA.</i></p>	<ul style="list-style-type: none"> • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
<p>PRO-AQ-RES-157</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. I would like to urge both the State Government and Federal Government to reject these projects. The science could not be more clear - to have a hope of keeping warming within a safe range, we need to be peaking carbon emissions as soon as possible and reducing emissions rapidly. The scale of the Burrup Hub would mean that this project would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to have any hope of meeting its policy goal of net-zero emissions by 2050, we cannot allow the LNG industry to expand. The reality of climate change requires us to leave fossil fuels in the ground. Despite attempts to brand LNG as a 'transition' fuel, it is still a fossil fuel, emitting large amounts of carbon emissions. In Western Australia, we have the resources and technology to enable a rapid transition to renewable energy. To be part of the 21st century, in this State and across Australia we need to embrace the potential for job opportunities and regional development in carbon farming and the renewables sector. LNG is not part of the solution for climate change. LNG does not have a future in a world that is genuinely transitioning to a low</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>carbon future. At this point in history, it seems incredible that we could even be considering approving a large scale LNG project with a lifespan of over 50 years. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies.</i></p>	
<p>PRO-AQ-RES-158</p>	<p>Proforma submission (additional text)</p>	<p><i>The proposed Woodside Browse Basin and Burrup Hub gas mega-projects would produce carbon pollution equivalent to 32 coal-fired power stations every year for 45 years, making it Australia's largest and dirtiest new fossil fuel project. The carbon emissions are four times those of the proposed Adani Carmichael mine in Queensland. The science is clear, and Australia has signed on to the Paris Agreement to keep global warming to below 1.5C. We can't do this if we continue to open massive fossil fuel basins. I am calling on the EPA to reject Woodside's dangerous new gas project, which would make the climate emergency much worse. We know from international reports that we have only 12 years to reduce our emissions to a level commensurate with global targets. This would be impossible to achieve, if your government will support and invest in this project. We are in a climate emergency, and we urgently need serious climate action across the world and here in WA. Climate scientist have produced global evidence gas is simply another fossil fuel that, when burnt, inexorably will add to the green-house gas burden of our planet and add to the serious health risks of climate change. The use of gas in power generation has been promoted because it has a significantly lower carbon footprint than coal but when fugitive emissions from well- heads and transit and distribution of gas are measured, the carbon footprint may be little better than coal. There are viable options for economic</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<i>development and transitioning from these types of invasive and destructive developments particularly because there is extensive supply of renewable energy in the northwest. I urge our government to uphold their fiduciary duty to protect the citizens of our state and invest in our human right to live in a clean environment as a matter of Climate Justice. Respect and Goodwill</i>	
PRO-AQ-RES-159	Proforma submission (additional text)	<i>[redacted]</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-160	Proforma submission (additional text)	<i>This is my personal submission in opposition to the proposed Browse Basin and North West Shelf projects which would make the Burrup Hub one of the largest and most polluting fossil fuel projects in the world. If approved, the Western Australia Government would fail to meet its policy goal of net-zero emissions by 2050. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. Western Australia should embrace the potential for job opportunities and regional development in carbon farming and the renewables sector. It is time to move beyond all types of fossil fuels, including LNG. Woodside's proposal should be rejected so our government can progress to renewable resources that we have in abundance in WA, without further delay. Yours</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-161	Proforma submission (additional text)	<i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the agains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-162	Proforma submission (additional text)	<i>And wherever we live - the repercussions will effect the whole planet. Now is the time to be developing well known and proven sources of clean energy not introducing new production programmes for the old polluting processes. Time is running out to make -what are now urgent - changes to protect the planet on which we all depend.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-163	Proforma submission (additional text)	<i>I'm sure you will receive many submissions drowning in detail and facts & figures.I simply believe that the environment cannot afford the emissions that this project will release.I do not believe that gas is the answer to "clean" fuel nor that WA can afford this extra pollution and how this will allow us to meet ur so called "net-zero" emissions in the future. . Why on earth with our natural sun, wind & tides would we want to pollute more? Can't WA lead the way in renewable energy. Surely there would be job opportunities for both local, regional and interstate employment for more than 50 years. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-164	Proforma submission (additional text)	<i>I beg you to dig deep and really think about the future of Australians and our planet. If you had a sore tooth and went to the dentist and he told you, you've got to have it pulled out, you're very likely to trust him. Same with a podiatrist or cardiac specialist. Why are we not listening to the advice and dire warnings from scientists who literally dedicate their lives (like other professionals) to their line of work. WHY do your profits come before our livelihoods and the livelihoods of native Australian animals? There is literally no need for exploration. Scientists have the answers so please</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>listen to them.</i></p> <p><i>Gas is a fossil fuel, and if we continue to burn these, the world gets hotter and weather events worsen. This is literally what all environmental, atmospheric, conservation, (etc) scientists learn in their first year of study. Please, for the love of my life, listen to them. Of course, these trace gases are naturally present in our atmosphere but humans pumping it into an atmosphere that's already warming and suffering is so irresponsible. This is scary.</i></p>	
PRO-AQ-RES-165	Proforma submission (additional text)	<p><i>I would like to make a submission to you in response to the proposed Browse Basin and North West Shelf projects. At a time when scientists are telling us in the strongest terms that we cannot afford extract and burn any more fossil fuels if we are to have any hope of keeping global temperature rise to under 1.5 degrees, we simply cannot allow this project to get the green light. I thank you for the opportunity to provide this submission and strongly urge you to reject this proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-166	Proforma submission (additional text)	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. I am a mother of two young children and deeply concerned about the climate crisis which has been driven by fossil fuels, and the industry itself has known how it is heating the planet to dangerous levels for decades - 1. I am shocked to learn that you are considering approving one of the largest and most polluting fossil fuel projects in the world. No amount of money or jobs make this a reasonable decision. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy.</i></p> <p><i>I live in South Australia and find myself moved to write to you about this - your decision has long-lasting and</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>serious ramifications for all Australians and beyond. The decision you are making is appalling economically and ethically and the risks are KNOWN - 2. Look to how South Australia is leading in renewables. You can reap the benefits of moving in this direction too. I strongly urge you to reject Woodside's proposal. Think of the future. Be wise. Show true leadership and stand up against fossil fuels.</i></p>	
<p>PRO-AQ-RES-167</p>	<p>Proforma submission (additional text)</p>	<p><i>I was recently explaining the concept of a dystopian society to my 14 year old and he asked if we lived in a dystopian society. I said we didn't, but he thought the push of governments to continue to do things that wreck the planet that will make it uninhabitable for future generations sounded pretty dystopian. I guess really, he's right!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-168</p>	<p>Proforma submission (additional text)</p>	<p><i>A large scale LNG project with a lifespan of over 50 years cannot go ahead. I am not a citizen of WA, but I believe this is a national issue - as a nation we must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. And WA has a chance to lead the country. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources available in WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
<p>PRO-AQ-RES-169</p>	<p>Proforma submission (additional text)</p>	<p><i>Please get your Energy Policy into THIS century!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-170</p>	<p>Proforma submission (additional text)</p>	<p><i>Gas is not part of the solution for climate change, or the solution to sustainable power Western Australia into the future.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-171	Proforma submission (additional text)	<i>Furthermore, the price for alternative energy projects has significantly reduced and is no a viable alternative.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-172	Proforma submission (additional text)	<i>I am writing to you from New South Wales to object to the proposed Browse Basin and North West Shelf projects. I may not live in Western Australia anymore (though I spent my first 28 years there), but the emissions from these projects will have a global impact and are contrary to numerous scientific recommendations that the world needs to decarbonise rapidly to have any chance of retaining a safe climate.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-173	Proforma submission (additional text)	<i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Auastralians and industry seeking sustainable ways to reduce their carbon emissions.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-174	Proforma submission (additional text)	<i>I am deeply concerned and writing in response to the current consultations on the proposed Browse Basin and North West Shelf (NWS) expansion projects and the catastrophic effect these would have on the ancient petroglyphs of the Burrup Peninsula. I teach Australian art history at university level and with a particular focus on ancient aboriginal art in Western Australia. I urge you and the EPA to consider the longevity and well</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to GHG-226 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<i>being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry.</i>	
PRO-AQ-RES-175	Proforma submission (additional text)	<i>I am writing in relation to the Woodside’s Browse Basin development which will threaten the sensitive marine environment of Scott Reef. Scott Reef supports a huge array of endangered sea life in the Indian Ocean and the Timor Sea. it provides critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. Five species of whales visit the area, including Humpback whales and Blue Pygmy whales, and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would greatly add to the problem. Oil and gas operations such as the Browse Basin development are not compatible with a sensitive marine environment like the Scott Reef. Protection of this sensitive, nationally significant marine environment is a paramount conservation priority. I urge you to reject the Woodside proposal to undertake oil and gas development on or around Scott Reef.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-176	Proforma submission (additional text)	<i>I am adding my own concerns to the formatted letter below, because if we can't turn to, & rely on, our Environment PROTECTION Authority, who on earth can we turn to? WA has the WORST carbon emission in Australia BECAUSE of gas..... Australia is already bottom of the carbon emissions reduction pile of countries who pledged to reduce their Co2's..... This is shameful. Countries with far less natural resources, like SUNSHINE...are doing better than us.....Climate change is happening NOW. In Australia</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>fires, destruction, death, like never before. Floods, droughts, & golf ball hail stones that hit Canberra just as the smoke cleared.....Other parts of the world are experiencing extremes like never before too... THIS WILL CONTINUE TO GET WORSE - UNLESS OUR ACTION GETS BETTER.....This IS crisis time. The iceberg has tipped.....And it is releasing the deadly methane gas as it melts.....This is suicide. or is it genocide.....? as people do know, but don't do enough to prevent it.So the idea that Woodside want to add to our already worst polluting State...is preposterous! Some 'body' in an official capacity needs to use their GOOD power to STOP IT.Read below how the GOOD IS OUTWEIGHED BY THE BAD.Think of your children. Your grandchildren. Thanking you IN HOPE.....</i></p>	
PRO-AQ-RES-177	Proforma submission (additional text)	<p><i>The Zero emissions target for 2050 or any other rapid deescalation of fossil fuel use is esseyfor the health of humans and the environment. More gas with high methane levels is not where Australia needs to be heading. How about a solar PV powered cable from the Kimberley to SE Asia?</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-178	Proforma submission (additional text)	<p><i>I would also like to add that as a very proud Australian and concerned parent, this is not the legacy I would like to pass onto my son and grandchildren. Australia was once the 'lucky' country where mateship and concern for our community was our driving force.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>Now there is no concern for community or our 1st Nation indigenous history or culture. I would like to think that these concerns as well as those affecting the environment would also be important when making the decision about this proposal. We have a voice and would like to be heard, we do not want this for our country or our state, when there are so many other environment and community friendly ways to produce the energy needed.</i></p> <p><i>We should be leading the way in reducing emissions not adding to them.</i></p>	
<p>PRO-AQ-RES-179</p>	<p>Proforma submission (additional text)</p>	<p><i>I consider it truly appalling that Australia is still embarking on projects that are absolutely polluting the Earth's environment. All this is done so that some very large businesses and some extremely wealthy people can continue to make their enormous profits (and often do not pay tax on those profits) at the expense of the environment. It is, indeed, a very short term outlook.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-180</p>	<p>Proforma submission (additional text)</p>	<p><i>Dear Dr Tom, I am almost 80. I was not born here. I am now an Australian, a West Australian at that! I have worked in Advertising/Marketing in London, Sydney and Perth. However in the 80's decided it was a young persons game!</i></p> <p><i>I did something I always wanted to do...three years at the well respected Claremont School of Art. On graduating knew full time endeavour was not for me, but I made a damn good administrator working for the WA Government, Crafts Council, City of Perth etc. and during that time fell in love with art of the First People of this country as a close friend took a job working with an Aboriginal organisation in the Kimberley. He took me out with his friends to Crocodile Hole. Amazing. Quiet. An experience etched in my mind. Forever. It then really struck home I had been with people who</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to GHG-232 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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		<p><i>had lived on this land for 50,000 years at least. Wow. And from there I collected, visited, advised a number of communities in the Kimberley and Pilbara, plus Hopevale Arts Centre in FNQ.</i></p> <p><i>Of course, I visited the Burrup Peninsula...what can I say. I am not going to talk re. CCWA, they do great positive work, and you know full well what they are on about!</i></p> <p><i>I just want to remind you of what touched me so very deeply. We live with a community of people who have lived here, in broken, for over 50,000 years. What they have to say is etched over many years on those Burrup Stones. It is their legacy, it is our legacy. Please respect the Elders, their Elders, and their Elders.</i></p>	
PRO-AQ-RES-181	Proforma submission (additional text)	<p><i>In my role as Convenor of the Cockburn Community Wildlife Corridor Our community group of some 80 members and over 300 supporters works locally to help protect and restore TECs in our local urban bushland. These communities are under continual attack by developers and Main Roads. We feel strongly that it's time to draw the line on the continued destruction of our natural heritage in the name of jobs and growth. Our work and efforts (and the efforts of many other ordinary Australians and forward-looking sustainable industries who care for the environment) will be cancelled out by the extent of the emissions that would result from gas collection and processing at the Burrup Hub. These polluting projects need to be stopped. The life-time emissions of these projects must be considered. The future lies in the development of renewable energies. Australia could lead the way. It is for these reasons that I and the CCWC strongly urge you to reject Woodside's proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-182	Proforma submission (additional text)	<p><i>Dear EPA Chair and Secretary Department of Environment and Energy I am writing to you from the NSW Southern Highlands, in response to the current consultations on the proposed Browse Basin and North West Shelf projects. Firstly please read and consider this short personal account of life in bushfire affected NSW. This is the first opportunity I have had in weeks to communicate to you my deep concern about the proposed Woodside LNG hub. For myself, and thousands of others, the first weeks of 2020 were an endless round of fire preparation; packing cars and leaving for safer locations, returning and monitoring for flareups and embers, being awakened during the night with alerts when fires flared again, constantly monitoring nearby fires and keeping in contact with neighbours. Since early November 2019, the region I live in has been impacted by the Currawon Fires (1 and 2), the Green Wattle Creek Fire and finally the Morton Fire which destroyed homes, property, endangered the lives of residents and firefighters, killed stock and innumerable wildlife in our bush and National Parks. Tragically, four firefighters in our immediate area died. For myself and neighbours, we are lucky, experiencing only minor property damage and returning to habitable houses only thanks to the availability and skill of firefighters. Why is this relevant? It is because Australia's coal and gas industry is one of the factors which can be managed and changed. These fires were finally declared 'Out' only in the past few days after rainfall of between 200 and 600mls or more in the past week. Yes, drought and lightning strikes were contributing factors to these bushfires, but are only partial explanations. Arson has been discounted as a significant factor. All reports are that the scale and intensity of these fires is unprecedented.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<p><i>Increasingly fact and science based information points to human induced climate change as a significant factor in creating the conditions which contributed to these bushfires. None of this information is new. All has previously been made known to government, at all levels, and decisionmakers, such as yourselves. . I am one of the increasing number of voting citizens who are fed up with inaction on the part of our elected representatives and those who provide advice to them. Unfavourable global attention has rightly been drawn to Australia's lack of effective policy and action in relation to our fossil fuel industries and exports. In writing this to you I have carefully considered the following points, endorse them fully and recommend the following for your urgent consideration in relation to the proposed Browse to North West Shelf Project.</i></p>	
<p>PRO-AQ-RES-183</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing to oppose the Browse Basin and North West Shelf projects. My primary reason is the contribution that will be made to worsen climate change. I include in my concerns not just the gas produced and then burnt or otherwise processed, but critically the methane and other greenhouse gas leakage and other production contributions to climate change. These impacts of both the gas sold and the production impacts are massive - significant on an international, national and state scale. Plus there are the negative local impacts on rock art, traditional owners and other people's wellbeing. I am concerned that any public money supporting these projects will effectively be used to prop up a dying industry, stranded assets. It may take 10 or 20 years but the future harm that these projects will contribute to will devalue these projects significantly. No public money should in anyway support or subsidise these. Nor should any legal precedent be created which creates a</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-8: The role of gas in the future energy mix (Section 4.9). <p>With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-52 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>

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		<p><i>financial obligation on the sate to directly support these projects. Just paying for the harm they will cause will impact people globally.Supporting these/this project will result in a transferral of wealth to Woodside and partners, and wide-scale environmental harms plus social harms most affecting those marginalised. There is clear literature about the impacts of climate change on marginalised people. Supporting this project will increase those impacts direly.The life-time environmental and social (including cultural heritage) impacts of these projects must be considered. Given our political context, the donations by fossil fuel companies to major political parties, it seems inevitable this project will go ahead. If it does, I request you attach conditions of environmental remediation that includes fully offsetting the atmospheric greenhouse gas impacts with some form of greenhouse gas removal e.g.widescale tree plantations, and landscape remediation. Further, that these actions are a condition of ongoing operation with review schedules included in the licence conditions spaced at 2-4 years checkpoints, such that where the license is contingent on ongoing net zero greenhouse/carbon gas production.</i></p>	
PRO-AQ-RES-184	Proforma submission (additional text)	<p><i>As a past [redacted]. I am well aware of he value of the Burrup. The Burrup peninsula is probably the most significant cultural site in Australia and the location should not be further disrupted by industrial development. woodside's own documentation states that there are more than 9000 significant rock carvings. These carvings are some of the oldest in the world. If you allow the degradation of this important site you will be responsible for an egregious act against humanity. This is akin to mining the Vatican or</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised within this submission relating to potential impacts of emissions to the Murujuga rock art site, please refer to the response to SS-RA-60 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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		<p><i>crushing Borobudur. The site has the potential to be a major tourist attraction akin to Uluru. It would provide sustainable employment forever.</i></p>	
<p>PRO-AQ-RES-185</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing regarding the proposed Browse Basin and North West Shelf projects. Given the terrifying prospects the world faces as a consequence of greenhouse gas emissions, we would be completely PROFLIGATE to allow a 17.2MtCO2-e per annum impact, expansion of our LNG industry. With an impact of 7.MtCO2-e per annum for the Browse project from venting and pumping this will be the most polluting LNG project in Australia. Furthermore, It is still worse, as this LNG is exported and impacts much more on the environment as further GHG emissions and abundant, wasteful and harmful, cheap plastic production. I understand these impacts are not part of your assessment, which I do not agree with. As this represents an EVEN bigger impact on Australia. I am not aware of any meaningful GHG controls applying to this project, previous GHG controls (eg Gorgon) have been ineffective and not enforced. This speaks to the failing of a social licence for this industry to operate. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the re-newables sector. .</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • GHG-4: Proposed Browse Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9).
<p>PRO-AQ-RES-186</p>	<p>Proforma submission (additional text)</p>	<p><i>I have a fundamental problem with #fossilfuels extraction adding to global warming, additional CO2, Methane & other greenhouse gases. The size of this proposed operation will not contain Australia's emission targets. However the immediate damage to Scotts Reef is a real and present danger to sea life as</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<i>mentioned above. As indicated in my concern above, the Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine.</i>	<ul style="list-style-type: none"> • GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) • BCH-1: Potential Impacts to Scott Reef (Section 4.14).
PRO-AQ-RES-187	Proforma submission (additional text)	<i>At this point in history the future of the fossil fuel industry is looking more and more tenuous and also need to preserve the remaining natural habitat is critical. I agree we cannot close the coal gas and oil industry overnight but we must avoid the temptation of starting new projects for short term gain. We must swing our efforts toward preserving what is left and changing to a carbon neutral or carbon negative world as soon as is humanly possible.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • Project GHG emissions estimates (Section 4.5) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6)
PRO-AQ-RES-188	Proforma submission (additional text)	<i>I am writing in regards to the proposed Woodside Petroleum drilling project. The recent, terrible Australian fire season was greatly exacerbated by carbon pollution induced global warming. In light of this and the many other climate change induced natural disasters occurring around the world at present, any proposal to extract more fossil fuels is ludicrous, and adds greatly to the threat currently facing the world we live in. The fact that the proposed site is an untouched wilderness, a last haven for all kinds of endangered sea life, makes the threat to Australia’s diverse natural heritage all the more severe. Were any mishaps to occur, the damage not just to the local ecosystem but the entire Australian coast would be devastating, but any industrial activity would have irreversible effects and may well spell the end for many of the species that call Scott Reef their home. Futhermore, as the rest of the world rapidly transitions away from fossil fuel, the</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-8: The role of gas in the future energy mix (Section 4.9)

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		<p><i>project also makes no economic sense. I urge you to protect Australia's natural heritage, and to approve projects that help provide a just transition to a fossil free economy for Australian workers, rather than approving last ditch attempts by fossil fuel barons to line their pockets at the expense of the Australian public's beautiful places and natural heritage.</i></p>	<ul style="list-style-type: none"> • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
<p>PRO-AQ-RES-189</p>	<p>Proforma submission (additional text)</p>	<p><i>I have offgrid power and it works well. There is no reason to keep overcharging us for something that we can do ourselves without your interference. Why keep stuffing everything up when we have the technology to deal with everything ourselves. We do not live in a democracy when you keep pork barrelling every project you touch. Over paid politicians combined with over paid Public Service who contribute nothing but financial loss to our lives. You are all overpaid have no experience in the real world yet insist on telling us what to do.</i></p> <p><i>You represent the biggest loss to our middle class, the environment and to our way of life as you all leach on us, guide us into wars in past etc. You continually lie to us but now reality strikes and you all do not know what to do and keep coming up with hair brain schemes put forward by your so called "experts". Here is an idea! If you take all the taxes, duties off of Offgrid power it will encourage people to invest in it and the need for grid power will shrivel in demand drastically. Why won't you do it?</i></p> <p><i>But that will cut down the wages and conditions of your mates eh? Premier McGowan and his mates will lose the next election as we are sick of you acting like your doing something and producing nothing. Refusing to listen to our people shall be a big mistake as you have</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>lost our respect. Gas and coal usage along with the suggestion of nuclear power generation is not welcome or wanted. Are you getting the message? The sun that produces light is our saviour to produce clean power. Stop importing people stabilize our population and guess what ? And all your problems go away in the most important thing we have faced. That is saving our planet! Are you listening? Tell all your idiot experts to come and have a look at our system of 10 KW. It works well and we live by it!</i></p>	
<p>PRO-AQ-RES-190</p>	<p>Proforma submission (additional text)</p>	<p><i>A global climate emergency is in place. We must stop destructive and polluting fossil fuel projects like this! Please do not release these proposed immense carbon emissions.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-191</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing regarding the current consultations on the proposed Browse Basin and North West Shelf projects.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-192</p>	<p>Proforma submission (additional text)</p>	<p><i>Western Australia is the biggest contributor to greenhouse gas pollution. More than any other state. Let that sink in for a moment. Also, remember the last mining boom. The most mishandled resource sector boom ever? Why are you selling off the country, bit by bit, with no pay back for us? Are we a country, or a corporation. And to be honest, WA Labor, we see you. We SEE you, and with an election coming up, people are not impressed. You can ban puppy mills, but not your mates money mills. Which side of history are you going to be on? We need money to rebuild our power grid, for example, but instead of raising that through mining, you let companies take the spoils, while we get</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<i>left with the heavy lifting.</i>	
PRO-AQ-RES-193	Proforma submission (additional text)	<i>I am not a resident of WA, but I have visited WA and I love WA's natural environment. WA's beautiful natural environment is already at risk from climate change. New fossil fuel developments like these will further push the world towards catastrophic climate change, and risk irreparably harming WA's magnificent and unique natural beauty. It will also have impacts across Australia and the world. Western Australia and the world needs to urgently transition to 100% clean energy. You must unconditionally reject these gas projects.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-194	Proforma submission (additional text)	<i>With the current bushfire disaster (caused by years of drought, due mostly to the usage of fossil fuels), and the destruction of so much wildlife habitat on land already, but also the pollution of nearly all waterways and the oceans with toxic chemicals and garbage caused by the severe flooding... With the eyes of the world on the government, now even more than before, this government and the industry cannot afford anymore environmental disasters and the making of decisions in favour of the fossil fuel industry!!! Environmental disasters that you cannot guarantee will never happen, and negative effects on the wildlife in our precious waters, you can also not guarantee that will never happen!!! Discharges of wastewater and pollution from oil spills will contaminate marine ecosystems with toxic heavy metals and other chemicals. I urge you also to not propose these developments anywhere else, and start investing and earning your money with renewable energy sources. This, as it is the future and is what not only Australia, but also the rest of the world wants and has to happen!</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-195	Proforma submission (additional text)	<i>" There is not one reason in the known universe to justify degrading our planet, Mother Earth. "" Thought before profit. "" Think, Woodside, think! "</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-196	Proforma submission (additional text)	<i>I write as a health professional. Climate change is recognised as one of the most serious threats to global health of our century. Climate change has and will increasingly have enormous impacts on human health, both directly and indirectly. It is vital that Australia, and all nations, collaborate to reduce the pollution that drives climate change. Most existing fossil fuels need to stay in the ground in order to maintain a reasonably safe climate for future generations. It is dangerous to develop new gas resources. I understand that, if the proposed Browse Basin and North West Shelf projects proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. Gas is not an appropriate 'transition' fuel. It is less polluting than coal at the point of combustion, but its primary constituent, methane, is a highly potent greenhouse gas when leaked. Instead of gas, we should be developing resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3). GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-197	Proforma submission (additional text)	<i>Take a look around you and see that the world is literally dying because of this sort of crap.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-198	Proforma submission (additional text)	<i>In 2019, LNG overtook coal as the most significant driver of CO2 pollution increases across the globe. LNG is a transition fuel and should be seen as necessary in the journey to decarbonisation - however in line with the EPA's own recommendations all new developments should be carbon neutral. UNLESS Woodside commits to ensuring that the project is carbon neutral (and this is enforced). Woodside has the resources to ensure carbon-neutrality, but this will come at a cost and therefore it won't implement this voluntarily.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-3: Reduction, mitigation and offsetting of proposed Browse Project GHG emissions (Section 4.4) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
PRO-AQ-RES-199	Proforma submission (additional text)	<i>By implementing carbon neutrality Western Australia will become a world leader in large scale carbon-mitigation technology, and set an example of how to balance the requirements for energy and climate change control.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-200	Proforma submission (additional text)	<i>Dear [redacted] Chairperson Environmental Protection Authority WA, [redacted] Secretary Department of Environment and Energy, and [redacted] DWER: After reading Woodside's documents RE: their proposed Browse Basin - North West Shelf (NWS) extension project, and the two associated offshore components (wells and bringing the gas to the Burrup Peninsula for processing), I am extremely concerned about the devastating effect these would have on the Murujuga rock engravings. The rock art is internationally significant and part of Australia's cultural heritage. It should not be degraded or destroyed in the interest of</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-53 in the NWS Project Extension ERD Response to Submissions (Table 3-10 respectively).</p>

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		<p><i>profits and at the greater expense of increased global emissions of greenhouse gases. Importantly, the emissions from these proposed projects contain substantial amounts of sulfur and nitrogen dioxides which form sulfuric and nitric acids when the emissions mix with atmospheric moisture. These acids break down the patina on the rock surface which of course destroys the rock carvings. In order to truly evaluate the environmental impact of these industrial emissions, it is imperative that the total cumulative emissions from industries on the Burrup Peninsula must be calculated, considered, regulated and monitored. Furthermore, the Burrup Hub proposals should not be approved until the promised monitoring program has been initiated by the WA government's Rock Art Strategy Stakeholder Committee, and they have real data to comment on the consequences of an increased pollutant load. The emissions from processing, transporting, and burning the LNG are a huge source of carbon dioxide and methane which Australia must curtail. I am also very concerned about the health impacts of industrial emissions on local workers and residents of the Burrup Peninsula and Karratha region, given the high levels of air pollution that are consistently visible on BOM images. Much of this could be reduced if Woodside and other industries were forced to have the highest possible level of scrubber and other technology to reduce emissions -- some of their huge profits could be reduce harm to the petroglyphs, human health and well being. EPA has a responsibility to Aboriginal Australia, as well as the entire population, to protect the irreplaceable cultural heritage contained in the Murujuga petroglyphs rather than facilitate the short-term profits of the gas industry.</i></p>	

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PRO-AQ-RES-201	Proforma submission (additional text)	<i>As a Science and Agricultural Sc teacher with over 40 yrs experience, I am well aware of the impact this project will have. I have 6 grandchildren and I would hope that they would be able to experience this wonderful world as I have done.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-202	Proforma submission (additional text)	<i>I am very concerned about the proposed Browse Basin and North West Shelf projects. If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, as part of the 2015 Paris agreement we cannot afford to expand our LNG industry. Gas is not a 'transition' fuel. A large scale LNG project with a lifespan of over 50 years is going to be a considerable contributor to global warming and this is something we cannot accept. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. . Our children need a safe, clean future. Any development in the fossil fuel industry is more than a backwards step. It seals our fate for the future.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-203	Proforma submission (additional text)	<i>More fossil fuels? You are proposing to kill even more sea life. When will the killings stop? When the last sea creature has died? And the seaweed has turned to stinking slime? It's just not worth it ; SO STOP THE KILLING BEFORE YOU KILL THE WHOLE PLANET!</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) MF-1: Potential impacts to marine fauna (general) (Section 4.23).

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PRO-AQ-RES-204	Proforma submission (additional text)	<i>Spend 10% of the amount proposed for this ecologically damaging & insensitive project, on refining renewable energy alternatives. In the long term, so much lore will be obtained.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-205	Proforma submission (additional text)	<i>Also, we do not need gas! Other parts of the world are easily moving beyond gas by banning natural gas in new developments like Berkley (induction cooktops and electric heat pumps!) and banning ICE vehicles (yes, even Boris Johnson likes EVs)</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-8: The role of gas in the future energy mix (Section 4.9).
PRO-AQ-RES-206	Proforma submission (additional text)	<i>It would appear to me as a result of taking an active interest in the wider debate connected with human activities and the environment, that not only scientists, but also the business world , economists and the general public are becoming increasingly aware that there are better alternatives to fuel energy needs. Why then would oil companies want to waste their resources by drilling for oil that may not be required in the future.? Would it not be better to encourage money to be invested in more acceptable alternative technologies which would prepare them for inevitable changes ahead and avoid further damage to a vulnerable ecosystem?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8). • GHG-8: The role of gas in the future energy mix (Section 4.9).
PRO-AQ-RES-207	Proforma submission (additional text)	<i>Please sirs, listen and see what is happening to the climate on Earth. Temperatures are rising. Australia has seen and is seeing catastrophic droughts and fires. Human-driven pollutants in the air have contributed to</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<p><i>rising temperatures. I'm concerned about the proposed Browse Basin and Nor-West Shelf projects. These are fossil fuel projects, polluting projects. Because WA has plans for net-zero emissions by 2050, the State needs to reduce LNG projects rather than starting up new projects. The State has already made moves towards renewable energy. I urge you to encourage further development of technology and investment in renewable energy. Jobs will be created and there will be benefits for the State. Reduce emissions rather than creating more. Our world cannot afford further rising in temperature. Please reject Woodside's proposals for these projects.</i></p>	<ul style="list-style-type: none"> • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
<p>PRO-AQ-RES-208</p>	<p>Proforma submission (additional text)</p>	<p><i>Oil and gas operations should surely be a thing of the past given the cost to life and the economy of this summer of fire. Will next summer be the same as this one? More fires, more devastation. Cancel the overseas contract for gas and let us use the gas we have in WA within Australia. No more drilling, no more fracking</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
<p>PRO-AQ-RES-209</p>	<p>Proforma submission (additional text)</p>	<p><i>The time is now to act in response to the clear threat to our environment of continued preferencing of mining for carbon producing products over sustainable eco systems. Please exercise your influence to contain this out-dated pattern.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-AQ-RES-210	Proforma submission (additional text)	<i>I am a retired academic geologist. Given the effects of global warming, bushfires, and coral bleaching we must stop using fossil fuels as soon as possible, and that means NO NEW DRILLING.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-211	Proforma submission (additional text)	<i>I implore you to insist on better protection of the ancient Murujuga petroglyphs in the face of expanded development. I am sure there are technological solutions that our Government could require of the companies involved. The site is of global significance and we Western Australians are its custodians.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-260 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-212	Proforma submission (additional text)	<i>Our destruction of our environment ,and décimation of our wildlife by unprecedented climate change weather events ,means we cannot add any more destruction to our important ecosystems ,which are under great threat.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-213	Proforma submission (additional text)	<i>At a time where Western Australia needs to be taking its contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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PRO-AQ-RES-214	Proforma submission (additional text)	<i>It is time for all governments to act responsibly and do what the people want, and not just what the gas, oil and mining industries want. Sustainable, green energy will create more jobs for everyone in the long run.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-215	Proforma submission (additional text)	<i>In the midst of our climate crisis, knowing only that the world's climate will become hotter and more unpredictable with time, this development is the last thing that this country needs. It is time for regulators and governments to take a stand and protect our environment, and place it above the exploitation and ruthless desire to make money that has seen so many marine and other environments destroyed or severely degraded. My understanding is that I am told that Make a decision for the children of this world and their children, together with all our wonderful wildlife - rather than a decision to line the pockets of a multinational company and those that are already rich and well-off.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-216	Proforma submission (additional text)	<i>Hi. I know form letters aren't the greatest way of communicating with politicians at times, but in this case I think the information below is worth repeating. I'm just a South Aussie who has loved the Northwest on my visits so far, and can't wait to get back up there. We are currently fighting Oil & Gas expansion along my pristine home coast as well, so I just wanted to add my voice to those urging you to do what you can to block more of it up there. The science is clear that we can not globally afford more fossil fuel development, and I reckon we are one of the countries best placed economically/technologically to ramp up the transition to 'green' options. All we need is the political will & bravery to draw a line in the sand and begin. So please be part of that process.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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PRO-AQ-RES-217	Proforma submission (additional text)	<i>Since oil and gas are dying industries it is wastefully destructive to drill in this fabulous environment.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-8: The role of gas in the future energy mix (Section 4.9).
PRO-AQ-RES-218	Proforma submission (additional text)	<i>Australia has just had massive, widespread fires due to climate change, brought on in significant part due to fossil fuels. We need to stop this reliance on fossil fuel energy and we need to stop destroying the world in the name of money.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-219	Proforma submission (additional text)	<i>What are these people's problem? The world is at a tipping point MOSTLY because of fossil fuels and here they are wanting to put the final nail in our collective coffins! Extreme weather events EVERYWHERE in the world. Bushfires in the Arctic for christ's sake! Billions of native Australian animals wiped out over the last six months! And many more to die because they no longer have a habitat all due to the burning of fossil fuels. Are you the Environment PROTECTION Authority or not? Stop it! Do you want to have the death of our planet on your conscience for the rest of your life???</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-220	Proforma submission (additional text)	<i>I know there is an economic cost to not going ahead with this project, but .. when are we actually going to start looking after our environment. At every opportunity, we are pounding our beleaguered environment, and there are signs that it is now really struggling with the weight of human consumerism.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<i>Please, do not go ahead with this project. I would like to see the world change its direction in favour of living sustainably with our environment.</i>	<ul style="list-style-type: none"> GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-221	Proforma submission (additional text)	<i>Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. Gas is not a 'transition' fuel, that opportunity was lost 20 years ago.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6).
PRO-AQ-RES-222	Proforma submission (additional text)	<p><i>Tom</i> <i>As a WA constituent, I am seriously concerned that the Burrup Hub development will lead to a major new fracking industry in WA, with devastating consequences for groundwater, communities and the natural environment. Woodside's own documents reveal that significant additional gas volumes will be required beyond the offshore Scarborough and Browse proposals identified. The carbon pollution created by this project alone makes it *fundamentally incompatible* with Western Australia's policy goal of net zero emissions by 2050 and national and global efforts to maintain temperatures at safe levels. Given the unacceptable risks of gas fracking AND the carbon pollution and environmental impacts of the Burrup hub development, I urge you *in the strongest terms* to REJECT Woodside's proposed Burrup hub developments. The future is not in fossil fuels of any kind!</i> <i>We MUST put every effort into persuading our energy</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-7: Lower and zero carbon energy sources (Section 4.8).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>suppliers to re-tool for a zero emissions future as soon as possible.</i></p> <p><i>The machinery of government has many ways to make that move palatable to the big polluters.</i></p> <p><i>It is your responsibility to look after ALL Western Australians, not just the big end of town. What future do you want for your grand-children?</i></p>	
PRO-AQ-RES-223	Proforma submission (additional text)	<p><i>We are already experiencing the negative impacts of a changing climate so to even consider opening up what could be one of the most polluting new projects on earth surprises me. I oppose the proposal for the Burrup Hub, Browse Basin and North West Shelf LNG projects and links to the project to the spread of onshore gasfields across farming regions of WA. Thank you for the opportunity to have my say on the proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-224	Proforma submission (additional text)	<p><i>I can hardly believe that this is even on the table! The environmental and human health risks of fracking are widely documented and recognised, and even if fracking was totally safe, the end result is MORE FOSSIL FUELS BEING BURNED. Our planet is facing a climate crisis as a direct consequence of our use of fossil fuels as a power source; why on earth are you considering adding to the problem? Australia is blessed with abundance of renewable energy sources (sun, wind, wave power); we need to transition to renewable energy NOW, and leave all remaining fossil fuels in the ground! We are all in this together, and there is no Planet B! What sort of planet do you want YOUR great-grandchildren to be born onto?</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-225	Proforma submission (additional text)	<p><i>This is important. Please read to the end. Instead please put your attention to growing kelp forests that can be used as biofuels, cleans the water, takes CO2 out of the atmosphere and creates marine sanctuaries</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<i>to help grow the fish population. See Tim Flannery, Tasmanian University and his TED talk about the research about seaweed.</i>	<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-226	Proforma submission (additional text)	<i>None of this adds up in the long term as environmental impacts will exceed all possible benefits. Reject this project or you will have blood on your hands - including that of your own kids and grandkids. What else really needs to be said?</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-227	Proforma submission (additional text)	<i>I am DISGUSTED that in 2020 we humans STILL think we have a Right to DESTROY this PLANET. We are in a CLIMATE EMERGENCY and yet we get big corporations that think they can go out and DESTROY this PLANET for GREED, at the rate that us humans are PUTTING PRESSURE on PLANET EARTH. We All won't have a Planet to call Home. We are LITERALLY wiping OURSELVES of this PLANET, unless we STOP this STUPIDITY from Woodside proposal. SAY NO TO WOODSIDE.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-228	Proforma submission (additional text)	<i>We are at a unique time in the worlds history with the centuries old technology\'s of oil and coal threatening our worlds climate and environment and the new technology on the very cusp of evolving to replace them imminently. Our children deserve the right to enjoy the natural world that we have taken for granted and exploited as a young country finding it\'s position among the nation\'s of the world. We have developed and should now lead as a nation at this critical time in our worlds history for all our children\'s sake . This oil and gas resource will not disappear if it is mined in the short term and in the longer term we may develop safe ways to mine it if needs be, but give our children a chance to have a future rich in natural resources.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-229	Proforma submission (additional text)	<i>The destruction of our country is now out of control with Woodside preparing, with the active assistance of the WA State government, for the wholesale destruction of these ancient carvings that link us spiritually with our ancestors.'</i> [redacted]. I urge you and the EPA to consider the longevity and well being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry.	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-49 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).
PRO-AQ-RES-230	Proforma submission (additional text)	<i>It's just not right. Everything that I do each day is about me thinking about whether I can reduce my carbon footprint. I'm doing the work. For my children and my future grandchildren (I hope). I expect the WA govt and big business to have the same line of thinking. We should not be undertaking any business enterprises that increase our carbon emissions. Why don't you build an electric car plant and make money from that eg.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-231	Proforma submission (additional text)	<i>I am also concerned that atmospheric greenhouse gases are already too high for any new fossil fuel project to recover it's establishment costs before being shut down due to loss of commercial viability, in which case the proponent may not be able to fund cleanup and restoration works.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-232	Proforma submission (additional text)	<i>I am really worried about the future of life on earth. For over 30 years we have been warned about climate change but little has been effectively achieved. I believe that we are in the tipping point as David Attenborough and others have warned.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-233	Proforma submission (additional text)	<i>Enough is enough, human greed is ruining our beautiful planet and it needs to stop now. We need to look to new ways to do things without destroying the planet and it's inhabitants.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-234	Proforma submission (additional text)	<i>What could be more important than the safety and conservation of our planet? If you say profits then you're the number one problem wrong with the human race.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-235	Proforma submission (additional text)	<i>The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-236	Proforma submission (additional text)	<i>Dear EPA Chair, Enough! When does culture become more important to than profit? Today you have the power to show the world, our First Nations people & general Australian community that culture is more important than profit. Woodside owes this country a duty to protect Aboriginal art & our environment. Destruction or preservation? What will be your legacy?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-284 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-237	Proforma submission (additional text)	<i>We must learn quickly that this type of development is both dangerous to the environment and will increase Climate Change. As a Victorian who has watched in</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<p><i>dismay the damage that has occurred over this summer, first with terrible fires and now with floods, we must stop raping the earth and turn quickly to renewable energy.</i></p> <p><i>Change to renewables now and your company will flourish with the new technology and will help relieve the dangers that will come with your proposed development.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-238	Proforma submission (additional text)	<p><i>This proposed project is daft, environmentally irresponsible and plainly economically stupid. Politicians who allow or champion projects of this type can take warning: you will pay a heavy price at the ballot box for putting the narrow interests of big business before the broad and urgent challenges of the environment.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-239	Proforma submission (additional text)	<p><i>Please don't let only economic gains be the point of your decision, allow the ecological stability and natural beauty hold weight . The future of humanity needs decisions on relationship between energy and nature to be innovative design , not old outmoded and polluting fuels.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-240	Proforma submission (additional text)	<p><i>seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-241	Proforma submission (additional text)	<p><i>seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. The life-time emissions of these projects must be considered. It is for these reasons</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<i>that I strongly urge (and trust) you to reject Woodside's</i>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-6: Estimated GHG emissions from Woodside operated projects related to the Burrup Peninsula (Section 4.7).
PRO-AQ-RES-242	Proforma submission (additional text)	<i>I'm just adding a brief note to this pre-generated email - I'm not an expert and so haven't memorised the relevant scientific information provided below. I do want to have my say as a West Australian, and to let you know that the preservation of the local and global ecosystems, including this incredibly precious rock art, is infinitely more important to me than any financial benefit related to the fossil fuel industry. We should be positioning ourselves as global leaders in the rapid transition to renewable energy sources, instead of sacrificing irreplaceable cultural sites to a dirty, dying fuel. The climate crisis will exacerbate the existing chasm between the quality of life of the most wealthy and the most impoverished in Australia and around the world - governments' duty ought to be with elevating the disadvantaged, not pandering to the already wealthy. Anyway, the rest of the pre-generated email text follows.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-243	Proforma submission (additional text)	<i>I have visited the Burrup with my family and was speechless when viewing the incredible wealth of petroglyphs there. I was also speechless to see the inappropriate development in the area. Industries producing sulfur and nitrogen dioxide emissions are the worst kind of neighbours for the petroglyphs. The state and federal governments should be reducing the impacts in this special area to protect the heritage values. Please consider a World Heritage recommendation so this treasure can be preserved into the future. Industrial developments should be</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-291 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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		<i>located in more suitable areas. I concur strongly with the information below:</i>	
PRO-AQ-RES-244	Proforma submission (additional text)	<i>I am writing to you even though I live on the east coast: this issue affects all Australians. Gas is not a transition fuel - that time is long past. Our planetary atmosphere needs immediate stabilising and gas is a major contributor to green house gases. I also live in a region that was nearly fracked, and I know the dangers that it presents to water, soil and air quality. As desertification spreads across the planet, arable farming land needs to be regenerated and protected from inappropriate development. For these reasons, plus those mentioned below, I want to show my support for the people in Western Australia who oppose this project, and to also voice my objections. I'm alarmed about the industry reports that this proposed gas hub could also be connected farmers across WA to fracking gas fields is well known to the Government. It is totally inappropriate for the Government to be considering this gas hub proposal without fully</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-AQ-RES-245	Proforma submission (additional text)	<i>I am amazed that I and many others need to write to you regarding the proposed Browse Basin and North West Shelf projects. How can it even be considered as viable in our current awareness? If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel Gas is no longer a 'transition' fuel. We have the resources and technology for a rapid transition to completely renewable energy. This aim is what we need to be embracing with the potential for job opportunities and regional For Western Australia to sustainably prosper, tackling its emissions through the creation of clean jobs and investment in renewable technologies it an imperative. We can and need to rapidly move away from all types of fossil</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-7: Lower and zero carbon energy sources (Section 4.8).

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		<p><i>fuels, including LNG. I therefore strongly urge you to reject Woodside’s proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.</i></p>	
<p>PRO-AQ-RES-246</p>	<p>Proforma submission (additional text)</p>	<p><i>I cannot believe that in 2020, in the middle of the sixth mass extinction of life on earth, I have to write to the EPA & the Sec of Environment & energy (well there’s the problem writ large - you cannot serve the environment while also enabling fossil fuel extraction and use) in relation to the consultation on Woodside’s Browse Basin development. The EPA knows that Australia cannot afford any new Oil and Gas projects if we are to keep warming to below 1.5 degrees - current forecasts have us heading for 3 degrees with our existing behaviour! That is not a life-enhancing prospect. It will be a dangerously unstable environment to try to live in as we can see the effects of just 1 degree of warming right now. You could save a heap of money and time by just rejecting outright any new fossil fuel projects or extensions. It is insanity to have to consider them and reckless for profit-driven companies to suggest them. I am livid that Woodside’s proposed activities threaten the sensitive marine .world Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s MOST POLLUTING fossil fuel mega-development which will contribute around FOUR TIMES the pollution of the proposed ADANI coal mine. Scott Reef has already suffered the impacts of bleaching events from climate change and this would sign its death warrant. I urge you to take a stand for our children. They will have no chance of living on a safe planet if we carry on destroying the earth’s ecosystem. Please reject the criminally negligent, ecocidal proposal to undertake oil and gas development on or around Scott Reef. From fellow</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).

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		<i>human,</i>	
PRO-AQ-RES-247	Proforma submission (additional text)	<i>The professional letter follows however in simplest terms we need to transition from carbon based and all fossil fuel sources for energy. It needs to be left in the ground. We need you and all who have the capacity to support significant change for the benefit of all living beings on earth so recognise this HAS TO HAPPEN NOW. Why corrupt and pollute a relatively pristine environment which will be a key area to rehabilitate and maintain ocean diversity to benefit a very small number of shareholders. Please amend your thoughts. Make decisions that benefit all species on earth. You have been tasked with a great moral and ethical decision not a corporate or financial one. Please err for the benefit of the greater good.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-248	Proforma submission (additional text)	<i>It breaks my heart that we the people are constantly having to protect each and every piece of land from the greedy corporations seeking to take take take in the name of money and power instead of moving forward with technology that respects our home and nurtured her to renewal. It is exhausting and infuriating. It is causing anxiety in much of the population that we are seemingly powerless and must stand by and watch as our future is destroyed and anything of significance culturally especially silly takes a back seat to lining the pockets of the already super elite. These companies are a disgrace to mankind and the earth in which they depend upon to live. Shame on you for continuing to allow this destruction. May you stand before the children of the future and explain yourselves.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-249	Proforma submission (additional text)	<i>Having visited the Pilbara 18 months ago as a guest artist for Red Earth Arts Festival 2018 I was incredibly moved by the history and deep richness of this area. In</i>	With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response

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		<i>addition, I was graciously exposed to Rock Art and national treasure by Clinton and his family. The rest of this letter is pre- drafted as I cannot express any better my deep distress that this ancient historical world class site is not being valued or managed with best practice measures in mind or action.</i>	to SS-RA-55 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-250	Proforma submission (additional text)	<i>If we must burn gas for power then burn it here in WA and export the electricity via high voltage DC current. This will result in far fewer ghg emissions and require far less gas than would be required to liquefy the gas and export it via ships. Of course these companies want to use their ships but that is not something the EPA should be worried about. Don't forget that there are fugitive emissions from these projects. These emissions are far more potent greenhouse gases than carbon dioxide so although smaller in quantity they still would make a huge contribution to our greenhouse gas budget.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-251	Proforma submission (additional text)	<i>To [redacted] Chairperson Environmental Protection Authority WA and [redacted], Secretary Department of Environment and EnergyGentlemen, we rely on you and the Department Heads in the Public Service to take control of the "Climate Change" situation because our politicians are completely "out of their depth" and don't know what to do. I believe the scientist as I hope you would and their advice is we don't need more gas and we don't need more coal. For the sake of future generations, please say no to any increase in exploration and development of gas and coal resources.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-252	Proforma submission (additional text)	<i>As an international citizen who is informed and concerned about environmental issues and who is aghast at the destruction of Australia's unique species and ecosystems by the recent fires, I write regarding</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<i>the proposed Browse Basin and North West Shelf projects</i>	<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-253	Proforma submission (additional text)	<i>To knowingly allow activities that threaten this rock art is a cultural crime, Any actions will be recorded, remembered and judged by future generations, please don't let our generation be seen to have been party to, or to have facilitated this.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-56 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>
PRO-AQ-RES-254	Proforma submission (additional text)	<i>Surely it is time to concentrate on totally renewable energy sources and cease the continued destruction of our wonderful marine creatures.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-255	Proforma submission (additional text)	<i>No matter where we live, there is a strong need to take care of our world.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-256	Proforma submission (additional text)	<i>I am deeply concerned that yet again the Murujuga National Park and Rock Art is threatened by further industrial development. An Internationally recognised Petroglyph site, of World Heritage value, must struggle with the destructive outfall from fossil fuel industrial waste, despite the scientific evidence that such pollution can destroy these ancient artifacts. This is part of Australia's(and the world's) significantly ancient human story, that should be preserved and</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>respected. And just as the destruction upon the Australian continent for "mining resources" has wreaked havoc upon the unique environment, so too to enter the water off shore for gas extraction places at risk the unique coastal water environments that provide a base for the tourist and fishing industries. This is a "balancing act" fraught with terrible consequences. To top it all off, rather than reducing global carbon-based emissions to reduce the impact of global warming, this would increase emissions and have a greater impact on global warming, creating a more expensive situation to then address global warming problems. A short term profit for the companies involved and a long term problem for the people of the world and a very, large recovery/adaptation bill for the government (aka the taxes of the Australian people, money that could be better spent elsewhere). At this stage in the history of the planet, what actions are taken to control fossil fuel emissions are the important matters of the day. Adding newer and bigger amounts of fossil fuel wastes into the atmosphere is criminal, given all the scientific evidence on the impact this will have worldwide. The recent fires on the East Coast already a significant warning of what some are calling the "new normal", adding further fuel to this "normality" is an unconscionable act of greed before humanity and the planet. Every effort must be made to reduce emissions and stabilise global warming, this is what the science has been asking governments to do. Rated 57 out of 57 on our "current" efforts to address the global emissions problem, the Woodside proposal is anathema to all that needs to be done to honour our global agreements to reduce emissions. The scientific reality of future temperatures and weather conditions and their impacts upon the whole planet are only just beginning to come home to</i></p>	<p>to SS-RA-57 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).</p>

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		<p><i>roost. That we are struggling to responsibly contain emissions now and would add greater emissions to the equation beggars belief. The only responsible action to be taken with regard to the Burrup Hub Proposal by Woodside is to stop the process immediately. The WORLD cannot afford the additional pollution and inaction this project would involve. We cannot keep adding more fuel to the global warming fire and expect it to "get better", it can only exacerbate the problem in much worse ways. The definition of Insanity is repeating the same thing and expecting different results, adding more fossil fuel emissions to the atmosphere/environment will not resolve global warming. If the science can recognised in every other sphere of human usage, it is time it was recognised when it comes to Climate Change/Action. No Woodside Hub at Burrup!</i></p>	
<p>PRO-AQ-RES-257</p>	<p>Proforma submission (additional text)</p>	<p><i>In the measure of its true task, the EPA must be more than what its currently lessened regulatory power enables it to do - to safeguard the stability, ecological integrity, and beauty of this land and water for many generations to come. If this proposal is accepted, then this sets the tone for even further regulatory weakening and 'capture' by corporate interests that we have seen in developing in other nations - most notably the rollback of environmental protection in the USA, right at the time of the critical juncture between now and meaningful action addressing catastrophic climate change to come. Please do not fail us.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-258</p>	<p>Proforma submission (additional text)</p>	<p><i>The proposed Browse Basin and North West Shelf projects will significantly increase global carbon emissions. We have already passed the point where we need to be reducing our emissions towards zero, as soon as possible.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<p><i>Emissions from these projects will accelerate global heating and ensure that Western Australia and many more vulnerable countries will experience increasingly severe weather events. The southern half of WA will continue to heat up and dry out and make the current water stress in Denmark and other southern Shires significantly worse.</i></p> <p><i>These emissions combined with those from other parts of Australia and the world will render more areas of WA uninhabitable to humans and will extinguish many species, especially in our prized biodiversity hotspots. These will just get hotter.</i></p> <p><i>Expansion of gas extraction when the science is clear that phasing out is essential to the survival of so many species and habitats is unconscionable.</i></p> <p><i>Please use all your powers to reject these proposals</i></p>	
PRO-AQ-RES-259	Proforma submission (additional text)	<p><i>Please reject Woodside's proposal for the Burrup Hub project. It must be stopped. We are all trying to reduce our environmental impact personally yet, big companies like Woodside get away with emitting more damaging emissions than anyone and all for their own profit and at the detriment of our world. Please see below information which I haven't written but I have read and researched and could not have articulated myself better so am using. Please do not consider this is a lack of interest on my behalf rather sensibly using a response that is more succinct than I can write personally. I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-260	Proforma submission (additional text)	<p><i>My son is 9. We are hoping next year to have 3 months travelling and camping in WA. I can't wait to show him the amazing environment you have. But I am so worried about our environment. Having lived</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<i>through the bushfires over East, I know we have to take action now if we want to have anything resembling the environment I was privileged to grow up in. My son's favourite animal is turtles. Please don't jeopardise their future.</i>	<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-261	Proforma submission (additional text)	<i>Every developer is squeezing every dollar they can wring out of this weary country and it's the silent dwindling natural environment that always suffers. Everyone holds the environment very dear to their hearts. Everyone except the developers and politicians who allow them to risk ruining the land or sea</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-262	Proforma submission (additional text)	<i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. The risk to irreplaceable marine environments and Indigenous world-class heritage worthy sites is too great. When the rest of the country is already burning, or coral reefs dying because of human long term behaviour, it is necessary to preserve those places that we have left. It might be too late to remove existing projects in these areas, but it is irresponsible to permit expansion of them. WA has the chance to take a significant position in saying enough is enough - our land and sea that sustain life on this planet, has to come first - WA and Australia can still become a world leader in saving this planet from irreversible damage. Show the world that Australia's politicians, through government policy, that they can (despite their track record so far) do the brave thing for once, and finally say no to big business. Protect the natural environments we have left and refuse the approval of these projects, please.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-309 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>
PRO-AQ-RES-263	Proforma submission (additional text)	<i>please show some leadership and reject woodside's lng as this season's bushfires have highlighted, climate change is here and now and we need to halt all fossil</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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		<i>fuel projects immediately and instead invest in renewables. on behalf of our children and our planet, i urge you to see sense. thank you!!!</i>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-264	Proforma submission (additional text)	<i>It is extremely important that such proposals offer carbon capture, or abatement. In the absence of a capture plan to harness 95mtpa of carbon & other greenhouse gases this proposal must not be approved. The extent of the emissions that would result from gas We have seen the effects of Bushfires this past 5 - 6 months that global warming has had on the Eastern sea-board of Australia, Queensland, South Australia, including Kangaroo Island and in Western Australia. Devastating fires of the like never before seen by professional firefighters with many decades experience. Our country should not be subjected to proposals that will increase our carbon & methane emissions, that is directly attributable to increased severe weather events.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-9: Carbon capture and storage (CCS) of Browse gas (Section 4.10) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-265	Proforma submission (additional text)	<i>I am personally appalled at the lack of respect for the environment on which we and all life depend, being shown by greedy, profit-motivated resource companies. They don't appear to care about the damage they do, and the fact that governments just let them do what they like, is an unconscionable disgrace. No wonder there is so much anxiety amongst the young people !The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-266	Proforma submission (additional text)	<i>PLEASE ACQUAINT YOURSELVES WITH THE SCIENTIFIC ASSESSMENTS OF THE CONSEQUENCES OF CONTINUING CARBON EMISSIONS. THE REQUIRED RATE OF REDUCTION OF EMISSIONS TO PROVIDE SOME</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p>POSSIBILITY OF AVOIDING CATASTROPHIC CLIMATE CHANGE NECESSITATES AN END TO ALL NEW FOSSIL FUEL DEVELOPMENTS AND THE CURTAILMENT AS RAPIDLY AS POSSIBLE OF EXISTING MINES AND GAS EXTRACTION. I AM 76 YEARS OLD AND FEAR FOR MY GRANDCHILDRENS' FUTURE, AND EVERYONE ELSE'S FOR THAT MATTER.</p>	<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-267</p>	<p>Proforma submission (additional text)</p>	<p><i>The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual residents and industry seeking sustainable ways to reduce their ecological impact. Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach your international carbon reduction obligations, and push the national reduction goals of Australia out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change and ecological destruction. The carbon seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. More importantly, the construction of the facilities themselves will involve the destruction of local ecosystems. I lived in Australia from 1970 to 1992. Since I did not wish to be part of a country in which the large-scale destruction of natural habitats, logging of forests and extermination of native animals continue to take place and which is the result of genocide against indigenous peoples, I returned to my country of origin, Croatia, and encourage others to</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). <p>With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-314 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).</p>

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		<p><i>do the same. I also avoid products from such countries. I am campaigning against an LNG terminal that is planned in Croatia that could involve the import of gas from Australia or North America. All the ecological impacts for the life-time of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's</i></p>	
<p>PRO-AQ-RES-268</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. I have written many letters to many politicians and decision-making entities for twenty years regarding the environment. I have yet to see any of them really listen or respond in a meaningful way. I humbly ask you to consider, really consider, this letter, and the concern I share about this project and others like it with thousands around the country. If the proposed Burrup Hub projects proceed, the Burrup Hub will be I have sent too many letters of this kind, and I am weary. It's time for us to move on to new energy sources, and stop emissions from sources that will inevitably run out anyway.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-269</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. I understand that if the proposed Burrup Hub projects proceed, the Burrup Hub will be .With all the knowledge we have today, the implications of this project amount to ecocide. There is a moral and human rights case against further industrial development of this nature. We cannot afford to add to the destruction of nature, animals and life support systems. People around the world are already suffering from the devastating impact of the fossil fuel industry.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-270	Proforma submission (additional text)	<p><i>The Burrup Hub project should not go ahead as it will not only breach our international carbon reduction obligations, but also risk the health of the Australian coastline since more earthquakes are expected in this region and more severe tropical cyclones are becoming the norm, which would risk damaging the structures put at sea.</i></p> <p><i>Please consider the impact this project would have both in the short term and the long term on the environment and tourism industry.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-271	Proforma submission (additional text)	<p><i>When will ever care enough for the future of our children, the planet and the wildlife?</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-272	Proforma submission (additional text)	<p><i>We have just one chance to survive on our Earth. Projects like the one proposed here are greatly diminishing our chances at success, and are likely robbing our children and grandchildren of a joyful secure future.</i></p> <p><i>People around the world will not tolerate the blatant destruction of our Habitat in a missguided folly like this one.</i></p> <p><i>The zombies that are perpetuating these acts of mindless self sabotage will be judged harshly in the very near future, by themselves as well as the rest of us.</i></p> <p><i>We all MUST change our daily rigmaroles and directions, to a long-term sustainable path.</i></p> <p><i>There are NO second chances in outer space !</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<i>And that is exactly where we all are.</i>	
PRO-AQ-RES-275	Proforma submission (additional text)	<i>Please do not proceed with this plan. There is still time to move in a different direction and save yourself.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-276	Proforma submission (additional text)	<i>In addition, the rock art on the Burrup peninsular is extremely vulnerable to current industry already. Further development would cause more damage to one of the most significant sites of human culture.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-RA-58 in the NWS Project Extension ERD Response to Submissions (Section 3.3.3, Table 3-10).
PRO-AQ-RES-277	Proforma submission (additional text)	<i>As an Australian citizen who is very concerned about the climate emergency and the state of our environment,. At this time in human history, this project is a really bad idea. It is obvious that gas is a fossil fuel, and arguments that it is less polluting than coal belie the fact that we need to be focusing our development of renewable energy, not extracting more fossil fuels!The extent of the emissions that would result from gas Please consider the responsibility that current generations have in ensuring a liveable world for those to come. Australia is already experiencing a climate emergency and releasing more gas can only make matters worse, as well as setting a very poor example to the rest of the world. Yours extremely [redacted]</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-278	Proforma submission (additional text)	<i>How much have they greased your pockets with you spineless cretins? I studied political science in 2002 and 2003 and dropped out because I saw how the Iraq war played out despite massive public outcry against a</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<p><i>war for oil. Millions in the streets and millions of petitions were overturned because the corporate power runs the government and not the government for the people. In the years since my initial disillusionment I have seen both spineless sides of 'government' be bought out by the interests of the oil and mining lobby well in advance of any elections and I grew so sick of it that I can't think about the problems facing this country as being directly caused by this pathetic excuse for democracy. For [redacted] sakes do the right thing and stop approving billion dollar demolitions of our fragile environment and start making these arrogant companies change their direction in favour of sustainable development.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-279	Proforma submission (additional text)	<p><i>Seriously the planet is in enough trouble without more destructive practices such as this..world Leave something for the future. Our greedy era must stop</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-280	Proforma submission (additional text)	<p><i>I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. At a time when we are globally supposed to be divesting away from fossil fuels, it is inconceivable to me that the governments of Australia would approve, and invest in, coal projects like this to see us into the future. Other, smarter, governments, are shutting down coal plants and investing in renewable energy and Australia should be doing the same. Most importantly, Australia should not be digging up reserves to pass onto irresponsible countries to burn at their discretion. Indeed if we have any hope of keeping global warming below 1.5-2 degrees Celsius, Australia is in a particularly important position as we have the power to stop flooding the global market with cheap</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

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		<p><i>fossil fuels. The proposed Burrup Hub, if approved, will be collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon footprint. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. There is no such thing as clean fossil fuels. Please don't play us, the public and people of Australia, for fools.</i></p>	
<p>PRO-AQ-RES-281</p>	<p>Proforma submission (additional text)</p>	<p><i>Given that it is no longer plausible in this country to deny climate change and given what the scientific consensus tells us about our carbon emissions it is either suicidal or idiotic to proceed with new massive fossil fuel projects.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-282</p>	<p>Proforma submission (additional text)</p>	<p><i>So bloody tired of governments head up it's bum attitude to OUR environment. Wake up and listen to the people!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
<p>PRO-AQ-RES-283</p>	<p>Proforma submission (additional text)</p>	<p><i>Re: the current consultations on the proposed Browse Basin and North West Shelf projects. It's time to step into a new era! If the proposed Burrup Hub projects proceed, the Burrup Hub will be .NOT what the world needs now. The extent of the emissions that would result from gas both the creation of new, and the extension of existing, large-scale projects such as the proposed Burrup Hub, will breach our international</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<i>carbon reduction obligations.</i>	<ul style="list-style-type: none"> GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-284	Proforma submission (additional text)	<i>STOP THIS CRIMINAL INSANITY! !!.world</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-285	Proforma submission (additional text)	<p><i>Although I live in NSW, I think this matter concerns all Australians. I am aware that the federal government is on a pro-gas agenda. I am also aware that major international monetary funds are divesting from fossil fuels on the basis of economic decision making. I am also aware that our fossil fuel industry is heavily subsidised by our taxes. These three things, plus the fact that climate change has arrived in Australia, is caused by increased warming gases in the atmosphere and and that fossil fuel is a direct contributor to this effect, means that I have a stake in this. Not only this, I am a diver and recreational enjoyer of the ocean, and a lover of marine life. My body has as much water in it as the earth. I owe my life to it. So do you. Onward to the following points: I am concerned that Woodside’s proposed activities threaten the sensitive marine .world (And, as is seen by the great garbage islands in the Pacific, and modelling on the currents from the Great Australian Bight, the ocean moves and takes things from here to there.) And in case you didn’t notice, our entire country, every state, including WA, is burning. That’s climate change.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) MEQ-1: Environmental Quality Management Plan (Section 4.15) BCH-1: Potential impacts to Scott Reef (Section 4.14).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-286	Proforma submission (additional text)	<p><i>This is insanity on steroids! It is also a criminal offence according to the UN Human Rights charter. Look it up. The Dutch have already created a precedent and won their case in The Hague. All Australian citizens have to do is follow suit.</i></p> <p><i>How anybody can even contemplate an action like this, so against everything that needs to be done to reverse climate change and protect rapidly declining wild life and flora is absolutely dumbfounding.</i></p> <p><i>Are you people aware that Australia is on fire; that we've already lost lives, flora and fauna that can never be replaced, businesses, properties, communities have been utterly devastated, that nature, indigenous trees and bush and re-greening of the planet is our only way to survive and mitigate climate change, and yet Australia's conservative local and federal governments appear to be doing everything they can to tip is over into the abyss? Didn't know you were a conservative, Mr McGowan!</i></p> <p><i>There are no words to express the grief, rage and frustration of the majority of the population over the criminal actions of conservative climate deniers. But things are turning around, and you people should be very afraid. The precedent has been set in The Hague. Ecological vandals will no longer have free rein; they will be brought to account.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-287	Proforma submission (additional text)	<p><i>Thank you for accepting my email with regard to the North West Shelf Project. Surely with current climate change statistics across Australia this summer Australia needs to be focussing upon expanding renewable energy and all the innovations such as are currently occurring in institutions such as La Trobe University at 4 sites and Monash University passive housing. Surely, at the same time we must reduce</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11)

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		<p><i>Australians reliance on energy across the nation, such as improving energy efficiency in buildings. I refer you here to housing developments such as the Cape in Victoria requiring ER7 plus. The NCC has written new codes for Volume One 2019, and is also writing new codes for Volume Two 2022 for better thermal performance therefore greatly reducing a buildings reliance on energy for heating and cooling. The Department of energy and the environment is developing energy efficiency requirements for existing homes to be released 2020 to improve energy efficiency of older homes and businesses. For years the government sponsored EneyCut organisation has been helping industry reduce their reliance on energy sources. However, with all this in mind I am specifically writing in relation to the current consultations on Woodside’s Browse Basin development. Please note that this is a stranded asset industry and apart from the environmental issues discussed below, can be a huge waste of money In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine .world the proposed Adani coal mine. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to this problem. Innovation in energy performance of buildings can be the growth industry of the future offering new products, new businesses and jobs by the thousands for the millions of buildings which demand upgrades.</i></p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • BCH-1: Potential impacts to Scott Reef (Section 4.14).
PRO-AQ-RES-288	Proforma submission (additional text)	<p><i>LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-289	Proforma submission (additional text)	<i>Following is the “proper” letter with the intellectual reasons, but first I want to express the emotional reasons for sending this. Are you crazy???? Coal & oil are reaching their use-by dates. Are you so afraid of the idea of change that you will commit this country to both the dishonor & the rusting & stranded assets that this will produce, not to mention the environmental destruction along the way!! For goodness sake, if you’re not up to the job, then as Bob said “If you can’t lend a hand Then get out of the way, For the times they are a changin’.”</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-290	Proforma submission (additional text)	<i>I’m just going to add a quick note to this otherwise pre-generated email. Expanding fossil fuel production in WA is unethical, a direct attack on the futures of all vulnerable people without sufficient money to insulate themselves from the worst effects of climate change. We need to reduce carbon emissions as drastically and quickly as possible, not increase them. Other governments have already faced legal action for failing to act on climate change, there is no reason to suppose this won’t also happen in Australia. Please, don’t allow these projects to proceed. We could be a world leader in renewable energy, if we could just put science and human rights ahead of ideology and the shortsighted interests of the fossil fuel industry. I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-291	Proforma submission (additional text)	<i>Incidents of failure occur and at rare times damage beyond compression like the Sidoarjo mud flow or Lapindo mud which may keep discharging for 25 years. Fossil fuels including gas are in themselves dangerous for life.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-292	Proforma submission (additional text)	<i>I doubt you will though as I suspect you're both [redacted].</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-293	Proforma submission (additional text)	<i>Furthermore I consider, these proposal to be tantamount to criminal actions and those responsible should, at some time in the future, be held responsible in an international court of law!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-294	Proforma submission (additional text)	<i>We want renewable energy (solar thermal and wind) not any new coal or gas.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-295	Proforma submission (additional text)	<i>I am also deeply concerned for the Aboriginal artefacts at Burrup Peninsula and for the possible damage to areas with deep significance to Aboriginal people.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).
PRO-AQ-RES-296	Proforma submission (additional text)	<i>Start living and planning in this century and for the future.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-297	Proforma submission (additional text)	<p><i>I wish to express my deep concern over the proposal for the Burrup Hub and the Browse Basin development. I am alarmed about the industry reports that this hub could also be connected to several new major onshore gas projects in the farming region aro The Waitsia and West Erregulla projects are still going through assessment and exploration processes, yet it seems as if the Burrup Hub project is already talking up access to vast amounts of The strong opposition from regional communities and farmers across WA to fracking gasfields is well known to the Government. The environmental assessment of the Burrup hub project must consider the impacts of all these future gas developments, and Woodside must disclose all gas supplies and their environmental impacts. It is also regressive when we are already experiencing the negative impacts of a changing climate to even consider opening up what could be one of the most polluting new projects on earth. WA needs to do better- -to stop increasing the flow of polluting gas and get serious about economic opportunities from clean renewable energy and renewable energy exports. WA’s vast potential to be an exporter of clean, renewable wind and solar power to neighbouring nations like Indonesia and East Timor must be explored and exploited, not polluting gas. Huge expanses of land in northern WA could be devoted to such facilities with NO harm to terrain, water or atmosphere. In conclusion, I fervently oppose the proposal for the Burrup Hub, Browse Basin and North West Shelf LNG I thank you for this opportunity to express my opinion on this crucial issue</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8). <p>With respect to the concerns raised relating to onshore development including fracking, please refer to the response to O-21 in the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p>
PRO-AQ-RES-298	Proforma submission (additional text)	<p><i>I lived in Geraldton for years and people don’t want mining & gas like the Pilbara. They want clean energy & jobs. The mid-west could become a hub for</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised</p>

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		<i>renewables. They have plenty of wind & sun</i>	With respect to the concerns raised relating to potential impacts to the Murujuga rock art site and the World Heritage listing nomination, please refer to the response to GHG-340 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-299	Proforma submission (additional text)	<i>I am writing to you because I am deeply concerned by the proposal for the Burrup Hub and the Browse Basin development. I'm alarmed that this hub could also be connected to several new major onshore gas projects in the farming region aro The serious opposition from regional communities and farmers across WA to fracking gasfields is well known to the Government. Hence It also reflects poorly, given that we are already experiencing the negative impacts of a changing climate, to even consider opening up what could be one of the most polluting new projects on earth.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2). With respect to the concerns raised relating to onshore development including fracking, please refer to the response to GHG-341 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-300	Proforma submission (additional text)	<i>In addition, Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of Thank you for your urgent consideration of all this.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-301	Proforma submission (additional text)	<i>I urge you and the EPA to consider the longevity and well-being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry. Yours [redacted]</i>	We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised relating to onshore development including fracking, please refer to the response to GHG-344 in the NWS Project Extension ERD Response to Submissions (Section 3.2.3, Table 3-7).
PRO-AQ-RES-302	Proforma submission (additional text)	<i>I don't understand why we have to keep on fighting this. Surely by now you have realised that this isn't the way forward only the way backwards. We need to think for ourselves and not follow in the world's footsteps, instead lead the way forward in a new positive</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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		<p><i>direction towards renewable energy sources. It is just upsetting that these emails and protests have to continue to be written over and over again. The funny thing we all put this much effort without monetary gain. Yet, the people that we appoint/get appointed won't make the hard decisions we the appointees put them there to do. So the only thing I can see going on is that there is some extra monetary gain for those appointed other than what we the people are aware of! Are you not tired hearing "this is just the world we live in and there's nothing we can do about it". Well there are people who can do something about it and those are the ones in power that need to grow a set and stand up for what needs to happen.</i></p>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-303	Proforma submission (additional text)	<p><i>At a time when hydrocarbon energy sources are becoming 'the bad thing of the past', we should channel future energy developments toward renewable. For the future of our species.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-304	Proforma submission (additional text)	<p><i>Think about the future of our planet as we need clean environment for us to live healthy lives ...WA is only interested in the DOLLAR...THEY DON'T CARE ABOUT THE ENVIRONMENT COAST LINE OR THE AIR...STOP NOW SELL YOUR SHARES</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-305	Proforma submission (additional text)	<p><i>A large scale fossil fuel LNG project with a lifespan of over 50 years simply cannot be allowed while we're already experiencing the effects of climate change in Australia. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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		<i>urge you to reject Woodside’s proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA</i>	<ul style="list-style-type: none"> GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-306	Proforma submission (additional text)	<i>In addition, it is patently obvious that continued use of fossil fuels is increasing the risk of further Climate Change as witnessed by the WORST bushfires Australia has ever experienced. The dubious benefits of your proposals would be more than offset by the losses of homes, lives and the killing of huge numbers of animals and denude the land of tree cover as the next wave of fires continue to destroy Australia.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-307	Proforma submission (additional text)	<i>OMG! I cannot believe that you are even considering this!!! [redacted]</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-308	Proforma submission (additional text)	<i>I am appalled by the sheer arrogance and disrespect for our environment and [redacted]</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-309	Proforma submission (additional text)	<i>Planet before profit ...Do you really care about your kids/grandkids ??</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-310	Proforma submission (additional text)	<i>The following sets out the scientific arguments, but basically my response is: how dare you. How dare you consider another attempt at genocide? This proposal should be rejected out of hand with a message that the future of life on our planet requires an approach</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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		<i>sympathetic to all life forms, and our species survival relies on the survival of all of them.</i>	
PRO-AQ-RES-311	Proforma submission (additional text)	<i>Are you mad???</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-312	Proforma submission (additional text)	<p><i>Climate change is the existential threat to our planet and our human species. Now is the time to ACT not when the damage has been done and it cannot be reversed.</i></p> <p><i>Woodside has taken enough wealth out of Western Australia. It's time to stop the exploitation and greed and to focus on protecting our planet.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-313	Proforma submission (additional text)	<p><i>I recently returned from Germany with a copy of Die Zeit weekly. This is one of the world's few remaining deeply researched and highly regarded newspapers. This included a world map in 80 years, by the year 3000 - that is, within the lifetime of our/your grandchildren, when most of Australia, all of South America, most of the US, all of Europe below the latitude of the German city of Bonn, all of Africa, will be uninhabitable due to drought and/or catastrophic weather. This will be our world if we continue as Australia (badly) and most countries in failing to meet the 2015 Paris Climate Agreement limits on carbon emissions. Australia, with the devastating and widespread bushfires, and now with towns evacuated earlier because of fires, now being evacuated due to floods, represents the world's canary in the mine, en plein air, that is, in full sight of the world, for the massive destruction of habitat and of over a billion animals. Miners and gas explorers need to change their business model: there will be NO world to exploit</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<i>within decades! Shame, shame, shame! Greta Thunberg is one of the few speaking up for what is clearly right (read and reflect on \"The Emperor's New Clothes\" story?): \"How dare you take away our future?\"</i>	
PRO-AQ-RES-314	Proforma submission (additional text)	<i>I acknowledge this is a \"form\" letter and in public consultation processes such as these receive a discount. However the letter fully represents my views and I request that it receive the same weight as any individual letter.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-315	Proforma submission (additional text)	<i>Please DO NOT allow the Brows basin Development.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-316	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. This is appalling betrayal on the people of Australia. We have had enough of mining companies ravaging our lands and pushing us into drought. Coal mines consume enormous amounts of our precious water, and drain our land of moisture and nourishment. Coal emissions are rising and any new coal mines would push Australia's emissions even higher. Woodside's proposed activities threaten the sensitive and irreplaceable marine After 1.25 billion animals have been burned alive you need to take their lives seriously, and ours. Every day we suffer another trauma from the continued push of coal. It is killing us and our land and our oceans. Enough. This is not what the people want and you need to reject this disgusting proposal. Land or water our wildlife must be protected and any new coal mines</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).

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		<p><i>will simply kill us all. After a summer of watching our forests and animals burn alive this proposal is an attack on the Australian people and our precious home. Woodside might not care if we burn alive and have no water, but we do!! And to suggest ravaging our precious Reef, and a major tourist attraction, is again another attack on us. Clearly Woodside has no respect for us and sees our country as its quarry. We are not.</i></p>	
PRO-AQ-RES-317	Proforma submission (additional text)	<p><i>This matter is very important.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-318	Proforma submission (additional text)	<p><i>In addition to this, the continuing approval of such applications demonstrates that Australia still has no credible policy on reducing carbon emissions to zero (including those of other countries to whom we sell or who are allowed to exploit our resources) and transitioning our economy completely from dependence on fossil fuels, which we need to do as quickly as possible in order to limit the effects of climate change. There is now overwhelming public support for much stronger and more rapid action in this country, which is incompatible with the continued approval of such projects. Either we start acting responsibly on climate change, or we continue to destroy the planet and render ourselves extinct, but approving Woodside, after Adani, after Equinor, after other new projects, is not the way to respond to climate change and preserve what can still be preserved. Such approval would be undemocratic and morally unconscionable.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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PRO-AQ-RES-319	Proforma submission (additional text)	<i>Please do not approve this proposal. It is heartbreaking to have seen first-hand the terrible damage to our Australian habitat during these last fires and any future development that risks damaging any other natural environment should not be allowed. It is obvious these developments benefit few yet risk so much.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-320	Proforma submission (additional text)	<i>I can no longer sleep at night!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! what will it take ??</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-321	Proforma submission (additional text)	<i>Save what is special about Australia please.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-322	Proforma submission (additional text)	<i>Please help save our planet</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-323	Proforma submission (additional text)	<i>Please say "No way" to Woodside!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-324	Proforma submission (additional text)	<i>There is an urgency now to transition from oil and gas to more sustainable energy sources in order to reduce the impact of climate change. Right now climate change is placing increasing pressure on the survival of marine ecosystems. Therefore, the EPA must implement the Precautionary Principle in this matter as a priority. Scott Reef is also an area used for scientific research, and has beneficial uses for tourism and social purposes.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).
PRO-AQ-RES-325	Proforma submission (additional text)	<i>Climate change is socialism in disguise</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-326	Proforma submission (additional text)	<i>In a time of Climate Emergency the world needs to be moving right away from new oil and gas as well as Coal. These are all fossil fuels whose carbon has been sequestered eons ago. We have used them profligately for the last 50 years and now must move away from them. The bushfires of 2019-2020 have only added to CO2 levels in the atmosphere and so will aggravate Global heating. Even if the mining of this gas or oil were not adding to the climate problem the granting of license to Woodside Petroleum to drill in the Scott Reef area should not be granted for the reasons which follow. I am concerned that Woodside’s proposed activities</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).

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No.	Submitter	Submission and/or issue	Response to comment
		<i>threaten the sensitive marine</i>	
PRO-AQ-RES-327	Proforma submission (additional text)	<i>WON'T you ever learn I am appaled that we the citizens, still have to write against projects of the sort.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-328	Proforma submission (additional text)	<i>In short put the environment and our future first and gas and coal and oil in the ground where it belongs</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-329	Proforma submission (additional text)	<i>EMISSIONS AFFECT EVERYONE AND EVERYTHING. Obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-AQ-RES-330	Proforma submission (additional text)	<i>Oil and gas are fossil fuels which contribute to climate change (and coral bleaching), and as active contributors to this environmental crisis need to be scaled back and not increased through new extraction approvals such as what Woodside is proposing.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-331	Proforma submission (additional text)	<i>I am a father and grandfather deeply frightened and concerned for the futures of my grandchildren and children and our environments in a world exposed to</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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No.	Submitter	Submission and/or issue	Response to comment
		<i>the consequences of fossil fuels pollution in global heating. We are living the climate crisis already. I want ecological protection and thrival to be our no 1 priority in all assessments we do on any project. Do No Harm! Next, the health and well-being of our communities. Only once these are guaranteed, ought investors be permitted any activities in our environments and only on the precautionary principle of DO NO HARM</i>	<ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • ESD-1: Principles of Ecologically Sustainable Development (ESD) (Section 4.12).
PRO-AQ-RES-332	Proforma submission (additional text)	<i>Fossil fuels are killing the planet. But the most frustrating thing is, if fossil fuel companies spent half as much effort on switching to renewables as they do on starting new fossil fuel projects, they would make as much, if not more, money and do the planet and everyone on it a favour.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-333	Proforma submission (additional text)	<i>Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of</i> PLEASE REJECT THIS PROPOSAL FOR THE SAKE OF OUR PLANET, hUMANS & WILDLIFE. PLEASE REPLY TO THIS.	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-334	Proforma submission (additional text)	'HOW DARE YOU!'	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-335	Proforma submission (additional text)	<i>Another horrible report last week about our global omnicide threat has not been widely circulated in mainstream media but we really should be concerned as islands go underwater, the seas acidify and desperate climate refugees take to the boats. Please</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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No.	Submitter	Submission and/or issue	Response to comment
		<i>reject the anachronistic proposal to undertake oil and gas development on or around Scott Reef.</i>	<ul style="list-style-type: none"> • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-AQ-RES-336	Proforma submission (additional text)	<i>YES THE BELOW IS A STANDARD LETTER - BUT PLEASE PLEASE PLEASE - BE AWARE THAT THIS BEING A POINT IN TIME OF SUCH SIGNIFICANCE AFFECTING FUTURE GENERATIONS WHO WILL JUDGE US, EVERY 'DIRTY' PROJECT IS AN INSULT. WHAT WILL BE YOUR LEGACY?</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-337	Proforma submission (additional text)	<i>Fugitive emissions will directly threaten the viability of this important habitat.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-338	Proforma submission (additional text)	<i>I am sending this because the climate science says that unless we (people of earth) stop using fossil fuels we might as well kiss Mother Earth as we know it goodbye. I grieve for what has been lost already and for my grandchildren.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-339	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. Enough is enough. As a nation we have lost so many native animals to fires. The wanton destruction of our animals and habitats must stop. We are close to nothing left. You have a responsibility to the people of Australia and our future. We need our wildlife and natural beauty-habitats more than more oil and gas fields. How much will go off shore? We are not stupid and your days of telling us that 'worlds best practices are in place' are over. Stop this oil and gas madness now. Stop being a mouth piece for the fossil fuel companies and do your job in support of Australia today and tomorrow.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-340	Proforma submission (additional text)	<i>The world cannot afford to pump more greenhouse gas emissions into the atmosphere. Extracting of fossil fuels must end now if we are to have a viable climate for future generations.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-341	Proforma submission (additional text)	<i>I think its time our government showed real inspired leadership & made our environment top priority before its too late. Its time to make a transition from 20th C technology to 21st C technology & create jobs in the new domains that emerge as we create a sustainable (not growing but sustainable) environment for all life in this country & for that matter the planet.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-342	Proforma submission (additional text)	<i>In fact gas is just another fossil fuel and must not take the place of coal in environmental destruction.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-343	Proforma submission (additional text)	<i>"It is difficult to understand why any company would be looking at this development when so much evidence points to the detriment of the environment, our unique wildlife and the future health of the citizens of Australia.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-AQ-RES-344	Proforma submission (additional text)	<i>What a disgrace this is even being considered! We are losing our children to suicide due to hopelessness and why the hell would any of us participate anymore? What is the point of toeing the line when it just doesn't matter? If this goes ahead don't be surprised at the backlash..a breaking point is imminent if not surpassed already.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-345	Proforma submission (additional text)	<i>I write regarding the current consultations on Woodside's Browse Basin development. In the light of everything we know about Climate Change, and the imperative to REDUCE emissions from Fossil Fuels, it is foolhardy to allow further drilling for gas and oil to go ahead at all, let alone in such a sensitive marine habitat. Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will likely disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11) BCH-1: Potential Impacts to Scott Reef (Section 4.14) MF-1: Potential impacts to marine fauna (general) (Section 4.23).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-346	Proforma submission (additional text)	<p><i>PS: Stop listening to the overwhelming energy lobby, that has a choke grip on all government elected representatives and on public servants advising on all technical and economic details. PPS New hydrocarbon source exporation must stop all over the world</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-AQ-RES-347	Proforma submission (additional text)	<p><i>I used to live in WA and cannot believe the WA government is even considering this proposal. Have we not done enough damage to Australia with mining already, invest in solar/wind. WA certainly gets an abundance of both. I now live in the ACT and we have been in the middle of the fire devastation happening all around us in NSW and now here as well and have had some of the most toxic air in the world over the last 2 months, can we not learn something from what is happening to Australia, everything we do to our environment has some impact on it which we never consider until its too late. Please listen to the community & Australians like myself and not the money hungry, greedy few who own the mining companies.</i></p> <p><i>I know you probably wont even read this but on the off chance someone does</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-AQ-RES-348	Proforma submission (additional text)	<p><i>If it s a joke it s a bad one. If not how ashamed is this! What will you tell your children and grand children , great grand children destroying their precious Heritage. It is priceless. Is money the only motivation? You have no pride, you have no value, you have no integrity, you are a monster. I hope it s a joke and you're not all this</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to the concerns raised within this submission relating to compatibility of the proposed extension of the Burrup Hub with the World Heritage listing nomination of the Murujuga Cultural Landscape, please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).</p>

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No.	Submitter	Submission and/or issue	Response to comment
PRO-AQ-RES-349	Proforma submission (additional text)	<p><i>If the project is rejected, there will be a cost which can be calculated in dollars, based on lost jobs, royalties, taxes, and so on. Very persuasive.</i></p> <p><i>If the project goes ahead, there will be a cost which cannot be calculated in dollars - based on damage to us, the people affected by future damage to the air, oceans and land; and to plant, microbe, animal, insect, bird - all life forms. This cost will be huge, incalculable. But already we feel and see real consequences of poor decisions in the past - decisions that ignored, were blind to, or criminally negligent of the consequences that were forecast - now increasingly real.</i></p> <p><i>How lucky we are to experience uncontrollable wildfires in non-flammable rainforest!</i></p> <p><i>How lucky to see red sky, or black sky, by day or night, in our holiday destinations, our suburbs, our towns and cities.</i></p> <p><i>Or choking smoke, or animals with their feet burnt off, or extinguished as a species - or families, businesses, buildings, budgets...</i></p> <p><i>How lucky to learn so much about how fire works, how people band together to protect and support each other in times of lethal crisis.</i></p> <p><i>You've heard a lot of arguments?</i></p> <p><i>You may be dead before the real effects of your decision.</i></p> <p><i>What brings you to make the best decision for those people who live IN the effects of your decision?</i></p> <p><i>- The largest and most polluting fossil fuel projects in the world?</i></p> <p><i>- Net-zero emissions by 2050?</i></p> <p><i>- Expand our LNG industry?</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p>- Repair and regeneration of damaged environment and lives? Please reject the Woodside proposal.</p>	
PRO-AQ-RES-350	Proforma submission (additional text)	<p><i>We are all aware of how drastic the global environmental crisis is and more and more of us are taking steps in our own day-to-day lives to reduce our energy footprint and live more sustainably. We look to our leaders and decision makers such as yourselves to absolutely set an example that we can trust. Please, inspire us through wisdom and decisions made taking in the long-term view, respecting the environment we call home! I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. If the proposed Burrup Hub projects proceed, the Burrup Hub will be Australia’s largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world. The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions. Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia’s policy goal of net zero emissions by 2050. The claims made by Woodside that gas is a ‘clean’ fuel contributing to reduced emissions are unsubstantiated and misleading. In 2019, LNG overtook coal as the most significant driver of pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6) • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>and cannot be considered a solution to address climate change. The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside’s proposal.</i></p>	
<p>PRO-AQ-RES-351</p>	<p>Proforma submission (additional text)</p>	<p><i>The carbon pollution created by this project makes it fundamentally incompatible with Western Australia’s policy goal of net zero</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).

6.4 EPA Environmental Factor: Benthic Communities and Habitat

Table 6-3 presents the public submissions relating to EPA environmental factor: Benthic Communities and Habitat.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA’s Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 6-3 Public submissions and Proponent’s response – EPA environmental factor: Benthic communities and habitats

No.	Submitter	Submission and/or issue	Response to comment
BCH-RES-1	ANON-XJVE-DU35-X	<i>This seems like a risky, invasive operation to undertake in a sensitive ocean area when Australia's reefs are already suffering badly from ocean acidification and temperature changes. Extracting more fossil fuels instead of investing in renewable energy isn't what Australia needs today or in the future.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>In relation to concerns raised with respect to potential impacts on coral reefs, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-4 (Table 6-2).
BCH-RES-2	ANON-XJVE-DUVX-4	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • existing anthropogenic stressors on Scott Reef including the effects of climate change and the need for further monitoring to assess these stressors • potential impacts and the need for further understanding of existing anthropogenic stressors on marine fauna 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>In relation to concerns raised with respect to potential impacts to Scott Reef, including as a result of climate change, please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> potential impacts of the proposed Browse Project on marine fauna including seabirds and cetaceans, and in particulate potential impacts from light emissions, low frequency noise emission, waste water discharge and potential unplanned hydrocarbon releases the contribution of the Burrup Hub projects on climate changes and resultant potential impacts on Scott Reef. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11). <p>With respect the comments made with respect to further monitoring and studies to understand existing anthropogenic stressors on Scott Reef, Woodside has commissioned approximately 60 studies within the Project Area, Scott Reef and the broader region that span approximately two decades. Studies have included baseline and annual programs for humpback whale, turtle, other marine megafauna and fish species in the region, as well as long-term monitoring of coral and fish communities at Scott Reef. The results of these studies are summarised in Chapter 5 of the draft EIS/ERD and the relevant technical report are also attached or referenced in the draft EIS/ERD.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Marine fauna: MF-RES-2 (Table 6-5).
BCH-RES-3	ANON-XJVE-DU3M-P	<p><i>Coral reefs are endangered all around the world and I see no good reason to place the Scott Reef at risk. Reefs are needed as breeding grounds for many marine species, which are also under threat.</i></p> <p><i>Please do not allow all this disruption involved with the LNG industry expansion off WA.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>In relation to concerns raised with respect to potential impacts to Scott Reef habitat including as a result of</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>LNG emits greenhouse gases and it is far more costly than renewable energy. We should not be risking the future of our marine environment and the planet's atmosphere.</i></p>	<p>climate change, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
BCH-RES-4	ANON-XJVE-DU3B-B	<p><i>I oppose any drilling or exploration in the vicinity of the Scott Reef. The reef is of great environmental significance. Its flora and fauna would be exposed to the risk of terrible damage if there were an escape of oil or drilling fluids. The potential benefits (to Woodside shareholders) do not in any way compensate for the possibility of catastrophic damage.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>In relation to concerns raised with respect to potential impacts to Scott Reef including as a result of unplanned hydrocarbon releases please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16).
BCH-RES-5	ANON-XJVE-DUVM-S	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emissions resulting from third party processing of Browse Gas 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>It is noted that the submission includes reference to activities not related to the proposed Browse Project (for</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • GHG emissions • employee accommodation and housing • potential impacts to national heritage values including rock art. • ability of Aboriginal groups to access the water and coastal land • potential impacts to marine environmental quality • potential impacts to marine fauna • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release. <p>The full submission can be found in Error! Reference source not found.</p>	<p>example, dredging). As such, these are not addressed further in these responses.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts on to Scott Reef, please refer to the following responses in relation in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-22 (Table 6-2) • Air quality: AQ-RES-22 (Table 6-2) • Marine environmental quality: MEQ-RES-12 (Table 6-4) • Marine fauna: MF-RES-4 (Table 6-5) • Consultation and other submissions: CAO-RES-3 (Table 6-6).
BCH-RES-6	ANON-XJVE-DUMU-R	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, and in particular: <ul style="list-style-type: none"> ○ the magnitude of GHG emissions ○ Australia’s obligation under the Paris Agreement ○ renewable energy • potential impacts to wetlands 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts on to Scott Reef and wetlands, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • potential impacts to rock art • impacts to cultural integrity resulting from displacement of Aboriginal people • potential impacts to marine fauna including marine turtles, sea snakes, cetaceans, seabirds and shorebirds and fish • the potential for an unplanned hydrocarbon release and resultant impacts • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release • potential impacts during construction, especially drilling. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MEQ-8: Potential impacts to wetlands (Section 4.22). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-29 (Table 6.3) • Air quality: AQ-RES-29 (Table 6.3) • Marine fauna: MF-RES-5 (Table 6-5) • Consultation and other submissions: CAO-RES-4 (Table 6-6).
BCH-RES-7	ANON-XJVE-DUK5-P	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular <ul style="list-style-type: none"> ○ State, national and international climate policies and agreements ○ the transition to renewable energy sources ○ WA emissions ○ offsetting ○ employment opportunities • damage to wetlands in the event of an oil spill • potential impacts to Scott Reef • potential impacts to marine fauna 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>The submission makes a statement that “over 50 wells proposed to be drilled directly over the pristine and ecologically significant reef”. This statement is incorrect. No wells will be drilled on Scott Reef. Up to 24 wells may be drilled within the State Proposal Area. All of these wells will be drilled in deep-water away from the shallow water benthic communities and habitat of Scott Reef.</p> <p>With respect to concerns raised in relation to potential impacts to Scott Reef and wetlands, please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • potential impacts to national heritage values including rock art • potential health impacts to local communities resulting from air emissions on the Burrup Peninsula. • Socio-economic impacts <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-8: Potential impacts to wetlands (Section 4.22). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-36 (Table 6-2) • Air quality: AQ-RES-36 (Table 6-2) • Marine fauna: MF-RES-17 (Table 6-5) • Consultation and other submissions: CAO-RES-12 (Table 6-6).
BCH-RES-8	ANON-XJVE-DUKD-5	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, particularly with respect to whether gas should be considered a transition fuel and Australia obligations under the Paris Agreement • Burrup Hub air emissions and potential impacts to rock art • potential impacts to wetlands • potential impacts to marine fauna, particularly in relation to potential underwater noise impacts • potential impacts to Commonwealth marine parks • potential impacts to Scott Reef 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts to Scott Reef, including as a result of unplanned hydrocarbon releases, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16).

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> potential impacts to marine environmental quality around Scott Reef. <p>The full submission can be found in Error! Reference source not found.</p>	<p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-40 (Table 6-2) Air quality: AQ-RES-40 (Table 6-2) Marine environmental quality: MEQ-RES-2 (Table 6-4) Marine fauna: MF-RES-6 (Table 6-5).
BCH-RES-9	Denmark Environment Centre (ANON-XJVE-DUK8-S)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> GHG emissions potential impacts to national heritage values, including rock art potential impacts (in particular as a result of underwater noise emissions during drilling) to marine fauna including marine turtles, sea snakes, seabirds and migratory shorebirds, and fish. potential impacts as a result of an unplanned hydrocarbon release potential impacts to wetlands potential impacts to Scott Reef, particularly during drilling impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found. Note that this submission was received both via the EPA consultation Hub and via direct email to the EPA ('other pathway').</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts to Scott Reef, including as a result of drilling activities and unplanned hydrocarbon releases, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-2: Unplanned hydrocarbon release (Section 4.16) MEQ-6: Management of drilling and completion discharges (Section 4.20) <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-41 (Table 6-2) Air quality: AQ-RES-41 (Table 6-2)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-3 (Table 6-4) • Marine fauna: MF-RES-7 (Table 6-5). • Consultation and other submissions: CAO-RES-5 (Table 6-6).
BCH-RES-10	ANON-XJVE-DUKM-E	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • ecological risk to marine communities surrounding Scott Reef • potential impacts to marine fauna including listed threatened and migratory species that frequent the development area, particularly as a result of light and underwater noise emissions • the potential for ecological disasters as a result of unplanned hydrocarbon releases and resultant impacts on Scott Reef and marine fauna • potential impacts to the Murujuga Petroglyphs as a result of air emissions on the Burrup Peninsula • GHG emissions, and particular: <ul style="list-style-type: none"> ○ emissions intensity ○ historical air quality monitoring ○ Australia’s obligations in respect to the Paris Agreement. • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts to Scott Reef, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-47 (Table 6-2) • Air quality: AQ-RES-47 (Table 6-2) • Marine environmental quality: MEQ-RES-5 (Table 6-4) • Marine fauna: MF-RES-10 (Table 6-5) • Consultation and other submissions: CAO-RES-7 (Table 6-6).
BCH-RES-11	Australian Marine Conservation Society (AMCS) submission	<p>This submission was provided as an uploaded document. The submission relates to:</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>

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No.	Submitter	Submission and/or issue	Response to comment
	to North West Shelf assessments 2191 and 2186	<ul style="list-style-type: none"> GHG emissions and in particular, the need to reduce carbon emissions, Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy. potential cumulative impacts Scott Reef and the ability to understand these potential impacts adequately enough to be able to assess them. potential impacts to marine fauna and critical habitat for endangered species, including marine turtles and cetaceans. <p>Note that the submission refers to and supports other submissions from the conservation section including the Conservation Council of Western Australia (CCWA) rather than providing detailed comments. The submission registers opposition for the proposal due to concerns with respect to carbon pollution and impacts on marine life.</p> <p>The full submission can be found in Error! Reference source not found.</p>	<p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts to Scott Reef including coral communities, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-6: Management of drilling and completion discharges (Section 4.20). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-51 (Table 6-2) Marine fauna: MF-RES-11 (Table 6-5).
BCH-RES-12	ANON-XJVE-DU36-Y	<p>Note that the following is an extract from the submission. Refer to Table 6-2 (line 14) for the full submission which relates primarily to atmospheric emissions.</p> <p><i>“I understand also that the area is a biodiversity hotspot, home to turtle nesting grounds, whale migration pathways and vulnerable coral reef systems”</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts on coral reefs, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-14 (Table 6-2)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> Air quality: AQ-RES-14 (Table 6-2) Marine fauna: MF-RES-16 (Table 6-5).
BCH-RES-13	ANON-XJVE-DU3C-C	<p>Note that the following is an extract from the submission. Refer to Table 6-2 (line 16) for the full submission.</p> <p><i>“As for ecological reasons, the proposal will jeopardize several Ramsar wetlands and contradict Australia’s long-standing and international commitment to the preservation of wetlands of international importance”.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Benthic communities and habitats</u></p> <p>With respect to concerns raised in relation to potential impacts on wetlands, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> MEQ-8: Potential impacts to wetlands (Section 4.22). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-16 (Table 6-2) Air quality: AQ-RES-16 (Table 6-2) Marine fauna: MF-RES-16 (Table 6-5).

Proforma submissions

A number of submissions that represent ‘proforma submissions’ were provided. This is where a template of a submission has been prepared by an organisation, enabling member of the public to provide a submission. An option is also often provided to provide additional comments to the submission. One proforma submission was received in relation to the potential impacts and risks of the proposed Browse Project on the marine environment. This proforma covered topics relating to the benthic communities and habitats, marine environmental quality and marine fauna key environmental factors. For simplicity, this proforma (and associated ‘additional text’) has been responded to as one submission in **Section 6.5** (marine environmental quality).

6.5 EPA Environmental Factor: Marine Environmental Quality

Table 6-4 presents the public submissions relating to EPA environmental factor: Marine Environmental Quality.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA’s Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

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Table 6-4 Public submissions and Proponent’s response – EPA environmental factor: Marine Environmental Quality

No.	Submitter	Submission and/or issue	Response to comment
MEQ-RES-1	ANON-XJVE-DU38-1	<p>Note that the following is an extract from the submission. Refer to Table 6-2 (Line 10) for the full submission which relates primarily to atmospheric emissions.</p> <p><i>A serious gas leak or oil spill could, as happened with Deepwater Horizon, have serious impacts not just on Scott Reef but to the entire ocean ecology in the area. Also, during the construction phase, because the proposal is adjacent to atolls and reefs, there is the likelihood of great harm to the marine life there.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to unplanned hydrocarbon releases and resultant potential impacts on impacts on Scott Reef and the wider marine environment; and potential impacts to Scott Reef during construction phase, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-2: Unplanned hydrocarbon release (Section 4.16). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-10 (Table 6-2) • Air quality: AQ-RES-10 (Table 6-2).
MEQ-RES-2	ANON-XJVE-DUKD-5	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, particularly with respect to whether gas should be considered a transition fuel and Australia obligations under the Paris Agreement • Burrup Hub air emissions and potential impacts to rock art • potential impacts to wetlands • potential impacts to marine fauna, particularly in relation to potential underwater noise impacts • potential impacts to Commonwealth marine parks 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to potential impacts on marine environmental quality, including in relation to Commonwealth marine parks, the marine environmental around Scott Reef and wetlands, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-3: Australian marine parks and State marine parks (Section 4.17)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • potential impacts to Scott Reef • potential impacts to marine environmental quality around Scott Reef. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MEQ-8: Potential impacts to wetlands (Section 4.22). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-40 (Table 6-2) • Air quality: AQ-RES-40 (Table 6-2) • Benthic habitats and communities: BCH-RES-8 (Table 6-3) • Marine fauna: MF-RES-6 (Table 6-5).
MEQ-RES-3	Denmark Environment Centre (ANON-XJVE-DUK8-S)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions • potential impacts to national heritage values, including rock art • potential impacts (in particular as a result of underwater noise emissions during drilling) to marine fauna including marine turtles, sea snakes, seabirds and migratory shorebirds, and fish. • potential impacts as a result of an unplanned hydrocarbon release • potential impacts to wetlands • potential impacts to Scott Reef, particularly during drilling • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u> With respect to concerns raised in relation to potential impacts on marine environmental quality including potential impacts to wetlands and the potential for an unplanned hydrocarbon release, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-8: Potential impacts to wetlands (Section 4.22). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-41 (Table 6-2) • Air quality: AQ-RES-41 (Table 6-2) • Benthic habitats and communities: BCH-RES-9 (Table 6-3) • Marine fauna: MF-RES-7 (Table 6-5).

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> Consultation and other submissions: CAO-RES-5 (Table 6-6).
MEQ-RES-4	Not used		
MEQ-RES-5	ANON-XJVE-DUKM-E	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> ecological risk to marine communities surrounding Scott Reef potential impacts to marine fauna including listed threatened and migratory species that frequent the development area, particularly as a result of light and underwater noise emissions the potential for ecological disasters as a result of unplanned hydrocarbon releases and resultant impacts on Scott Reef and marine fauna potential impacts to the Murujuga Petroglyphs as a result of air emissions on the Burrup Peninsula GHG emissions, and particular: <ul style="list-style-type: none"> emissions intensity historical air quality monitoring Australia’s obligations in respect to the Paris Agreement. impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to potential impacts on marine environmental quality including the potential for an unplanned hydrocarbon release, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> MEQ-2: Unplanned hydrocarbon release (Section 4.16). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-47 (Table 6-2) Air quality: AQ-RES-47 (Table 6-2) Benthic habitats and communities: BCH-RES-10 (Table 6-3) Marine fauna: MF-RES-10 (Table 6-5) Consultation and other submissions: CAO-RES-7 (Table 6-6).
MEQ-RES-6	ANON-XJVE-DUKB-3	<p>This submission was provided as an uploaded document. The submission relates to:</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> potential issues and Woodsides responsibilities in relation to future decommissioning and impacts on the marine environment potential impact to the marine environment from the installation of Project infrastructure socio-economic impacts (addressed in Table 6-6) GHG emissions including potential impact of climate change on a wide range of receptors (addressed in Table 6-2) potential impacts to national heritage values including rock art (addressed in Table 6-2). <p>The full submission can be found in Error! Reference source not found.</p>	<p>With respect to concerns raised in relation to potential impacts on marine environmental quality, including concerns relating to impacts resulting from construction, operations and decommissioning, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential Impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15). MEQ-4: Produced water (Section 4.18) MEQ-6: Management of drilling and completion discharges (Section 4.20). MEQ-7: Decommissioning (Section 4.21). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-49 (Table 6-2) Air quality: AQ-RES-49 (Table 6-2) Consultation and other submissions: CAO-RES-8 (Table 6-6).
MEQ-RES-7	Conservation Council of Western Australia (CCWA)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.. Note that the Browse Burrup Hub Report prepared by Clean State and referenced above was also submitted by CCWA. This report can be found in Error! Reference source not found.. The submission relates to:</p> <p><u>Consultation and other submissions</u></p> <p>The specific concerns raised by CCWA in relation to consultation and other submissions are provided in CAO-RES-10 (Table 6-6).</p> <p><u>GHG emissions and climate change</u></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>Woodside notes that a management approach has been proposed based on a commitment to meet the maximum level of ecological protection for Scott Reef shallow water benthic communities and habitats (<75 m bathymetry) as presented in the EQMP.</p> <p>With respect to the request for marine monitoring and other data, Woodside has commissioned approximately 60 studies within the Project Area, Scott Reef and the broader region that span approximately two decades. Studies have</p>

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		<p>The specific concerns raised by CCWA in relation to GHG emissions are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Air quality</u></p> <p>The specific concerns raised by CCWA in relation to air quality are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Environmental values of Scott Reef</u></p> <p>The submission raised concerns in relation to potential impacts to Scott Reef as a result of:</p> <ul style="list-style-type: none"> • drilling (location, seabed disturbance, drilling fluids) • subsidence • seabed preparation • marine discharges (including produced water) • unplanned hydrocarbon releases and adequacy of hydrocarbon spill modelling • cumulative impacts to environmental quality • acceptability under the EP Act including: <ul style="list-style-type: none"> ○ as a designated nature reserve and a place of extremely high conservation value, the pristine marine environment of Scott reef warrants the maximum level of ecological protection ○ assertion that if the EIS/ERD conclusions are to be accepted by the EPA, the proponent must provide further information on the omissions from the draft EIS/ERD including: <ul style="list-style-type: none"> ▪ insufficient detail in the EIS/ERD about the discharge of radioactive materials from wireline logging activities and the produced water by-products ▪ reliance on dilution of produced water discharges 	<p>included baseline and annual programs for humpback whale, turtle, other marine megafauna and fish species in the region, as well as long-term monitoring of coral and fish communities at Scott Reef. The results of these studies are summarised in Chapter 5 of the draft EIS/ERD and the relevant technical report are also attached or referenced in the draft EIS/ERD. Further, summaries and detailed technical reports relating to proposed marine discharges, unplanned hydrocarbon releases, noise emissions and drilling discharges are provided in the draft EIS/ERD.</p> <p>With respect to concerns raised in relation to potential impacts to marine environmental quality and Scott Reef, please refer to the following responses in Section 4.</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20). <p>With respect to the statements made in relation to acceptability under the EP Act:</p> <ul style="list-style-type: none"> • Within the State ERD and the EQMP (Error! Reference source not found.) Woodside has provide a Maximum Level of Ecological Protection (LEP) for the majority of the State Proposal Area including all of Scott Reef (< 75 m bathymetry) • Wireline logging activities or Formation Evaluation while drilling may be used for the Browse Project development wells. If radioactive sources are selected
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		<ul style="list-style-type: none"> ▪ uncertainty about the amount of toxins in the water ▪ avoidance of produced water discharge by reinjection due to complexity and cost ▪ the unreasonable proximity of the proposed drilling activities to the sensitive marine environment of Scott reef ▪ Woodside’s reliance on previous modelling to ensure that it won’t cause major issues through subsidence and compaction of rock strata. ▪ insufficient detail in the draft EIS/ERD about the composition of the drilling fluid that will be discharged into the marine environment ▪ insufficient detail in the EIS/ERD about the composition of the wellbore content which Woodside plans to flow back to the MODU and discharge if a well is underperforming ▪ inadequate methodology for the unplanned hydrocarbon release modelling ▪ lack of detailed cumulative impact assessment. <p><u>Marine fauna</u> The specific concerns raised by CCWA in relation to marine fauna are provided in response MF-RES-13 (Table 6-5).</p>	<p>for the activity, then any radioactive materials used during the activity would be brought back to the MODU as part of the planned activity. The radioactive sources would not be discharged into the marine environment as part of this planned activity.</p> <ul style="list-style-type: none"> • The use of dilutions to assess potential impacts from marine discharges is consistent with common industry practice. The EPA’s technical guidance refers to the use of dilutions in determining predicted impacts. It should also be noted that modelling has shown that there are no predicted impacts to State waters from the FPSO produced water discharges and as such this discharge is not unacceptable under the EP Act. • The options assessment concluded that given the detailed environmental impact and risk assessment of PW (Section 6.3.12 of the draft EIS/ERD) concluded that no significant environmental impacts are predicted (and no impact on State Waters) and that the discharge of PW is acceptable; the increased health and safety risks, GHG emissions, technical complexity and capital and operating costs associated with PW re-injection into a reservoir is grossly disproportionate to the environmental benefit likely to be gained from this approach. • Location of drilling – Please refer to MEQ-6: Management of drilling and completion discharges (Section 4.20). Woodside has prepared an EQMP which includes a ‘Management Approach for Torosa wells in State Proposal Area’ which details how the proposed LEPs (including the Max LEP for Scott Reef) will be achieved. • Subsidence – the modelling used in relation to subsidence within the draft EIS/ERD has been peer reviewed by Baker Hughes GMI Geomechanics

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			<p>Services (Hughes, 2012) who concluded that the method and supplied data was appropriate. The DoEE sought further independent review by CO2 Geological Storage Solutions Pty Ltd (CGSS) (CGSS, 2012) who found that the report conclusions were reasonable. Woodside therefore has a high level of confidence with respect to the modelling results.</p> <ul style="list-style-type: none"> • Composition of the drilling fluid – please refer to MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • Composition of the wellbore content – Woodside confirms that: <ul style="list-style-type: none"> ○ should there be wellbore fluids contaminated with hydrocarbons or NWBFs, they will be captured and stored on the MODU for discharge if oil concentration is <1% by volume, or returned to shore if discharge requirements cannot be met. ○ should there be wellbore solids contaminated with hydrocarbons, they will be treated as hazardous waste as per draft EIS/ERD Section 6.3.14. • Hydrocarbon release modelling - The TRA-C well was selected as it is one of the wells located closest to Scott Reef and is expected to have a higher release rate (and therefore total volume over a fixed period of time) compared to the other wells. As such, the TRA-C well is considered to represent the worst-case credible scenario (i.e. the governing scenario that represents the largest potential environmental impact) and as such is the appropriate location for use in the hydrocarbon spill modelling. • Cumulative impact assessment – aspect based cumulative impacts are assessed in Chapter 6 of the

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			<p>draft EIS/ERD. This assessment has shown that aspect-based cumulative impacts resulting from the proposed Browse Project are unlikely to result in significant impacts. The majority of emissions and discharges will be within the Browse Development Area, which is in a remote, offshore location and unlikely to result in significant interactions with other activities/developments.</p> <p>Receptor based cumulative impacts assessment in Chapter 9 of the draft EIS/ERD. The cumulative impact assessment focusses on predicted impacts from planned routine and non-routine activities and evaluates the nature of any aspect interaction (e.g. whether one aspect exacerbates the impact of another) and the scale of the cumulative impact as a result. No significant cumulative impacts were identified.</p> <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-52 (Table 6-2) • Air quality: AQ-RES-52 (Table 6-2) • Marine fauna: MF-RES-13 (Table 6-5) • Consultation and other submissions: CAO-RES-10 (Table 6-6).
MEQ-RES-8	DWERDT247368 CMS17489 (name redacted)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular the offsetting and abatement of reservoir emissions (addressed in Table 6-2) 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concern raised in relation to PW discharge from the FPSO facilities, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-4: Produced water (Section 4.18).

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		<ul style="list-style-type: none"> the potential for the establishment of a Pilbara Carbon Capture and Storage Hub (addressed in Table 6-2) produced water discharges from FPSO. <p>The full submission can be found in Error! Reference source not found.</p>	<p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-55 (Table 6-2).
MEQ-RES-9	Wilderness Society of WA	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> impact on marine fauna including seabird and migratory shorebirds, marine mammals, marine reptiles and fish impacts on marine water quality and in particular the use of Non-water based drilling fluids (NWBF) GHG emissions. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to potential impacts on marine water quality and in particular the use of NWBFs for drilling, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) MEQ-6: Management of drilling and completion discharges (Section 4.20). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-58 (Table 6-2) Marine fauna: MF-RES-14 (Table 6-5).
MEQ-RES-10	ANON-TCUY-7GQ2-6	<p>This submission was provided as an uploaded document. Note that while this submission has been submitted in response to the proposed Browse Project draft EIS/ERD, the contents relate primarily to the NWS Project Extension ERD, including reference to the nominated key EPA factors, emissions estimates and rock art. Where the</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to potential Please refer to the following responses in Section 4:</p>

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		<p>submission relates to the NWS Project Extension ERD, the submission has not been addressed here.</p> <p>In relation to the proposed Browse Project, the submission relates primarily to</p> <ul style="list-style-type: none"> • the potential impacts associated with an unplanned hydrocarbon release on marine environmental quality • the newly identified species of siphonophores • socio-economic impacts. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MEQ-2: Unplanned hydrocarbon release (Section 4.16). • MF-10: New species of siphonophores (Section 4.32). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-61 (Table 6-2) • Air quality: AQ-RES-61 (Table 6-2) • Consultation and other submissions: CAO-RES-13 (Table 6-6).
MEQ-RES-11	ANON-XJVE-DUMC-6	<p><i>Dear Environmental Protection Authority chair [redacted], I am writing to you today to lodge a submission as I am deeply passionate about keeping global temperatures below 1.5 degree increase. I work in climate change policy and I am acutely aware of the scientist’s projections and the climate change impacts that will increase in severity with rising greenhouse gas emissions.</i></p> <p><i>No approval should be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement. Therefore this project is incompatible with the Paris Agreement, and Australia’s commitment to that agreement. Global emissions are required to peak as soon as possible, and then reduce drastically before 2050.</i></p> <p><i>The Browse project, if approved, will be the most emissions intensive development in Australia, adding an additional 7 million tonnes of CO2e just through venting and pumping the gas 900km and about another 7.6 million tonnes CO2e from processing at the North West Shelf LNG facility. This project alone will emit pollution</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to the concerns raised in relation to potential impacts on marine environmental quality, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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		<p><i>equivalent to 2.7% increase over Australia’s total 2005 baseline.</i></p> <p><i>Approving this project, would be irresponsible.</i></p> <p><i>More specifically, in terms of air quality:</i></p> <p><i>This proposal will have significant implications for air quality, particularly considering the data used in the proponents environmental review is based on ambient air monitoring undertaken during 2009-2015.</i></p> <p><i>This project will emit significant greenhouse gas emissions, with no clear management plans on how these emissions will be controlled, in a time when emissions must be decreasing.</i></p> <p><i>The Browse Basin will be the State’s most emissions intensive LNG facility – with an emissions intensity of above the average for Australian LNG exports.</i></p> <p><i>There is also no mention of obtaining an emissions-free goal in Woodside’s own assessments.</i></p> <p><i>In terms of Social Surroundings (Heritage):</i></p> <p><i>The proposals threaten the cultural integrity by threatening the ability of traditional owners to access and use the area as they have done for millenia.</i></p> <p><i>A change in either ocean chemistry or air quality could drastically alter the local environment and with it; the species distribution in the area. While changes to flora and fauna populations affect the ecology of waterways, social values relating to waters, and may drastically alter the landscape; destroying continuous Indigenous cultural elements relating to our northern coasts.</i></p> <p><i>In terms of Marine Environmental Quality:</i></p> <p><i>Several threatened and endangered marine species that exist in the area surrounding the proposal, including but not limited to:</i></p>	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-31 (Table 6-2) • Air quality: AQ-RES-31 (Table 6-2) • Marine fauna: MF-RES-6 (Table 6-5).

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		<p>- Five species of marine turtles' classified as threatened under the BC Act</p> <p>- the vulnerable and migratory Green Turtle (<i>Chelonia mydas</i>),</p> <p>- the endangered and migratory Leatherback Turtle (<i>Dermochelys coriacea</i>),</p> <p>-the endangered and migratory Loggerhead Turtle (<i>Caretta caretta</i>),</p> <p>- the vulnerable and migratory Hawksbill Turtle (<i>Eretmochelys coriacea</i>), and</p> <p>-the vulnerable and migratory Flatback Turtle (<i>Natator depressus</i>).</p> <p>There are sixteen sea snake species were identified as potentially occurring in the Proposal area. One of these species— the short-nosed sea snake (<i>Aipysurus apraefrontalis</i>), is classified as critically endangered under the Environment Protection and Biodiversity Conservation Act and threatened under the WA Biodiversity Conservation Act.</p> <p>A large number of seabird and shore bird species (or species habitat) may occur near the Proposal; these include species classified as threatened and migratory under the EPBC Act or specially protected under the BC Act.</p> <p>Shallow water fish species have been recorded in the waters of the Dampier Archipelago, comprising: 456 coral reef species; 116 mangrove species; 106 soft-bottom species, and 67 pelagic species.</p> <p>In the event of a hydrocarbon accident: (e.g. gas leak or oil spill), there is an extreme likelihood that this area will never recover.</p> <p>Depending on its severity (i.e. volume, hydrocarbon type and location), a hydrocarbon release would have the</p>	

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		<p><i>potential to impact water and sediment quality and alter habitats, as documented by studies of hydrocarbon concentrations in deep sea sediments following the blowout of the Deepwater Horizon.</i></p> <p><i>This could subsequently alter fauna behaviour, cause fauna injury or mortality, impact the aesthetic value of an area and alter the function, interests and activities of other users.</i></p> <p><i>Scott Reef will be most vulnerable to any hydrocarbon release as detailed by Woodside in Risk Scenarios 1 to 3 3 4.</i></p> <p><i>Coral communities have the potential to be impacted from exposure to floating hydrocarbons through smothering and coating, and exposure to dissolved and entrained hydrocarbons.</i></p> <p><i>Exposure to dissolved and entrained hydrocarbons (≥50 ppb and 100 ppb, respectively) has the potential to result in lethal or sub-lethal toxic effects to corals and other sensitive sessile benthos within the upper water column, including upper reef slopes (subtidal corals) and reef flat (intertidal corals).</i></p> <p><i>3 Event of a major hydrocarbon release at the seabed; cf Table 6-158 wherein: “scenario 1 had a high probability of affecting sediments associated with Scott Reef and Seringapatam Reef..” 4 Event of release between containers representing non-standard protocols</i></p> <p><i>Should a hydrocarbon release occur at the time of coral spawning (at potentially affected coral locations), there is the potential for a significant reduction in successful fertilisation and coral larval survival.</i></p> <p><i>Cetaceans, such as the Indo-Pacific humpback dolphin, that have direct physical contact with entrained or dissolved aromatic hydrocarbons may suffer ingestion of</i></p>	

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		<p><i>hydrocarbons either directly or via bioaccumulation through food.</i></p> <p><i>This may have flow on impacts to offspring as migratory cetaceans tend to travel in the area at-term or post-partum.</i></p> <p><i>Marine turtles, such as the green turtle, olive ridley turtle, flatback turtle and hawksbill turtle which all rely on the proposal area, are vulnerable to the effects of hydrocarbons at all life stages.</i></p> <p><i>Construction of infrastructure will have significant impact on the marine life</i></p> <p><i>The proposal also sits adjacent to atolls and reefs that are home to aquatic mammals during breeding, considering the elements of construction – especially drilling – and the proximity to nursing ground, the potential to harm calves and/or effect auditory function is severe.</i></p> <p><i>Conservation Advice for the short-nosed sea snake includes ensuring there is no anthropogenic disturbance in areas where the species occurs.</i></p> <p><i>Given sea snakes occur predominantly in shallow regions of the EMBA (the environment that may be affected), such as Scott Reef, Ashmore and Cartier, Rowley Shoals and other small offshore shoals and reefs, the construction of two floating LNG platforms and accessory structures will have a significant impact on the species.</i></p> <p><i>Thank you for reading my submission. I hope that you consider each of the different and important components and determine that the environmental risk is too great to approve this project.</i></p> <p><i>Kind regards,</i> <i>[redacted]</i></p>	

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MEQ-RES-12	ANON-XJVE-DUVM-S	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emissions resulting from third party processing of Browse Gas • GHG emissions • employee accommodation and housing • potential impacts to national heritage values including rock art • ability of Aboriginal groups to access the water and coastal land • potential impacts to marine environmental • potential impacts to marine fauna • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine environmental quality</u></p> <p>With respect to concerns raised in relation to potential impacts on marine environmental quality including the potential for unplanned hydrocarbon releases, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-6: Management of drilling and completion discharges (Section 4.20). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-22 (Table 6-2) • Air quality: AQ-RES-22 (Table 6-2) • Benthic communities and habitats: BCH-RES-5 (Table 6-3) • Marine fauna: MF-RES-4 (Table 6-5) • Consultation and other submissions: CAO-RES-3 (Table 6-6).

Proforma submissions

The following submissions represent ‘proforma submissions’ where a template of a submission has been prepared by an organisation, enabling member of the public to provide a submission. An option is also often provided to provide additional comments to the submission. One proforma submission was received in relation to the potential impacts and risks of the proposed Browse Project on the marine environment. This proforma covered topics relating to

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<p>the benthic communities and habitats, marine environmental quality and marine fauna key environmental factors. For simplicity, this proforma (and associated 'additional text') has been responded to as one submission here in Section 6.5 (marine environmental quality).</p>			
<p>PRO-MEQ-RES-1</p>	<p>Proforma submission</p>	<p><i>Header: Assessment # 2191/2186: Proposed Browse to North West Shelf Project (Commonwealth and State Waters)</i></p> <p><i>To [redacted] Chairperson Environmental Protection Authority WA and [redacted] Secretary Department of Environment and Energy,</i></p> <p><i>I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i></p> <p><i>Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. Five species of whales visit the area, including Humpback whales and Blue Pygmy whale and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals.</i></p> <p><i>In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. Discharges of wastewater and pollution from oil spills can contaminate marine ecosystems with toxic heavy metals</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29).

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		<p><i>and other chemicals. Woodside’s own risk models predict that a mixed gas and oil spill would last 77 days, spreading across the reef, and as far as 800 km from the site, at concentrations lethal to marine life.</i></p> <p><i>In addition, the Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem.</i></p> <p><i>Oil and gas operations such as the Browse Basin development are not compatible with a sensitive marine environment like the Scott Reef and are totally inconsistent with maintaining the safe climate conditions that Scott Reef and other marine environments rely on.</i></p> <p><i>Protection of this sensitive, nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.</i></p> <p><i>I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i></p>	
<p>PRO-MEQ-RES-2</p>	<p>Proforma submission (addition text)</p>	<p><i>I have signed this letter to show my total opposition to projects such as this that threaten such important pristine areas. It is time for everyone stand up and say enough is enough. We cannot continue to treat our planet with such disdain. Time for greedy mining companies to be held accountable for the destruction of our planet before its too late.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
<p>PRO-MEQ-RES-3</p>	<p>Proforma submission (additional text)</p>	<p><i>Our waters are home to the most incredible wildlife, please don’t put these ecosystems in danger and help preserve our natural habitats for my children and their future children.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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PRO-MEQ-RES-4	Proforma submission (additional text)	<p><i>Furthermore, as a fairly regular visitor to the Kimberley and to the Ningaloo Reef area, I personally plead with you to not spoil these amazing areas off our magical coastline.</i></p> <p><i>Swimming with whale sharks, fishing way off the coast – absolutely amazing. Our Great Barrier Reef is failing – we need to preserve what we have.</i></p> <p><i>Tourist dollars will pay more in the long term than mining for LNG.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-5	Proforma submission (additional text)	<p><i>I ask that you truly consider what a sanctuary is, why it was set up and what most Australians expect of it. Oil and gas exploration and development do not fit at all.</i></p> <p><i>As a concerned citizen, I expect you to honour protection of this sanctuary which is fundamentally threatened by the Browse Basin proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-6	Proforma submission (additional text)	<p><i>Additionally, the region has a huge and as yet not fully classified range of marine life from algae to corals, fish species and crustaceans as well as the larger mammalian marine creatures. All of these contribute to and maintain the health of the marine and coastal environs. Gas drilling will not contribute in any way to this. Its only contribution is \$\$\$ but the cost to the future health of the region and to the future is beyond pricing.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-7	Proforma submission (additional text)	<p><i>You have so many people giving you good reasons not to allow this project to proceed. I won't repeat what they all say.</i></p> <p><i>Instead, I ask you to please consider putting the environment first. We can't breathe money. We can't drink it. We can't eat it. It is but a fleeting affair.</i></p> <p><i>If recent events have shown us anything, it is that we must revegetate and create arks of those ecosystems that remain.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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		<p><i>Please, we are one species among thousands who all have equal rights to life, yet no say in what happens to their homes.</i></p> <p><i>I implore you.</i></p>	
PRO-MEQ-RES-8	Proforma submission (additional text)	<p><i>Variations in proformas: The following text is also present in some proformas.</i></p> <p><i>In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine environment of Scott Reef and will harm marine fauna and irreversibly degrade critical marine habitats and the marine life that is dependent on those habitats.</i></p> <p><i>Scott Reef supports a diverse range of marine life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle, the green sea turtle. Five species of whales visit the area, including Humpback and Blue Pygmy whales and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals.</i></p> <p><i>In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.</i></p> <p><i>Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would add to the problem significantly.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31).
PRO-MEQ-RES-9	Proforma submission (additional text)	<p><i>To EPA Chair and Secretary Department of Environment and Energy</i></p> <p><i>Please do not permit Woodside to proceed with its Browse Basin drilling project. Marine environments like</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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		<p><i>Scott Reef are far more valuable assets to the community in the long term than whatever short term benefits to the economy might be achieved by drilling for fossil fuels. Reefs are the safe breeding grounds for the fish we need into the future. Scott Reef also is the home for many important sea creatures such as endangered green sea turtles, dolphins and whales. No matter what Woodside might claim, the scientific fact is that drilling creates pollution that will destroy these habitats. Then there are also the risks of big oil spills and widespread damage to ocean beds and coastline. Climate change is already causing catastrophic bushfires and flooding this summer, with more to come. Australia needs to get out of fossil fuels, not to permit more to be extracted. The time has come to change how we manage our natural resources, and that means leaving oil and gas in the ground.</i></p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3).
PRO-MEQ-RES-10	Proforma submission (additional text)	<p><i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. For the sake of all of us (you included)</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15)

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		<i>and our future generations (including yourl's) I urge you to make a stand and reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	<ul style="list-style-type: none"> • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-11	Proforma submission (additional text)	<i>I am writing in relation to the Woodside's Browse Basin development which will threaten the sensitive marine environment of Scott Reef.Scott Reef supports a huge array of endangered sea life in the Indian Ocean and the Timor Sea. It provides critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. Five species of whales visit the area, including Humpback whales and Blue Pygmy whales, and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would greatly add to the problem. Oil and gas operations such as the Browse Basin development are not compatible with a sensitive marine environment like the Scott Reef. Protection of this sensitive, nationally significant marine environment is a paramount conservation priority.I urge you to reject the Woodside proposal to undertake oil and gas development on or around Scott Reef.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-12	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular, I am concerned that Woodside's proposed activities threaten the sensitive marine Scott Reef supports a huge array of sea life from across the Indian Ocean and the Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25)

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		<i>Additionally, persistent low-frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.</i>	<ul style="list-style-type: none"> MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-13	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am beyond concerned that Woodside’s proposed activities threaten the obviously sensitive marine environment of Scott Reef and will disturb, injure and kill marine fauna and irreversibly degrade critical habitat for endangered marine life. As Australia is already burnt, on fire and trying to recover in every way-you can see how adding to this already horrific situation is irrevocably damaging and horrendously stupid for every soul included.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23) GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-14	Proforma submission (additional text)	<i>My personal view is this is NOT NECESSARY for humans... only for faceless multi-nats.. It is obscene to prostitute the Wilderness for profit. It is a LOSER..in the long run.Bad NEWS indeed.I am writing in relation to the current consultations on Woodside’s Browse Basin development.I do not believe we can breathe or eat profits that COULD be generated, especially as it seems.. these big companies PAY NO TAX.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-15	Proforma submission (additional text)	<i>“ There is not one reason in the known universe to justify degrading our planet, Mother Earth. ”” Thought before profit. ”” Think, Woodside, think! “</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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PRO-MEQ-RES-16	Proforma submission (additional text)	<i>I am most concerned that Woodside's proposed oil drilling activities will threaten the sensitive marine You would be aware that The EPA noted, in 2010, that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting of hatchling and adult turtles and other endangered marine life.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-17	Proforma submission (additional text)	<i>I write about Woodside's proposed Browse Basin development. This is madness. Drilling for oil and gas near a reef! It beggars belief. Scott Reef is home to an amazing quantity of sea life and includes critical nesting habitat for the green sea turtle. Five species of whales visit the area, and at least 10 species of dolphins. Noise pollution, discharged chemical pollutants and general disturbance will naturally play havoc with all the creatures that call Scott Reef home. Feeding, migration, and breeding are all drastically affected. Woodside's own risk models predict that a mixed gas and oil spill would last 77 days – that's over two months! – spreading up to 800 km from the site, at concentrations lethal to marine life. Furthermore, Woodside's proposed Browse Basin and Burrup hub proposal is a mega-development which will contribute around four times the pollution of the proposed Adani coal mine. It's unthinkable. Please REJECT any proposal to drill for oil and gas on or around Scott Reef.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26)

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			<ul style="list-style-type: none"> • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-18	Proforma submission (additional text)	<i>How awe inspiring and absolutely precious are our natural environments – our oceans, our flora and fauna – this is what makes us proud to be Australia. With so much of our heritage under threat, I am therefore writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-19	Proforma submission (additional text)	<i>I am currently working in Western Australia and want to express my strongest objection to gas and oil exploration such as that proposed by Woodside’s Browse Basin development. There is no doubt that we have extraordinary wildlife and it must be protected. We have seen how our ecosystems are depleted, and they face ever-growing risk. I am concerned that Woodside’s proposed activities threaten the sensitive marine environment.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-20	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. I am concerned that Woodside’s proposed activities threaten the sensitive marine environment of Scott Reef and will irreversibly</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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		<p><i>destroy critical habitat for marine life. Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea:- Critical nesting habitat for one of the most endangered species in the world, the green sea turtle. – Five species of whales visit the area, including Humpback whales and Blue Pygmy whale.- At least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Drilling activities for oil and gas will impact on marine life:- Pollution can disrupt the nesting and behaviour of hatchling and adult turtles. – Persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. – Woodside’s OWN RISKS MODEL predict that a mixed gas and oil spill would last 77 DAYS, spreading across the reef, and as far as 800 km from the site, at concentrations LETHAL TO MARINE LIFE. In addition, the Woodside’s Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development which will contribute about FOUR TIMES the pollution of the proposed Adani coal mine. Protection of this sensitive, nationally significant marine environment is a paramount conservation priority. We need our oceans to stay healthy in order to sustain not just marine life but human life as well. We need to preserve what we can so that we can have a positive future.</i></p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-21	Proforma submission (additional text)	<p><i>Where I live oil riggs are most like going to be approved in the Great Australian Bight, more madness for no economic gain or purpose.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-22	Proforma submission (additional text)	<p><i>Why is this development even being considered???? The reef in one of a decrease number of places on earth that are relatively pristine and allow for numerous creatures to breed and raise their off spring. Woodside, even if it had</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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		<i>a stainless record should not gain approval for this development. The cost is too high in terms of loss.</i>	
PRO-MEQ-RES-23	Proforma submission (additional text)	<i>It has come to my notice that your company may be about to wreak ecological damage on Scott Reef. In these fragile times, such a move is unconscionable. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine environment of the reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-24	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. I strongly oppose the proposed Woodside development and any such similar development. Unfortunately, humans are so 419ehaviour419419y and irresponsibly dealing with the natural environment that they can be easily classified as VERMIN. They are also multiplying like vermin. Human behaviour MUST dramatically change if we want our children and grandchildren to enjoy normal life and not seriously degraded environment, which will not be able to provide reliable economy and food, but only struggle and misery. We are well on the way to this point. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef as well as similar future applications for such developments.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-25	Proforma submission (additional text)	<i>It's time to wake up and use the sun, spread the wealth into alternative power sources. I want my grandchildren to have a beautiful safe planet not a poisoned earth , that's the way it's going, please say no to more pollutants. We cannot do without our beautiful oceans they cannot absorb any more pollution.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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PRO-MEQ-RES-26	Proforma submission (additional text)	<i>Another example of environmental destruction to the ecosystems in Australia. This follows a pattern to the decay of these systems during the last 30 years. Shame on you!!!!!!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-27	Proforma submission (additional text)	<i>This risk is unacceptable! I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef and place a higher priority on developing the huge economic opportunities found with renewable sources of energy.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-MEQ-RES-28	Proforma submission (additional text)	<i>Regarding the proposed Woodside Browse Basin development. Woodside's proposed activities are BOTH a direct threat to sensitive marine environment s, and ALSO are contrary to any rational investment in future energy requirements. The research alone will disturb, injure or kill marine species and permanently damage critical habitat for endangered marine life. The world's reefs are already struggling against the damage caused by fossil fuel emissions !! Is this proposal anything more than continuing stupid greed of a small sector while destroying the habitats and life-expectancy of all species, including humans ?I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef, and all such proposal for new fossil fuel developments.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-MEQ-RES-29	Proforma submission (additional text)	<i>Please consider the needs of our precious wildlife and put them above profit before our already stressed environment is totally destroyed. Time to think of the Big Picture...money is useless if there's nobody left on the planet to spend it.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-30	Proforma submission (additional text)	<i>As a deeply concerned mother of two Wiradjuri First Nations person, I strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. For the sake of our children, let's make them proud of us & our future generations, please listen. Its is critical.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-31	Proforma submission (additional text)	<i>It is a matter of fact that the marine habitat where Woodside are proposing to drill for gas and oil is a sensitive and vulnerable environment and home to threatened marine species. How can any economic benefit compare to the long term negative externalities of these types of projects?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-32	Proforma submission (additional text)	<i>As a World citizen I am appalled! Protection of this sensitive, globally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-33	Proforma submission (additional text)	<i>Scott Reef is a magical, wild place – we must protect it. Teeming with unique and endangered marine life off the remote Kimberley coast, the remote reefs and lagoons of Scott Reef are a haven for sea turtles, whales, huge pods of dolphins, dugong and many other species of endangered marine life. We cannot let a once pristine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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		<p><i>ecosystem be overwhelmed by the industrial noise, pollution and heavy shipping that comes with dirty marine fossil fuel extraction. Woodside’s own models predict a mixed gas and oil spill would last 77 days, and spread for up to 800km – far outstripping the ability of the reef to cope or the wildlife to flee. What’s more, if this immense destructive development went ahead its direct and indirect carbon emissions would make it one of the most polluting fossil fuel projects in the world! It would cancel out global efforts to control global heating, accelerating the destruction of critical habitats and the wildlife that depend on them. Now, more than ever, we must protect the Australian wildlife we love so much.</i></p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
<p>PRO-MEQ-RES-34</p>	<p>Proforma submission (additional text)</p>	<p><i>Woodside’s Browse Basin development would threaten the sensitive and extraordinary marine environment of Scott Reef. Marine fauna would be altered and overtime, negate habitat for endangered marine life. Moreover, the Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine. This is the time to preserve not not develop for infustry. Consultation must protect this nationally significant marine environment which is fundamentally threatened by the Browse Basin proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
<p>PRO-MEQ-RES-35</p>	<p>Proforma submission (additional text)</p>	<p><i>I have the honour of addressing you in relation to the current consultations on Woodside’s Browse Basin development. I must express deep concern. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine . I cannot believe Australia’s disdain for our sea life: whales and dolphins and the threatened species; the green sea turtle, which Scott Reef supports.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23)

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			<ul style="list-style-type: none"> MF-7: Potential impacts to cetaceans (Section 4.29).
PRO-MEQ-RES-36	Proforma submission (additional text)	<i>As I tourist, I would not be interested in coming to the west Australian coast if it has numerous mining as industrial areas. I will go elsewhere.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-37	Proforma submission (additional text)	<i>This is not acceptable given Australia's current environmental challenges. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem. The reef must be given time to recover.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-38	Proforma submission (additional text)	<p><i>I have actually spent three days in a small boat exploring the waters around Scott and Seringapatam Reefs in the mid 1980s, including the enfringing coral reefs and walking on the islands themselves. It is one of the most remote, unspoilt wilderness areas I have visited. The life, both marine and on land, was wonderfully abundant.</i></p> <p><i>Three years later I heard that the reef had largely been destroyed by a warming of the seawater. This warming was almost certainly an example of what global warming has in store for coral reefs world-wide.</i></p> <p><i>I believe that Scott has largely, if slowly, recovered. But as warming events become more common and more extreme, such recovery will be less and less likely. And it is the developed world's endlessly increasing use of fossil fuels that is a major cause of this warming. And now Woodside are planning to build a large number of oil-wells in this once, and possibly still, pristine wilderness.</i></p> <p><i>I say a thousand times no!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).

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PRO-MEQ-RES-39	Proforma submission (additional text)	<i>I'm really just asking that you do your job thoroughly and respect the rights of our environment to not be destroyed through human greed. After all that the world has been through with our earth suffering from the consequences of mans impact. It must stop and this is where it stops, you must do your job – the one that EPA stands for and not be swayed or influenced to downgrade the impacts you know these types of operations cause.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-40	Proforma submission (additional text)	<i>I also urge you to reflect on the state of Labor nationwide and how their credibility regarding the environment and sticking with promises to NOT increase damage and emissions is at an all time low with voters. Reefs and breeding grounds globally are under threat to the point one cannot say this small area if damaged will not be significant. We need to ensure we are not destroying entire species for a corrupt few who have been hiding the truth about their companies destructive footprints for decades. Labor has a chance to shine once more and be the global citizens we need or it can follow the Coalition into extinction as the full extent of climate change strikes harder and we turn on those who irresponsibly managed and sacrificed what we hold precious for these corporate parasites.</i> <i>Tourism also relies on pristine environments NOT oil and gas wells and accompanying sludge!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-41	Proforma submission (additional text)	<i>I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. I holiday in that area and if you haven't seen the beauty of the area yourself, I suggest you do before you make a decision.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-	Proforma submission (additional text)	<i>My prime concern is the severe lack of regard for the unrelenting consumption of Fossil fuel. The year is now 2020, has any regard been shown for the year 2420, 2620, 3020, 3820, 4800. Or are we going to finally have</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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RES-42		<p><i>consumed the last mammal on our planet and all that will be left is cardboard and cockroaches. The pursuit of a computer screen with a profit of trillions of zeros on it, will be of little consequence to the generations of people left alive. With nothing left to Eat, but cardboard and cockroaches. Left with a ever increasing population , with no food, and no way of leaving, dead Oceans and parched poisoned soil. With no resources left will the CEOs of the past be there to stop the Cannibals from bringing Hell to life. Year 5000ad. We are generating our worst Nightmare, slowly heating the pot of water up and explaining to our grandchildren," Why is that frog Dead Grandpa ?" Only pure arrogance gives the Executive order to keep going.I challenge [redacted]. For every LNG tonne of compressed gas exported from Australia, one Tonne of gas / one glass of Mercury. Because some Bastard, gave Chevron permission to sell \$\$, Pure liquid – Mercury to be placed, in Amalgam fillings to be used in dental fillings in Australia. How in God's name is that possible Two words, Corporate Genocide.</i></p>	<ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-43	Proforma submission (additional text)	<p><i>DRILLING IN BEAUTIFUL PLACES FULL OF ANIMALS THAT WE CANNOT BE KILLING IS SO UNECESSARY. IT NEEDS TO STOP. FIND SOME OTHER WAY TO GET OIL OR USE SOMETHING DIFFERENT. JUST STOP. OUR PLANET CANNOT TAKE ANYMORE.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-44	Proforma submission (additional text)	<p><i>I want to express my concern about the Woodside Browse Basin development. Surely it is clear by now that human interference with the Earths ecosystems that have developed over millions of year is unsustainable and can no longer be countenanced. The specifics are below but</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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		<p><i>the bottom line must be a rejection of this proposal on the grounds of unacceptable risk to the environment that supports an entire interdependent ecosystem – one which is necessary for the survival of so many, including we humans. Surely the bushfires have taught us this much. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine .Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world</i></p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-45	Proforma submission (additional text)	<p><i>I write about Woodside’s proposed Browse Basin development. This is madness. Drilling for oil and gas near a reef! It beggars belief. Scott Reef is home to an amazing quantity of sea life and includes critical nesting habitat for the green sea turtle. Five species of whales visit the area, and at least 10 species of dolphins. Noise pollution, discharged chemical pollutants and general disturbance will naturally play havoc with all the creatures that call Scott Reef home. Feeding, migration, and breeding are all drastically affected. Woodside’s own risk models predict that a mixed gas and oil spill would last 77 days – that’s over two months! – spreading up to 800 km from the site, at concentrations lethal to marine life. Furthermore, Woodside’s proposed Browse Basin and Burrup hub proposal is a mega-development which will contribute around four times the pollution of the proposed Adani coal mine. It’s unthinkable. Please REJECT any proposal to drill for oil and gas on or around Scott Reef.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-MEQ-RES-46	Proforma submission (additional text)	<p><i>Subject: Woodside’s Browse Basin development. Scientists confirm that we face a climate crisis, caused by emissions from burning fossil fuels including gas. Gas extraction projects such as the proposed above development also pose enormous environmental risks. Those risks include destruction and/or pollution of precious marine habitat and unchecked and unrecorded gas leakage. But most of all, the inevitable increase to Australia’s Ce emissions due to this development and other similar ones proposed for WA and NT would most certainly kill off any prospect of Australia meeting the commitments it made under the 2015 Paris Agreement to play its part in keeping global average temperatures to less than 2.0 C. In 2010, the EPA itself noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. In 2010, Woodside’s own risk models predicted that a mixed gas and oil spill would last 77 days, spreading across the reef, and as far as 800 km from the site, at concentrations lethal to marine life. Can the EPA, in good faith accept such a risk? The absurdity is that we have cleaner, safer and in the long run more economically beneficial alternatives. We can develop our vast renewable energy resources and promote the establishment of a hydrogen from renewables export industry. In the public interest, the EPA must exercise its authority to reject such a dangerous, out of date and out of touch proposal and open the way for clean, safe and forward looking alternatives. I urge you to reject Wooside’s Browse Basin application.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-5: Potential impacts to marine turtles (Section 4.27) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-5: LNG as a transition fuel and the displacement of coal (Section 4.6). • GHG-8: The role of gas in the future energy mix (Section 4.9) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-	Proforma submission (additional text)	<p><i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. I am extremely concerned that Woodside’s proposed activities threaten the sensitive marine I strongly urge you to reject the</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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RES-47		<i>proposal to undertake oil and gas development on or around Scott Reef.</i>	<ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-48	Proforma submission (additional text)	<i>Below is a very long email urging you to protect the environment at Scott Reef. This email has come to me from the Australian Marine Conservation Society, an organisation I support financially. I am endorsing the form email below and add that I am simultaneously disappointed and outraged that the West Australian government is open to new oil and gas exploration that can only lead to greater threats to global climate change. Please do all you can to prevent any new fossil fuel development in Western Australia Thank you</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-MEQ-RES-49	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. Fundamentally it is more and more clear additional fossil fuels to those already being “harvested” are not necessary to see us through the transition to renewables worldwide, and they would be much better being left in the ground as sequestered carbon. On top of that are the obvious environmental effects as described by AMCS below. “ In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine .I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.” Together it seems a no- brainer to prevent this project</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-MEQ-RES-50	Proforma submission (additional text)	<i>Be careful with our marine life. Marine permaculture has a portentously to draw down Caron, provide food and a healthy habitat for our marine life so please stop mucking around with nature!</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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PRO-MEQ-RES-51	Proforma submission (additional text)	<i>It is long past the time when Australian governments could get away with the destruction of our wildlife and their ecosystems. We should be responsible and protect them. More and more Australians are recognising this. The environmental Protecion Authority should do that instead of paving the way for these industries which are destroying out environment.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-52	Proforma submission (additional text)	<i>For goodness sake read what is written below and think about what it is saying. Where is a line going to be drawn? Stop putting our precious irreplaceable natural ecosystems and and animals at risk. We hate the lies and the fake environmental impact statements that you pay for to claim these projects are not harming the environment. Do what is right and look after the depleting natural environment that we have. This is in relation to the sensitive marine environment of Scott Reef and the proposed project that will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-53	Proforma submission (additional text)	<i>Fighting to protect precious marine life and habitat from oil and gas is a worldwide issue!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-54	Proforma submission (additional text)	<i>Here in America we fight for NO offshore drilling anywhere off any coast Atlantic, Pacific, Gulf or Alaska! NO seismic blasting or other oil gas exploration! Our oceans and marine life worldwide must be protected from oil and gas destruction by the U.S. or Australia or anywhere on the planet! Australia has the added responsibility of protecting the greatest areas of the world's reef systems.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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PRO-MEQ-RES-55	Proforma submission (additional text)	<i>The life in our sea is decreasing. We need more marine sanctuary zones, to protect and increase numbers and breeding, not more ways to destroy our oceans and sea life!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-56	Proforma submission (additional text)	<i>I believe that we need to keep the reefs of our world as pristine as possible and so</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-57	Proforma submission (additional text)	<i>Additionally, Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development and will contribute around four times the pollution of, I urge you to take a stand for the environment, for the generations of Australians to come, and for the sake of the ocean, the reef, and the many animals and plants: reject the proposal to undertake oil and gas development on or around Scott Reef – PLEASE!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23) GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-MEQ-RES-58	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).

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PRO-MEQ-RES-59	Proforma submission (additional text)	<i>Please think of our future generations & protect our reefs</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-60	Proforma submission (additional text)	<i>I think we can no longer ignore environmental harm and I believe that as well as altering irrecoverably Scott reef by drilling in it (hard to believe)!!! That it is also no longer possible to keep putting money into an antiquated energy supply source such as gas and oil.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-6: Management of drilling and completion discharges (Section 4.20).
PRO-MEQ-RES-61	Proforma submission (additional text)	<i>I am writing in response to the current consultation on Woodside’s Browse Basin development. I have worked in environmental regulation for many years in NSW. I am very concerned that Woodside’s proposed activities threaten the important marine environment of Scott Reef. The potential for both short and long term damage to kill marine fauna is high.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-62	Proforma submission (additional text)	<i>I write in relation to the current consultations on Woodside’s Browse Basin development. In particular I am deeply concerned that Woodside’s proposed activities threaten the sensitive marine. Protection of this highly sensitive, nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal. [Redacted]</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).

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PRO-MEQ-RES-63	Proforma submission (additional text)	<i>In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29).
PRO-MEQ-RES-64	Proforma submission (additional text)	<i>Would it be possible for the WA Environmental Authority to actually protect, with some useful certainty, the very significant ecological values it has in its charge? To this end</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-65	Proforma submission (additional text)	<i>I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-66	Proforma submission (additional text)	<i>We need our reefs.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-67	Proforma submission (additional text)	<i>We've got to do better than this. We have to do better than this. It's our children's future.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-68	Proforma submission (additional text)	<i>I am HORRIFIED ABOUT the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-69	Proforma submission (additional text)	<i>I am writing to ask that consider Woodside's proposal and reject it. We must leave some of the natural environment intact for future genera day this incessant development threatens these pristine areas and all of the marine life contained therein.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-70	Proforma submission (additional text)	<i>It's a critical nesting habitat for one of the most endangered species of marine turtle in the I urge you emphatically o reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-71	Proforma submission (additional text)	<i>I am bewildered how this is even a topic for conversation with the devastation we are seeing around the world to our environment. Australia should be leading the world in habitat preservation.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-72	Proforma submission (additional text)	<i>Do we really need to disturb the marine environment around Scott Reef? Yes, you must get sick of people that are concerned about the planet banging on about \protecting\ it for future generations, but we need to be mindful of the impact we are having on the planet. Please reject the proposal for oil and gas development on or around Scott Reef. Please think about the future you are creating...yes, we need oil and gas but not at this price.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-73	Proforma submission (additional text)	<i>Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles. Discharges of wastewater and pollution from oil spills can contaminate marine ecosystems with toxic heavy metals and other chemicals. If there was a spill accident, Woodside's own risk models predict a mixed gas and This is just unacceptable.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-2: Unplanned hydrocarbon spills (Section 4.16) MF-1: Potential impacts to marine fauna (general) (Section 4.23) MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-74	Proforma submission (additional text)	<i>There comes a time in the history of the human race where we (YOU) have to stop prioritising money over habitat....our habitat and that of all creatures. The lure of an easy buck is strong but the will of the people WILL win the day (and it might not be pretty for the money men.....be warned).</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-75	Proforma submission (additional text)	<i>We have recently seen so much destruction of natural habitat across Australia with drought, fires and floods. I know we need to protect what is left and to stop and</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14)

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No.	Submitter	Submission and/or issue	Response to comment
		<i>reflect on any plans for any activities or explorations in any sensitive areas.</i>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-76	Proforma submission (additional text)	<p><i>I understand that a proposal for Woodside Petroleum to drill on Scott Reef in the Kimberley region is under consideration.</i></p> <p><i>I have visited the Kimberley region, inland and along the coast, and the Broome area on several occasions. I was asked recently what my favourite area of Australia is. It's a very difficult question of course but my answer was 'The Kimberley'. The land, coastal and marine environments are all incredibly beautiful and ecologically significant. They contain many threatened species of animals and plants. The culture and history of the region, particularly the Indigenous culture and history, are unique and precious.</i></p> <p><i>The environments and ecologies of the world, Australia and the Kimberley are threatened in so many ways: for instance climate change, pollution, loss of habitat, and loss of biodiversity. It is highly regrettable that we would allow the natural environment to be destroyed in these ways but it is almost unbelievable that we would do it also knowing that we are in the process destroying the conditions that make life possible for humans on planet earth. It is easy to think that each bad decision such as allowing oil and gas drilling in the Kimberley is just a small decision affecting a small corner of the world but we know that all such small decisions over the last 200 years are adding up to make the world an unstable, unhealthy and threatening place. We must stop making decisions</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<p><i>that provide short term gains for a small number of people and yet threaten the very survival of humanity. I find it incredible and incredibly disappointing that in 2020 Australia might still be prepared to drill for oil and gas in the Kimberley. It is even more incredible (and irresponsible) when one takes climate change into account. The evidence is clear that to keep global warming to under 1.5C we cannot burn all the fossil fuels that we currently have access to. We do not need any additional sources of fossil fuels.</i></p> <p><i>I very much hope that you will reject this proposal outright because of the damage it will do to the Kimberley and because it is entirely inappropriate to site such drilling in a largely untouched area.</i></p> <p><i>Should you proceed with considering the proposal, I trust that you will ensure that comprehensive environmental and health impact assessments are conducted by independent, appropriately skilled organisations/individuals before any decision is made. I am confident that should such assessments be conducted, the only reasonable decision will be to reject the proposal.</i></p> <p><i>I fully support the submission made to you by the Australian Marine Conservation Society of which my wife and I are strong financial and practical supporters.</i></p> <p><i>I would be grateful if you could acknowledge receipt of this submission and keep me informed of progress with decisions about the proposal.</i></p> <p><i>I have no objection to my submission being made public. In summary, I urge you to reject completely the proposal to undertake oil and gas development on or around Scott Reef.</i></p>	

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-77	Proforma submission (additional text)	<i>It is time we started protecting our coastal systems because without them where are we?! It is up to you people to stop this development and start the process of protection not destruction. Say a big NO!!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-78	Proforma submission (additional text)	<i>Just because very few people have been privileged to see dugongs and sea turtles in their natural environment does not mean that you can take them for granted or destroy their home. The public at large recognises that such animals are indicative of a healthy environment, and that even if we never see them the protection of their environment is essential. It is not possible to isolate one section of the sea, or to contain damage. Ordinary members of the public can see that an action on one part of the planet has repercussions globally. I hope your clever engineers haven't forgotten this.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-79	Proforma submission (additional text)	<i>I travel to WA regularly for work and holiday reasons... and you should be doing the utmost to protect such a wonderful environment and place to visit. That said decisions like this impact all of Australia – clearly from the denigration of environment and climate we need to do far more to look after our fragile scenario.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-8	Proforma submission (additional text)	<i>As someone who has lived and travelled in WA, and is a keen sailor in more remote areas,</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-81	Proforma submission (additional text)	<i>[Redacted] and I are writing in relation to the current consultations on Woodside's Browse Basin development. In particular we are very concerned that Woodside's proposed activities threaten the sensitive marine We urge you in the strongest possible terms to reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).

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PRO-MEQ-RES-82	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am very concerned that Woodside's proposed activities threaten the sensitive marine. Considering the terrible devastation on marine life from plastic pollution, the threats to our reef, and the incomprehensible toll on wildlife from bushfires, further threats to natural ecosystems and wildlife should not be pursued.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-83	Proforma submission (additional text)	<i>Re: Woodside's Browse Basin development. In an era when we should be walking away from fossil fuels altogether, it is sheer LUNACY to contemplate operating any extraction sites that DO go ahead, anywhere near biodiversity hotspots such as Scott Reef. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-84	Proforma submission (additional text)	<i>Though not a WA resident, I cannot fathom how your government can enter into consultations re Woodside's Browse Basin proposal to drill in a pristine ecosystem across the Indian Ocean and Timor Sea. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine. The Australian Marine Conservation Society's analysis (of the impact on marine life that such drilling and extraction) is compelling.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-RES-85	Proforma submission (additional text)	<i>You know the idiom 'evolve or die'? We need your help to urge the evolution of both thought and practice regarding energy production. Evolve what is permitted, what our standards must be so that we progress as a nation, as a ripple, as a planet. Or we die.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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PRO-MEQ-RES-86	Proforma submission (additional text)	<i>This MUST be a joke, right? That Woodside thinks it's OK to drill for Gas and oil HERE. I say NO, and I plead that you also say NO, don't allow it, its completely unnecessary, there is much to be done, use alternatives, follow that, not this old and failed way of finding oil and gas. WE DONT NEED IT!!!!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-87	Proforma submission (additional text)	<i>The proposed oil and gas developments are totally against marine's conservation recommendations. They are also totally against the wishes of more than 50% of the voting public. I join with the thousands of others who are vehemently against the proposed developments</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-88	Proforma submission (additional text)	<i>I am writing as someone who lived and worked in the Kimberley for over 10 years. During that time I visited many beautiful places along the coastline of Western Australia, from north to south. What I saw and experienced during that wonderful time is the reason I am signing this protest petition against allowing Woodside Petroleum- or any other company – to drill along the coastline for their Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-89	Proforma submission (additional text)	<i>Australia has a global responsibility to protect all endangered species and natural habitats, which we have not done ad are still not doing. There should be a blanket prohibition on all such drilling and exploitation in any such environment, without exception. We have also seen in numerous examples both in Australia and around the world that companies like Woodside do not take adequate precautions to protect the environment or aquifers or anything else, even when they promise to do so, they do not undertake the remediation they are expected or required to do in the event of spills and other</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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		<p><i>damage, they do not provide full financial compensation for damage they cause, we cannot bring back species once they have become extinct, and Australia has some of the most toothless and incompetent regulation of these activities of any country imaginable. Neither the companies nor government can be trusted. It is in this government's interest to approve this application, not to oppose it. That does not mean that it is in the interests of either the environment or a majority of the Australian public</i></p>	
<p>PRO-MEQ-RES-90</p>	<p>Proforma submission (additional text)</p>	<p><i>I am writing in relation to the current consultations on Woodside's Browse Basin development. This is a ridiculous proposal for a ecologically rare and special place full of endemic species, both in the sediments and in the water column. The research and monitoring I did of this region uncovered many rare and endemic benthic species, some were previously unknown to science (An investigation of benthic sediments and macrofauna within pearl farms of Western Australia in Aquaculture 319(3):466-478 · October 2011). I am very concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef which supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15). • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31).
<p>PRO-MEQ-</p>	<p>Proforma submission (additional text)</p>	<p><i>I vehemently oppose drilling for gas and oil on the Scott Reef. I have dived there as a tourist in WA, and besides the economic loss to tourism (especially when the Great Barrier Reef is essentially dying), it's an extremely</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p>

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RES-91		<i>irresponsible thing to do. The drilling process and the risks of mining the Reef are far too great for a short term economic gain.</i>	<ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-6: Management of drilling and completion discharges (Section 4.20).
PRO-MEQ-RES-92	Proforma submission (additional text)	<i>There is no Planet B!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above
PRO-MEQ-RES-93	Proforma submission (additional text)	<p><i>The Bjelke-Petersen government in QLD rightly decided against oil and gas mining the Great Barrier Reef 50 years ago.</i></p> <p><i>Nothing has changed since – in such irreplaceable areas these proposals can never justify the risk.</i></p> <p><i>It seems our pollies these days are asking more and more for tourists to visit. The damage in the last 12 months has been monumental. What are they going to see? – signs saying this is where things used to be? In particular you need to look at this in context of a changing ocean environment which is less and less friendly to coral reefs. Any impact from mining will be magnified by what is already occurring.</i></p> <p><i>Another alternative is to take the view that the reefs are stuffed so we might as well trash them anyway. A lot of people seem to be taking this approach these days – not sure why they keep dropping their kids off at school of a morning however.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above
PRO-MEQ-RES-94	Proforma submission (additional text)	<p><i>We've done enough damage, as a Nation and worldwide, as ignorant humans to our environment here, so unique yet vulnerable</i></p> <p><i>On planetary terms meaning survival of us as a species</i></p> <p><i>Don't Do Any More Damage!</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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PRO-MEQ-RES-95	Proforma submission (additional text)	<i>[Redacted] I am a biologist with 40 years of professional experience with environmental issues.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-96	Proforma submission (additional text)	<p><i>Finally, I draw your attention to the limitations and prohibitions of the Federal Government's Environmental Protection and Biodiversity Conservation Act which affords you the authority to terminate Woodside's plans in total. Of anywhere, Scott Reef qualifies under the Act's definition of "critically endangered ecological community." The Act and the Guidelines are specific about the inclusion of marine environments (See p.14 of the Guideline).</i></p> <p><i>The Guideline states specifically "The proposed action should be considered at its broadest possible scope. This includes all stages and components</i></p> <p><i>of the action, all related activities, and all related infrastructure..."</i></p> <p><i>Specifically commenting on Marine Environments it says that an action shall not "modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results [or]</i></p> <p><i>...have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (for</i></p> <p><i>example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution</i></p> <p><i>Petroleum mining cannot proceed without spill risk. The ONLY effective way to remove that risk is to not permit the action to take place at all. Mitigation after the event is</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16).

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		<i>a shoddy second alternative, and it completely flies in the face of the EPA's Federal directives. You know and I know this is a last \hurrah\ for petrochemicals. Do what you can to stop it. No last hurrah's for Woodside.</i>	
PRO-MEQ-RES-97	Proforma submission (additional text)	<i>No, no, no. Instead, think of the future..... Save the environment, marine life and the future welfare of all on this planet. Environmental Protection Authority WA) and [redacted] Secretary Department of Environment and Energy,</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-98	Proforma submission (additional text)	<i>I am adding my personal plea to you to help protect us from further degradation of our planet and to encourage work that is sustainable for the only environment we have to live in. We have to live with the consequences of our decisions.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-99	Proforma submission (additional text)	<i>This reef is too valuable as a natural treasure to risk damage to it from the extraction of fossil fuels, which in itself is an activity harmful to our atmosphere. Thank you for acting to protect this valuable part of our natural heritage.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-MEQ-RES-100	Proforma submission (additional text)	<i>We are already moving away from gas and oil and need to do more to protect the ocean and habitats.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-101	Proforma submission (additional text)	<i>Earth is not only our home, we are all a part of this ecosystem and ripple effects will reach all of us.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-102	Proforma submission (additional text)	<i>Would it be possible for the WA Environmental Authority to actually protect, with some useful certainty, the very significant ecological values it has in its charge? To this end</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-103	Proforma submission (additional text)	<i>Survival of our environment should be the overriding aim of any State or Federal Government. That includes both land and water.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-104	Proforma submission (additional text)	<i>I have read the letter prepared by the Australian Marine Conservation Society in opposition to the proposal and adopt its contents. In addition, I add that I have been a frequent visitor to this part of Western Australia. This sort of development will jeopardise tourism by degrading the environment.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-105	Proforma submission (additional text)	<i>Even more disastrously, Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development. It will contribute around four times the pollution of the proposed Adani coal mine and also impact severely on Scott Reef which has previously suffered the impacts of climate change through bleaching events Oil and gas operations such as the Browse Basin development are incompatible with the sensitive marine environment of the Scott Reef and its survival as we know it. Protection of this sensitive, nationally significant marine environment is of paramount conservation importance. The Browse Basin proposal forces a choice between fossil fuel extraction and the associated greenhouse emissions, and the degradation of a unique Australian environment. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-MEQ-RES-106	Proforma submission (additional text)	<p><i>Even more disastrously, Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development. It will contribute around four times the pollution of the proposed Adani coal mine and also impact severely on Scott Reef which has previously suffered the impacts of climate change through bleaching events</i></p> <p><i>Oil and gas operations such as the Browse Basin development are incompatible with the sensitive marine environment of the Scott Reef and its survival as we know it. Protection of this sensitive, nationally significant marine environment is of paramount conservation importance. The Browse Basin proposal forces a choice between fossil fuel extraction and the associated greenhouse emissions, and the degradation of a unique Australian environment. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-107	Proforma submission (additional text)	<p><i>I am writing in hopes of influencing and preventing a dire decision in the current consultations on Woodside’s Browse Basin development.</i></p> <p><i>The entire project should be denied, for obvious reasons of fossil hydrocarbons having a biologically dangerous effect on the Entire earth and the climatic stability now being destroyed.</i></p> <p><i>In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine</i></p> <p><i>Because completely protected oceanic areas are essential for recovering fish and other aquatic organisms, and the toxicity of undersea drilling for fossil fuels is proven and repeated constantly since the inception of the practice, Scott Reef is FAR more valuable than any direct or private exploitation can be.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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		<i>Governments exist to protect the future from such destruction</i>	
PRO-MEQ-RES-108	Proforma submission (additional text)	<p>*****<i>Look at this fact:</i> *****</p> <p><i>--Did you know that Woodside’s proposed Browse Basin and Burrup hub will contribute around four times the pollution as that of the proposed Adani coal mine!! 4 Times!</i></p> <p><i>--And Australian know ALL about the Adani controversy! !!! OMG not again. Please stop this proposed development from proceeding.</i></p> <p><i>--Oil drilling is hugely disruptive. To wildlife, the oceans, and ultimately our world as a whole is affected. We are all linked to what happens in WA. It will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life. Really!</i></p> <p>***</p> <p><i>Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-109	Proforma submission (additional text)	<i>Please read this email to the end. I am signing because I cannot believe drilling would be allowed in such a significant area of our coast endangering our marine animals.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23).
PRO-MEQ-	Proforma submission (additional text)	<i>I also would urge that this company has no ‘social license’ to do anything in Australian waters. This company has been involved in trying to rip off one of the most impoverished countries in the world – Timor L’Este;</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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RES-110		<i>and not satisfied with that also doing everything to ensure they pay little or no tax in Australia.</i>	
PRO-MEQ-RES-111	Proforma submission (additional text)	<i>What will your children and grandchildren think of you if you approve The Woodside’s Browse Basin development? Will they be proud that your decision approved Woodside’s proposed activities that will threaten the sensitive marine environment of Scott Reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life? I know my children, and in time their children, would not be proud of me if I approved the destruction of such habitats particularly in pursuit of fossil fuels.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2).
PRO-MEQ-RES-112	Proforma submission (additional text)	<i>No, no, no!!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-113	Proforma submission (additional text)	<i>Soon we will not have any marine areas of any quality left and of course the world’s oceans are like a large bowl of soup that is getting degraded beyond rehabilitation. This effects the quality of life of all life on earth.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-114	Proforma submission (additional text)	<i>ALL FOR MONEY AND U CANNOT EVEN TAKE IT WITH YOU..ONE FOOT IN THE BANK ANOTHER IN THE GRAVE..MAY GOD HAVE MERCY ON YOU IN ETERNITY WHEN THE TIME COMES AND HE SAYS “ENOUGH” AND YOU HAVE DONE THIS AND DESTROYED OUR PLANET</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-	Proforma submission (additional text)	<i>I am writing as a doctor concerned about the current consultations on Woodside’s Browse Basin development.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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RES-115		<i>In particular I am worried that Woodside’s proposed activities threaten the sensitive marine</i>	
PRO-MEQ-RES-116	Proforma submission (additional text)	<i>Please, please don’t allow oil and gas development (drilling) on Scott Reef. It’s imperative that we, as stewards of the planet, protect habitat to allow the Earth’s creatures to thrive.</i> [redacted]	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-117	Proforma submission (additional text)	<i>What an amazing natural wonderland!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-118	Proforma submission (additional text)	<i>I have worked in the oil & gas industry most of my working life & have worked for Woodside on the Angel project. Times are changing & it is time to review how resources are exploited. We should not be risking this valuable place adding more carbon emissions.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-119	Proforma submission (additional text)	<i>Around thirty years ago, my family from SA took a camping holiday around WA, and one of the most impressive things we observed was a HUGE turtle laying her eggs in the sand just after twilight on a remote beach near Exmouth. We watched in awe as she laboriously dug her hole in the sand with her flippers, then laid her eggs, then covered them carefully with the sand she had displaced. We were transfixed by the whole process, and it was an experience my husband and I, and our two children (now adults with children of their own) will never forget. So I am writing to you now in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine For these reasons, I am urging you to reject the proposal to undertake oil and gas development on or around Scott</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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		<i>Reef, and take steps to preserve your beautiful, unique marine environment and its amazing creatures, so that generations to come may be able to enjoy and experience the awe and wonder that we did on that Spring evening so long ago.</i>	
PRO-MEQ-RES-120	Proforma submission (additional text)	<i>Australia is becoming re-known for destroying natural habitats and killing off wildlife to the point of species extinction.. Do you want to be known as one who has sent more animals to extinction?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-121	Proforma submission (additional text)	<i>I cannot believe at this critical state Australia is in that ANY GOVERNMENT in their right mind would even consider this abomination ..."Have the recent disasters taught you nothing?" This government continues to not do the right thing...and will not listen to the voting public....WE SHARE THIS PLANET WITH ALL OF GODS CREATURES NOT OWN IT AND ALL THAT'S ON ITThese areas DO NOT belong to any government..but to all Australians and future generations... How dare you think you can do 'willy nilly' whatever you like without giving a damn about the natural marine life and the future health of this planet.... Enough is enough...no amount of Money would ever be enough to qualify the rape and destruction of these habitats... Please stop this lunacy and do the right thing...</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-122	Proforma submission (additional text)	<i>I am extremely concerned that Woodside's proposed Browse activities threaten the sensitive marine environment, particularly Scott Reef and will negatively impact marine fauna and irreversibly degrade critical habitat for endangered marine life. Scott Reef is a WA state treasure and should be protected. Scott Reef has already suffered the impacts of climate</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15)

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		<i>change through bleaching events and this proposal would significantly add to the problem.</i>	<ul style="list-style-type: none"> • MEQ-6: Management of drilling and completion discharges (Section 4.20) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-123	Proforma submission (additional text)	<i>I am so over wrecking our environments when it is unsafe for all creatures to co-exist with the effects of our human needs, (gas and oil). There has to be a better, friendlier way please try to find one? Selling my shares, can't keep supporting the impacts of this any longer.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-124	Proforma submission (additional text)	<i>This area is between very valuable marine protected areas, so any pollution, whether accidental via oil spillage, or incidental from wastewater or other means, must affect those valuable adjacent areas. As for drilling on a coral reef, I thought Australia had abandoned any suggestion of that since the 1960's! This area is being studied by a number of international, as well as Australian universities (University of Sydney's Australian Centre for Field Robotics, the University of Rhode Island (URI) Graduate School of Oceanography, the Woods Hole Oceanographic Institution (WHOI), the Massachusetts Institute of Technology (MIT) School of Aerospace, the University of Hawaii, Australian Marine Ecology (AME) and Evologics GmbH) showing how important it is.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20).
PRO-MEQ-RES-125	Proforma submission (additional text)	<i>Just think about all the money made from people going to see the wild life, which will grow and go on for ever, while after the oil and gas companies are finished destroying it all they will just move on to their next path of destruction. There will be no wild life to see and no one paying.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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PRO-MEQ-RES-126	Proforma submission (additional text)	<i>I understand you are filling your own pockets to facilitate Woodsides permission to drill in these areas however I take offence when those in charge of protecting our fragile environment are making decisions not reflective of what the community wants or needs, if you okay this process then shame on you.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-127	Proforma submission (additional text)	<i>The conservation of the ecosystem matters, but reducing the supply of fossil fuels matters even more</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-128	Proforma submission (additional text)	<i>As a marine biologist, WA-loving tourist and parent,</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-129	Proforma submission (additional text)	<i>IF NOPSEMA FINDS CONSTANT FAULT WITH WOODSIDE, HOW CAN YOU IGNORE IT?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-130	Proforma submission (additional text)	<i>I am a citizen resident in Queensland who feels that the coastline and waters surrounding Australia belongs to all Australians and not just the interests of a the few.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-131	Proforma submission (additional text)	<i>Firstly and above all I find it a little bit disconcerting that the general public needs to be on our toes ready to defend fragile environments or endangered species, be they flora or fauna. This job is supposed to work the other way around. The Woodside proposal to drill in the vicinity of Scott Reef for the environment is a no-brainer. It bothers me personally that such places even have an exploration lease over them. I believe the EPA should have already cordoned off such areas and it should be the exploration</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).

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		<p><i>and mining companies that seek to do the risky work to put it by the general public before any proposal is even looked at by the EPA.</i></p> <p><i>I am with everyone else against this proposal in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine</i></p>	
PRO-MEQ-RES-132	Proforma submission (additional text)	<p><i>Your decisions will affect the planet forever. Now is the time to stand up for what’s left of our wildlife. The ethical question here is: What ought one to do? It’s a no brainer.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-133	Proforma submission (additional text)	<p><i>Below are words written by the Australian Marine Conservation Society that I wholeheartedly agree with. I would also add that should any oil spills or damage be done to such an environmentally sensitive area, it will be known by future generations that YOU allowed such a monumental error to happen. Too many places around our planet are being destroyed in the pursuit of more and more profit, it is a madness that is undeniably destroying the only planet we humans can exist on. You are in a unique position to protect the environment as you title suggests so Please do NOT allow drilling in this area because if it is damaged it cannot be replaced and going by how these petroleum companies work in their mad pursuit of more and more profit, they will take short cuts or use inferior materials, have no doubt, short cuts that increase their profit also increase the very real possibility of irreparable damage to our magnificent coastline. In Australia we are blessed with a relatively clean environment in which to live in, please let us not go down the path of other countries who have allowed theirs to be destroyed by international companies that have no respect to the laws of that country to which we all abide</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16)

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		<p><i>nor the magnificent beauty of the Earth. It was once thought that life was abundant throughout the universe, now with technology astronomers and scientists have now come to believe that a planet like the Earth with such an abundance and diversity of life is not as common as they once thought. It is rare and unique and an absolute gem that should be treasured and looked after not trashed and destroyed.</i></p>	
<p>PRO-MEQ-RES-134</p>	<p>Proforma submission (additional text)</p>	<p><i>Finally, Australia is not getting anything from drilling but a terrible environment for All to live in.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
<p>PRO-MEQ-RES-1365</p>	<p>Proforma submission (additional text)</p>	<p><i>PLEASE DON'T FOLLOW The President of the United States of America's [redacted]MODAL OF NOT CARING FOR OUR ENVIRONMENT AND THE REST OF THE ORGANISMS WHO ALSO LIVE ON THIS PLANET! SHORT TERM OIL AND GAS EXPLORATION WILL LEAVE OUR FUTURE GENERATIONS A WORLD THAT IS BARREN AND NO LONGER TEEMING WITH LIFE</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
<p>PRO-MEQ-RES-136</p>	<p>Proforma submission (additional text)</p>	<p><i>Hasn't Australia and its wildlife seen enough disasters for one decade? Why encourage more? I cannot urge you strongly enough to reject the proposal to undertake oil and gas development on or around Scott Reef. Fossil Fuel exploration is from the past, to whatever extent in transitioning to other power sources we continue to allow it, it must not be in our more critical ecology regions. Please give Woodside a firm NO along with and don't ask again ...</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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PRO-MEQ-RES-137	Proforma submission (additional text)	<p><i>Is Scott Reef to support a huge array of sea life from across the Indian Ocean and Timor Sea or is it just for mining Such remote regions are physically isolated which enables critical nesting habitat for one of the most endangered species of marine turtle in the It does not exist nor should it as simply a mining site as it is far too important for that. Yet, we have good reason to fear the political influence of this multinational giant, which relies for its operations on political compliance locally and nationally. It is its political influence over the environmental decisions that is at the heart of its political networking.</i></p> <p><i>Woodside’s Browse Basin and Burrup hub proposal is one of Australia’s major polluting fossil fuel mega-development. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem. Oil and gas operations such as the Browse Basin development are incompatible with a sensitive marine environment like the Scott Reef and are totally inconsistent with maintaining the safe climate conditions that Scott Reef and other marine environments I strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-5: Potential impacts to marine turtles (Section 4.27) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-138	Proforma submission (additional text)	<p><i>I SAY NO, NO, NO TO WOODSIDE EXPLORATION AT SCOTT REEF!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-139	Proforma submission (additional text)	<p><i>If there is a 100% guarantee that there will be no spills or pollution at all then I would not object to this proposal.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14)

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			<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon spills (Section 4.16).
PRO-MEQ-RES-140	Proforma submission (additional text)	<i>There is a need for vision and protection of the environment for our children and grandchildren. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-141	Proforma submission (additional text)	<i>Don’t drill Scott Reef. Build renewables and leave the wildlife alone.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-6: Management of drilling and completion discharges (Section 4.20) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-7: Lower and zero carbon energy sources (Section 4.8).
PRO-MEQ-RES-142	Proforma submission (additional text)	<i>We urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. “</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-143	Proforma submission (additional text)	<i>PLEASE DON’T RUSSIAN ROULETTE TO BE PLAYED WITH OUR REEF!!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-144	Proforma submission (additional text)	<i>I am deeply concerned that you are considering the possibility of endorsing Woodside’s Browse Basin development. I am 70 years old and have watched my beautiful planet raped and pillaged by oil companies and</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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No.	Submitter	Submission and/or issue	Response to comment
		<i>have watched as our precious environment has been decimated to a point at which in many instances there is now no return. You yourself are probably too young to remember the abundant beauty and diversity with which I was fortunate enough to experience in my earlier life. I am begging you not to endanger the remaining diversity by allowing money to override the future of our planet and wildlife. We now know there are other less harmful ways to create the energy we think we need to survive ... please put your energies into finding alternate solutions and place ecosystems above profit before it is too late.</i>	
PRO-MEQ-RES-145	Proforma submission (additional text)	<i>I urge you to please reject the proposal to undertake oil and gas development on or around Scott Reef, for the sake of our children. We can't be seen as the generation who ignored the science and destroyed the natural environment for corporate greed.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-146	Proforma submission (additional text)	<i>"I am a petroleum geologist. I went for an interview with woodside in the 90s came 2nd.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-147	Proforma submission (additional text)	<i>Despite this, based on what I know, which is little re the environment if scott reef I would say that just like GtBarrier Teef it should be excluded from oil and gas exploration. It is a unique habitat with great wildlife and needs to be protected on that basis."</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-148	Proforma submission (additional text)	<i>I WANT YOU TO KNOW I THINK BEING AT A MOMENT WHERE WELL BE JUDGED, THIS IS YOUR CHANCE TO DO THE RIGHT THING BY THOSE TO COME. Environmental Protection Authority WA) and [redacted] Secretary Department of Environment and Energy</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-149	Proforma submission (additional text)	<i>STOP PUTTING SHORT TERM PROFITS OVER LONG TERM ENVIRONMENTAL HEALTH!!! DO YOU HAVE A FAMILY? GRANDCHILDREN? WHY POLITICIANS ARE SO SHORT SIGHTED MY CHILDREN ARE INHABITING A DYING WORLD! MONEY WON'T FIX EVERYTHING!</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-150	Proforma submission (additional text)	<i>It is time to actively and publicly start protecting our fauna on land and in the sea. Fossil fuels are polluting and slowly destroying this world. Let's conserve our world and let go of fossil fuel use.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-151	Proforma submission (additional text)	<i>Some places must NEVER be "developed" and this is one of those.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-152	Proforma submission (additional text)	<i>We cannot continue to destroy the ecosystem and the world with the polluting fossil fuels. Think of your children and grandchildren's world in the future.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-153	Proforma submission (additional text)	<i>Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. The "impregnable" oceans are in serious trouble for a number of reasons. Fossil is a deathly, dead end. Why this risk? Once, years ago now, the prestigious Australian Academy of Science and CSIRO, and BOM, warned that the risk of continued fossil use was too, too far to take, it bound all. Without the guidance of a "think tank" we are flying blind, entailing an incredible risk. Those bodies' position should have been and be the governing factor. However, in the ensuing period of inaction, the supreme bodies, in the field have seen the change, over many years – that is seen it, "face-to-face".</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>They are the US National Oceanic and Atmospheric Administration and David Attenborough. The only difference between the modelling and what they are seeing is that the change is faster. I worked very closely with the leading representatives of energy companies in the 1980s, of the ExxonMobil warning bulletin, and 1990s, of the Shell bulletin. It was assumed that people would heed the warning. It is inexplicable this has not been the case. So I have been put in the box seat to see what was covered, then play out, in the last incomprehensible 30 years. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef, on the basis of the reef's welfare, alone and the wider madness of continued fossil use.</i></p>	
PRO-MEQ-RES-154	Proforma submission (additional text)	<p><i>In light of the recent devastation to the environment caused in part, if not all, by the actions of entities from the resources sector...only an idiot would suggest that any project that threatens the environment, is acceptable.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-155	Proforma submission (additional text)	<p><i>Earth is not only our home, we are all a part of this ecosystem and ripple effects will reach all of us.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-156	Proforma submission (additional text)	<p><i>As a marine scientist with more than 40 years' Behaviour diving on corals reefs, including Scott Reef, I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned with information provided by AMCS that Woodside's proposed activities threaten the sensitive marine I can attest from personal experience that It also acts as an important 'stepping stone' in connecting populations of marine species along the WA coast and Timor Sea more generally.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-157	Proforma submission (additional text)	<i>Woodside's Browse Basin development is being discussed at the moment, and I'm very worried About the effect Woodside's proposed activities will have on the fragile marine environment of Scott Reef. My understanding is that it could disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-158	Proforma submission (additional text)	<i>I respectfully strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. Thank you for listening to me, even though I am not an Australian.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-159	Proforma submission (additional text)	<i>Our beautiful reefs are one of the biggest reasons people visit WA and Australia in general. We are so lucky to live in a country with so much diversity in wildlife and marine life that we should work hard to keep it that way.</i> <i>In a time where most Australians are fearing for the future of our country and precious wildlife and marine life, you have the opportunity to step up and be a leader in this space. Be a leader that we can remember, one that puts our pristine, precious marine environments first rather than one that destroys it. Reject the proposal and keep Australia beautiful! Thank you and kind regards</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-160	Proforma submission (additional text)	<i>In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 :

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.</i></p>	<ul style="list-style-type: none"> • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27). • MF-7: Potential impacts to cetaceans (Section 4.29).
<p>PRO-MEQ-RES-161</p>	<p>Proforma submission (additional text)</p>	<p><i>You have the details of previous studies showing the dangers to the environment. Australia is already a heavy polluter on a per capita measure. Please don't be responsible for enabling further fossil fuel development Scott Reef already shows impacts of climate change through bleaching events and this proposal would significantly add to the problem. I might live in the eastern part of Australia but I regard myself as a responsible Australian citizen. My grandchildren deserve to be able to see the wonders of this area and I hope they can through your wise decision making.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
<p>PRO-MEQ-RES-162</p>	<p>Proforma submission (additional text)</p>	<p><i>I am a qualified marine Biologist, and teach Biology and Ecosystems to adults intending to go to University. The amount of data showing the damage done by exploratory drilling and echo-sounding alone is extensive, and well-documented. And as a scuba diver , with multiple dives on the West Australian coast, i am aware of the delicacy of the narrow reef systems there.</i></p> <p><i>The value of the Reef to the tourist economy long term far outweighs the return from oil, which will have a limited life, and cause permanent damage and possible destruction of the ecosystem.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15).

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No.	Submitter	Submission and/or issue	Response to comment
PRO-MEQ-RES-163	Proforma submission (additional text)	<p><i>As an international citizen who understands the importance to the world of Australia's unique marine species and ecosystems and the terrible pressures they are under, I write in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-164	Proforma submission (additional text)	<p><i>I was horrified to learn that Woodside Petroleum is seeking approval for no less than 54 oil and gas wells in Browse Basin. Not only would creating and excavating these significantly threaten the sensitive marine environment of Scott Reef, but burning any fossil fuels extracted from them would inevitably exacerbate global warming – thereby ensuring that all of Australia's bushfire seasons for the foreseeable future will be even worse than the current one. world, the green sea turtle. Five species of whales also visit the area, including Humpback whales and Blue Pygmy whales, and at least 10 species of dolphins are found there in pods that each contain hundreds of individuals. The proposed activities would seriously disturb, injure or kill all or most of the local marine fauna and irreversibly degrade critical habitat for surviving creatures. In 2010, the EPA noted that sunlight pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and adversely impact the migratory patterns of whales. Oil spill would last 77 days, spreading across</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-6: Management of drilling and completion discharges (Section 4.20). • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27). • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2)

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No.	Submitter	Submission and/or issue	Response to comment
		<i>the reef and as far as 800 km from the site – at concentrations lethal to marine life.</i>	<ul style="list-style-type: none"> GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-165	Proforma submission (additional text)	<i>For the sake of future generations, please reject the proposal to undertake oil and gas development on or around Scott Reef.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-166	Proforma submission (additional text)	<i>There are ALWAYS disastrous spills and leaks where oil is dripped, plus toxic pollution released into the water.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-2: Unplanned hydrocarbon release (Section 4.16).
PRO-MEQ-RES-167	Proforma submission (additional text)	<p><i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am greatly concerned that Woodside’s proposed activities seriously threaten the very fragile and sensitive marine. Considering your role, you are surely fully aware that Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. Please remember that this includes highly critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle.</i></p> <p><i>You will also know, that five species of whales visit the area, including Humpback whales and Blue Pygmy whale and that at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Please recall that in 2010, the EPA noted that even so called “light pollution” from activities such as subsea oil and gas drilling are likely to disrupt the nesting and</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-2: Unplanned hydrocarbon release (Section 4.16) MEQ-6: Management of drilling and completion discharges (Section 4.20) MF-1: Potential impacts to marine fauna (general) (Section 4.23) MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24)

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>463behaviour of hatchling and adult turtles and other endangered marine life. Clearly, this poses an unacceptable risk to the marine life.</i></p> <p><i>Additionally, it is well known that persistent low frequency noise from gas extraction will affect feeding, migration, and breeding 463behaviour in sea turtles, and impact the migratory patterns of whales.</i></p> <p><i>Also of unacceptable impact is the discharges of wastewater and pollution from oil spills that will contaminate marine ecosystems with toxic heavy metals and other chemicals.</i></p> <p><i>Please take note that Woodside's own risk models predict that a mixed gas and</i></p> <p><i>Considering all the irreversible consequences to the marine life, I very strongly urge you to fully reject the proposal to undertake oil and gas development on or around Scott Reef.</i></p> <p><i>Assuming that you too love Australia and all its natural environment, I trust that you will do everything in your power to provide the ongoing protection it requires.</i></p> <p><i>Thank you</i></p>	<ul style="list-style-type: none"> • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29).
PRO-MEQ-RES-168	Proforma submission (additional text)	<p><i>I am someone who loves Australia and its environment and am appalled to think that this project could be approved. We travel the W.A. coast regularly and love spending time there – and our money! But, if this proceeds, we will be thinking twice.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>
PRO-MEQ-RES-169	Proforma submission (additional text)	<p><i>I include the generic email below. In my own words, this drilling mustn't be allowed to proceed. Time and again profit is being out before sensible action. We can't have more fossil fuels dug up and there are many alternatives. Enough is enough</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<i>As an Australian citizen I am asking you not to approve this drilling project.</i>	
PRO-MEQ-RES-170	Proforma submission (additional text)	<i>Yes, this is a 'form letter'. It is sent with the hope that you and the Authority will do all within your powers to halt Woodside Petroleum in its attempts to drill in the Scott Reef. Surely, with all the different Anthropocene impacts currently assailing our Planet, it is time to be very cautious when considering any activity which further impacts the natural environment. . . . isn't it?</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-171	Proforma submission (additional text)	<i>I am writing in relation to the current consultations on Woodside's Browse Basin development. 1.0 Subsea drilling proposed In particular I am concerned that Woodside's proposed activities threaten the sensitive marine 2.0 Reduce Australia's Carbon footprint Our current carbon footprint per person is at the top of the world footprint per person table. This is because of the huge exports of huge quantities of LNG, and coal in its various forms. Australia must reduce its carbon foot print to help reduce the human effect on climate change that is so well documented in the 2015 Paris Agreements. These must be signed immediately by Australia. Please take these 2 factors to heart when deciding on the Woodside proposal.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-2: Proposed Browse Project in the context of meeting local and international climate change commitments (Section 4.3) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-172	Proforma submission (additional text)	<i>I am writing from Brisbane. Although I am a long way from the Browse Bay site matters such as Woodside's proposed activities are of concern to all Australians as it is imperative we maintain sensitive marine environments of such as Scott Reef which is a critical habitat for endangered marine life. Oil and gas operations such as the Browse Basin development are totally inconsistent with maintaining the</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23)

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No.	Submitter	Submission and/or issue	Response to comment
		<i>safe climate conditions that Scott Reef and other marine environments</i>	<ul style="list-style-type: none"> • MF-5: Potential impacts to marine turtles (Section 4.27) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).
PRO-MEQ-RES-173	Proforma submission (additional text)	<i>Will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27).
PRO-MEQ-RES-174	Proforma submission (additional text)	<i>I would not object if Woodside Petroleum would absolutely guarantee 100% that they would not cause any pollution and that if they did so they would pay a fine of 500 times the total clean-up bill</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16).
PRO-MEQ-	Proforma submission (additional text)	<i>Please put right b before profit.</i>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.</p>

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No.	Submitter	Submission and/or issue	Response to comment
RES-175			
PRO-MEQ-RES-176	Proforma submission (additional text)	<i>I have worked in the oil and gas industry and it's not as safe and clean as you think. Every time we have a spill it's always reported as 19.9 litres, not the 199 litres that was lost.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-177	Proforma submission (additional text)	<i>Protection of WA's environment and development of its economy should not be nothing more than a numbers game. Proforma submissions as provided by the Conservation Council of WA in opposition to exploration for oil and gas as per above should be dismissed as lacking substance and hence not be considered by the EPA when assessing the project. I therefore urge you to assess the merits or otherwise of any project on the substance of the development proposal and on the basis of evidence put forward by submitters.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-RES-178	Proforma submission (additional text)	<i>world Protection of this sensitive, nationally significant marine environment is a paramount conservation priority</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the following responses in Section 4 : <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15).
PRO-MEQ-RES-179	Proforma submission (additional text)	<i>The proposed oil and gas developments are totally against marine's conservation recommendations. They are also totally against the wishes of more than 50% of the voting public. I join with the thousands of others who are vehemently against the proposed developments</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.
PRO-MEQ-	Proforma submission (additional text)	<i>Australia is lucky to have such a beautiful asset as the Scott Reef. We MUST NOT let Woodside or any others drill in such a delicate ocean system.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

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No.	Submitter	Submission and/or issue	Response to comment
RES-180			
PRO-MEQ-RES-181	Proforma submission (additional text)	<p><i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. Are you both crazy? The money we get from tourism and the jobs generated by tourism far outweighs any money or jobs from this proposal. Remove the subsidies you give the oil industry and it would be uneconomic.</i></p> <p><i>Apart from the financial side, Woodside’s proposed activities threaten the sensitive marine</i></p> <p><i>Oil and gas operations such as the Browse Basin development are not compatible with a marine environment like the Scott Reef and are totally inconsistent with maintaining the safe</i></p> <p><i>Protection of this nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.</i></p> <p><i>It makes sound economic and environmental sense to reject the proposal to undertake oil and gas development on or around Scott Reef. As an Australian I request you reject it.</i></p>	We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 above.

6.6 EPA Environmental Factor: Marine Fauna

Table 6-5 presents the public submissions relating to EPA environmental factor: Marine Fauna.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA’s Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 6-5 Public submissions and Proponent’s response – EPA environmental factor: marine fauna

No.	Submitter	Submission and/or issue	Response to comment
MF-RES-1	ANON-XJVE-DU3G-G, ANON-XJVE-DUV5-1	<p><i>I am writing in relation to the current consultations on Woodside’s Browse Basin development. In particular I am concerned that Woodside’s proposed activities threaten the sensitive marine environment of Scott Reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.</i></p> <p><i>Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. Five species of whales visit the area, including Humpback whales and Blue Pygmy whale and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals.</i></p> <p><i>In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. Discharges of wastewater and pollution from oil spills can contaminate marine ecosystems with toxic heavy metals and other chemicals. Woodside’s own risk models predict that a mixed gas and oil spill would last 77 days, spreading across the reef, and as far as 800 km from the site, at concentrations lethal to marine life.</i></p> <p><i>In addition, the Woodside’s proposed Browse Basin and Burrup hub proposal is Australia’s most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine. Scott Reef has already suffered the impacts of climate change</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential Impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MEQ-4: Produced water (Section 4.18) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • GHG-1: Objections to the proposed Browse Project due to GHG emissions (Section 4.2) • GHG-10: Climate change impacts on human health and environmental and social receptors (Section 4.11).

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>through bleaching events and this proposal would significantly add to the problem.</i></p> <p><i>Oil and gas operations such as the Browse Basin development are not compatible with a sensitive marine environment like the Scott Reef and are totally inconsistent with maintaining the safe climate conditions that Scott Reef and other marine environments rely on.</i></p> <p><i>Protection of this sensitive, nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.</i></p> <p><i>I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.</i></p>	
MF-RES-2	ANON-XJVE-DUVX-4	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • existing anthropogenic stressors on Scott Reef including the effects of climate change and the need for further monitoring to assess these stressors • potential impacts and the need for further understanding of existing anthropogenic stressors on marine fauna • potential impacts of the proposed Browse Project on marine fauna including seabirds and cetaceans, and in particulate potential impacts from light emissions, low frequency noise emission, waste water discharge and potential unplanned hydrocarbon releases • the contribution of the Burrup Hub projects on climate changes and resultant potential impacts on Scott Reef. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to the comments made on further monitoring and studies to understand existing anthropogenic stressors on marine fauna that may be affected by the proposed Browse Project, Woodside has commissioned approximately 60 studies within the Project Area, Scott Reef and the broader region that span approximately two decades. Studies have included baseline and annual programs for humpback whale, turtle, other marine megafauna and fish species in the region, as well as long-term monitoring of coral and fish communities at Scott Reef. The results of these studies are summarised in Chapter 5 of the draft EIS/ERD and the relevant technical report are also attached or referenced in the draft EIS/ERD.</p> <p>Further, summaries and detailed technical reports relating to proposed marine discharges, unplanned hydrocarbon releases, noise emissions (including animat exposure modelling) and drilling discharges are provided in the draft EIS/ERD. A further desktop lighting study has been</p>

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No.	Submitter	Submission and/or issue	Response to comment
			<p>undertaken as part of preparation of the responses to public submissions and is provided in Error! Reference source not found..</p> <p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16). • MEQ-4: Produced water (Section 4.18) • MEQ-6: Management of drilling and completion discharges (Section 4.20). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Benthic communities and habitats: BCH-RES-2 (Table 6-3).
MF-RES-3	ANON-XJVE-DU3C-C	Note that the following is an extract from the submission. Refer to Table 6-2 (submission No. 16) for the full	We acknowledge the comments made and provide the following information in response to the matters raised.

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No.	Submitter	Submission and/or issue	Response to comment
		<p>submission which relates primarily to atmospheric emissions.</p> <p><i>The waters around WA, including around the proposed site of the works, are home to a myriad of species that are listed as critically endangered, endangered or vulnerable (see below for further information).</i></p> <p><i>A new species of siphonophore has just been discovered in the Kimberley Marine Park, and has not been included in Woodside’s Environmental Review Document (ERD), which means that there is no management plan and extreme uncertainty regarding the impact</i></p> <p><i>A series of bottle-necks between Australia, Timor-Leste, Papua New Guinea and Indonesia have created a channel for migratory aquatic organisms to travel directly through the site of the proposed offshore structures. We can only imagine how these creatures will be affected by these disruptions.</i></p> <p><i>This proposal will not only directly interrupt the migratory path of cetaceans, marine teleosts, and their predators; but all local, small-scale dependants on these natural movements are equally at risk this proposal rewards few, yet risks the total collapse of our marine ecology – not just locally but across an international area.</i></p>	<p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-10: New species of siphonophores (Section 4.32). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-16 (Table 6-2) • Air quality: AQ-RES-16 (Table 6-2 16) • Benthic communities and habitats: BCH-RES-13 (Table 6-3) • Marine environmental quality: MEW-RES-12 (Table 6-4).
MF-RES-4	ANON-XJVE-DUVM-S	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emissions resulting from third party processing of Browse gas (addressed in Table 6-2) • GHG emissions (addressed in Table 6-2) 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>With respect to concerns raised with respect to potential impact on marine fauna, please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • employee accommodation and housing (address in Table 6-6) • potential impacts to national heritage values including rock art. (addressed in Table 6-2) • ability of Aboriginal groups to access the water and coastal land (addressed in Table 6-6) • potential impacts to marine environmental quality (addressed in Table 6-4) • potential impacts to marine fauna • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release (address in Table 6-3). <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-10: New species of siphonophores (Section 4.32). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-22 (Table 6-2) • Air quality: AQ-RES-22 (Table 6-2) • Benthic communities and habitats: BCH-RES-5 (Table 6-3) • Marine environmental quality: MEQ-RES-12 (Table 6-4) • Consultation and other submissions: CAO-RES-3 (Table 6-6).
MF-RES-5	ANON-XJVE-DUMU-R	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, and in particular: <ul style="list-style-type: none"> ○ the magnitude of GHG emissions ○ Australia’s obligation under the Paris Agreement ○ renewable energy • potential impacts to wetlands 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised with respect to potential impact on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • potential impacts to rock art • impacts to cultural integrity resulting from displacement of Aboriginal people • potential impacts to marine fauna including marine turtles, sea snakes, cetaceans, seabirds and shorebirds and fish • the potential for an unplanned hydrocarbon release and resultant impacts • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release • potential impacts during construction, especially drilling. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-10: New species of siphonophores (Section 4.32). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-29 (Table 6.3) • Air quality: AQ-RES-29 (Table 6.3) • Benthic habitats and communities: BCH-RES-6 (Table 6-3) • Consultation and other submissions: CAO-RES-4 (Table 6-6).
MF-RES-6	ANON-XJVE-DUKD-5	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, particularly with respect to whether gas should be considered a transition fuel and Australia obligations under the Paris Agreement • Burrup Hub air emissions and potential impacts to rock art • potential impacts to wetlands • potential impacts to marine fauna, particularly in relation to potential underwater noise impacts • potential impacts to Commonwealth marine parks • potential impacts to Scott Reef • potential impacts to marine environmental quality around Scott Reef. 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts to marine fauna, and in particular potential impacts from underwater noise emissions, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30)

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No.	Submitter	Submission and/or issue	Response to comment
		<p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-40 (Table 6-2) • Air quality: AQ-RES-40 (Table 6-2) • Benthic habitats and communities: BCH-RES-8 (Table 6-3) • Marine environmental quality: MEQ-RES-2 (Table 6-4).
MF-RES-7	Denmark Environment Centre (ANON-XJVE-DUK8-S)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions • potential impacts to national heritage values, including rock art • potential impacts (in particular as a result of underwater noise emissions during drilling) to marine fauna including marine turtles, sea snakes, seabirds and migratory shorebirds, and fish. • potential impacts as a result of an unplanned hydrocarbon release • potential impacts to wetlands • potential impacts to Scott Reef, particularly during drilling • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. <u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts to marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-41 (Table 6-2) • Air quality: AQ-RES-41 (Table 6-2)

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			<ul style="list-style-type: none"> Benthic habitats and communities: BCH-RES-9 (Table 6-3) Marine environmental quality: MEQ-RES-3 (Table 6-4) Consultation and other submissions: CAO-RES-5 (Table 6-6).
MF-RES-8	Murujuga Aboriginal Corporation (MAC) (ANON-XJVE-DUKU-P)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.. The submission relates to:</p> <p><u>Air quality and GHG emissions</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to air quality GHG emissions are provided in AQ-RES-42 (Table 6-2).</p> <p><u>Marine fauna</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to marine fauna are provided below:</p> <ul style="list-style-type: none"> The MAC is concerned about the ERD’s lack of adaptive management to adequately address the known direct impact risks to marine fauna. Questions remain regarding the integrity of the way Woodside has approached the risk of direct impacts to marine fauna and the suitability of the controls and lack of adaptive management options suggested to reduce this risk. MAC is ultimately concerned that Woodside has failed to demonstrate through the ERD an overall capability and objective to protect and ensure that biological diversity and ecological integrity of the areas of high ecological value are maintained during the construction phases and the life of the project. The risk still remains that such failures will be manifested 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts to marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> MEQ-1: Environmental Quality Management Plan (Section 4.15). MEQ-2: Unplanned hydrocarbon release (Section 4.16) MF-1: Potential impacts to marine fauna (general) (Section 4.23) MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) MF-4: Vessel - fauna interaction (Section 4.26) MF-5: Potential impacts to marine turtles (Section 4.27) MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) MF-7: Potential impacts to cetaceans (Section 4.29) MF-8: Potential impacts to sea snakes (Section 4.30) MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31)

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		<p>beyond the local ecosystem and could impact migrating fauna that also frequent the Murujuga.</p> <ul style="list-style-type: none"> As many migratory species have been identified in and around the project area, impacts at a local level have the capacity to affect populations across the entire species' range. MAC is therefore concerned that the ERD does not address, and therefore afford the highest level of protection, for many of the iconic and regionally important migrating marine fauna. Impacts to these species have a high likelihood to affect far reaching areas, including that of the Murujuga. MAC is concerned that without the development of an EQP, and subsequent lack of EVs, Woodside cannot identify the criteria used to protect the extent, severity and duration of impacts associated with project activities. The lack of EVs, and associated EQOs and EQC, therefore cannot be used to meaningfully inform the development of the required EQMF in accordance with the principals and approaches outlined in the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment. Questions remain regarding the appropriate nature and development of the "clear, measurable and auditable EQCs for each EQO and the statistical methods for interpreting monitoring data against the EQC" that should be scientifically derived. The ERD identifies that disturbance activities for the works and the life of the project will interact with several different marine fauna foraging, migrating and distribution areas. However, it is unclear as to how Woodside demonstrates the avoidance of these critical locations and key ecological windows. Therefore, based on the above evidence of direct impacts and interactions with vessels, MAC is 	<ul style="list-style-type: none"> MF-11: Potential impacts to fish (Section 4.33). <p>In response to the specific recommendations made by MAC in relation to marine fauna:</p> <p>MAC recommendation 1</p> <p>An impact and risk assessment for the entire proposed Browse Project, including migrating marine fauna has been undertaken by Woodside and presented in the draft EIS/ERD. This draft EIS/ERD underwent an 8 week public consultation period and Woodside has prepared responses to the public submission received which is currently being finalised in consultation with the Commonwealth and State regulators. The final Browse Project EIS/ERD including the Response to Submissions on State ERD will be subject to assessment by the relevant agencies as part of the environmental impact assessment process. Both of these independent assessment processes will assess impacts of the Proposal on marine fauna, including those marine fauna that may be impacted and also frequent the Murujuga.</p> <p>MAC recommendations 2 and 7</p> <p>Please refer to the response MEQ-1: Environmental Quality Management Plan (Section 4.15). Note that the EQMP has been prepared in accordance with the EPA's Technical Guidance for Protecting the Quality of Western Australia's Marine Environment (EPA, 2016). EVs for the State Proposal Area have been set in accordance with the EPA guidance. It is noted that this EQMP is to apply to the State Proposal Area, located ~900 km from the Murujuga (Figure 1).</p> <p>MAC recommendations 3, 4, 5, and 8</p> <p>Woodside recognises the cultural connection to sea country held by MAC members. However, the Project Area for the proposed Browse Project is located over 100 km from Murujuga at its closest point (the NRC tie in). The Browse</p>

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		<p>concerned that Woodside has disregarded the potential impact to marine fauna.</p> <ul style="list-style-type: none"> • MAC is concerned that migrating marine species that frequent the Murujuga, and other interconnected areas of high ecological value, could be negatively impacted by the Browse to NWS project, and/or other associated oil, gas and infrastructure projects. The current MEQMF has no adaptive options available to reduce the risk and have not with any degree of certainty been able to predict or demonstrate that iconic species will not be affected. • The EPA’s considerations for Environmental Impact Assessment (EIA) for the marine fauna factor is expected to include the risk posed to marine fauna in the event predictions are incorrect, and how these risks would subsequently be managed. Woodside therefore has, given the proximity of the gas well infrastructure to areas of high ecological value, demonstrated there is no way to adequately manage the risk of infrastructure failure, if predictions are found to be incorrect. • MAC is concerned that any failure will cause irreversible damage to the MEQ and BCHs, and therefore could directly and/or indirectly impact migratory species of marine fauna that frequent both the Murujuga and the proposed project area • It appears that Woodside failed to adequately consider and demonstrate the Environmental Values (EVs) relevant to local Indigenous peoples of the Murujuga. MAC is deeply concerned about the impact on migrating marine species that frequent the region and hold intrinsic ecological and cultural value to the indigenous people of the Murujuga. Had specific and more meaningful consultation been undertaken during 	<p>Development Area and State Proposal Area are located ~900 km from Murujuga (Figure 1-1).</p> <p>It is proposed that activities will be subject to marine fauna monitoring consistent with the rest of the Browse development using trained vessel crew.</p> <p>Please also see the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) • MEQ-7: Decommissioning (Section 4.21) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27). • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p>MAC recommendations 6</p> <p>Woodside is committed to proactively engaging with affected and interested stakeholders throughout the environmental approvals process. We welcome the opportunity to discuss this further with MAC.</p> <p>MAC recommendations 16</p>

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		<p>the EIA process, it is likely that EV outcomes would have been evaluated in a different manner.</p> <ul style="list-style-type: none"> • There is also a demonstrated lack of greater understanding of the cumulative impacts of this proposal and other projects in the NWMB. • MAC is of the opinion that the potential impacts on migratory bird species from emissions at the Torosa FPSO have not been adequately considered or addressed within the EIS/ERD. <p>MAC submitted the following key recommendations in relation to marine fauna:</p> <p>MAC recommendation 1 - Initiate an independent impact and risk assessment regarding the risks associated with migrating marine fauna with specific reference to those that frequent the Murujuga and the areas proposed to be impacted by the Browse project.</p> <p>MAC recommendation 2 - Consult and create a relevant site specific EQP be developed that forms part of a relevant EQMF to inform EVs related to migrating marine fauna and deep ecological and cultural connection to country.</p> <p>MAC recommendation 3 - Development of an adequate and meaningful 'Operational Framework for Fauna Interactions' to be created as part of the outstanding EQMF.</p> <p>MAC recommendation 4 - Create and employ an independent marine fauna observation team to undertake independent marine fauna surveys in accordance with the Operational Framework for Fauna Interactions.</p> <p>MAC recommendation 5 - Collaborate with MAC to devise culturally relevant initiatives that supports this abovementioned program on country.</p>	<p>The nearest roosting site for seabirds and migratory shorebird is Scott Reef (>8 km away from the Torosa FPSO) so large numbers of seabirds or migratory shorebirds are not expected to occur in close proximity to the FPSO facilities or the drilling locations. Likewise, while the proposed BTL route intersects a number of BIAs for seabirds, atmospheric emissions from the pipelay vessel and IMR vessels will be temporary and highly localised.</p> <p>Given that atmospheric emissions will be typical of other operating facilities and equipment, and that seabird and migratory shorebird numbers will be low at the point of discharge, no lasting impact to seabirds and migratory shorebirds as a result of atmospheric emissions is expected. As such, monitoring of bird species present within the Scott Reef complex to assess the potential impacts and risks to migratory bird species resulting from air emissions from the proposed Browse Project is not considered warranted.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-42 (Table 6-2) • Air quality: AQ-RES-42 (Table 6-2) • Consultation and other submissions: CAO-RES-14 (Table 6-6).

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No.	Submitter	Submission and/or issue	Response to comment
		<p>MAC recommendation 6. - Consult with MAC to determine Environmental Values that are relevant to local Indigenous peoples. Particularly in the case of marine fauna.</p> <p>MAC recommendation 7 - Provide an Environmental Quality Plan that accounts for all potential impacts and risks caused by the proposal that have been described in the EIS/ERD. Including appropriate Environmental Quality Objectives and Environmental Quality Criteria.</p> <p>MAC recommendation 8 - Provide a clear description of, and provide management provisions for, impacts of the proposal on migratory species. Including both direct and indirect impacts.</p> <p>MAC recommendation 9 - Produce more transparent and accurate calculations demonstrating the impacts of fugitive emissions.</p> <p>MAC recommendation 10 - Collaborate with MAC to devise culturally relevant carbon farming projects on country.</p> <p>MAC recommendation 11 - Produce accurate modelling to demonstrate how sea level rise will impact Murujuga rock art.</p> <p>MAC recommendation 12 - Collaborate with MAC to devise a plan to protect rock art from sea level rise.</p> <p>MAC recommendation 13 - Study the impacts of increasing bushfire intensity and frequency on Murujuga rock art.</p> <p>MAC recommendation 14 - Support the MAC to create a cultural burning program for the protection of rock art and continuation of cultural practices.</p> <p>MAC recommendation 15 - Fund research into aquaculture projects that will be resilient in an increasingly acidic ocean.</p>	

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No.	Submitter	Submission and/or issue	Response to comment
		<p>MAC recommendation 16 - Conduct monitoring of bird species present within the Scott Reef complex to assess the potential impacts and risks to migratory bird species resulting from air emissions of the proposal.</p> <p><u>Consultation</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to consultation are provided in CAO-RES-14 (Table 6-6).</p>	
MF-RES-9	Albany Community Environment Centre (ACEC) (ANON-XJVE-DUKS-M)	<p>The following is an extract from the submission. The full submission can be found in Table 6-2.</p> <p><i>Marine Life</i></p> <p><i>The waters around the proposed site of the works are home to many species that are listed as critically endangered, endangered or vulnerable including turtles and sea snakes and interrupts the migratory path of multiple species of cetaceans.</i></p> <p><i>Of the following marine mammals who migrate through the area, the first is listed as Vulnerable under the EBPC: Humpback whale (Megaptera novaeangliae), Indo-Pacific humpback dolphin (Sousa chinensis), Indian Ocean bottlenose dolphin (Tursiops aduncus), and Dugong (Dugong dugon). As well as a Critically Endangered Short-nosed Sea snake (Aipysurus apraefrontalis)</i></p> <p><i>The fregion hosts several migratory turtles, the first two Endangered and the last three Vulnerable under the EBPC: Leatherback Turtle, Leathery Turtle, Luth (Dermochelys coriacea),</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30). <p>Woodside has proposed various management measures within the draft EIS/ERD. This includes measures relating to vessel-fauna interaction, impact piling and vertical seismic profiling. These measures include the use of trained vessel crew as marine fauna observers³⁷. Woodside will incorporate these and any appropriate additional measures</p>

³⁷ Marine fauna observer – a dedicated and suitably trained person who must not have any other duties that impede their ability to engage in visual observations for whale and marine turtles.

No.	Submitter	Submission and/or issue	Response to comment
		<p><i>Loggerhead Turtle (Caretta caretta), Green Turtle (Chelonia mydas), Hawksbill Turtle (Eretmochelys coriacea) and the Flatback Turtle (Natator depressus).</i></p> <p><i>Woodside’s Environmental Revision Document shows Biologically Important Areas (BIAs) for Humpback Whales (as well as for Flatback, Green, and Hawksbill turtles) within the development envelope. In the case of Humpback Whales, what is being done to ensure that there will be no impact from the project on the whale’s as they migrate? What is being done to ensure that there will be no impact from the project on the other marine mammals and reptiles?</i></p>	<p>within the activity specific EPs for acceptance by DMIRs prior to the activity being undertaken. Fast Crew Transfer Vessels (FCTVs) will operate under a FCTV Management strategy (to be detailed in subsequent EPs as required) which will describe the appropriate additional control measures to manage vessel strike risk for the FCTV.</p> <p>Further, Woodside has reviewed and revised the proposed Browse Project environmental objectives in relation to the various species conservation and recovery plans. These revised environmental objectives are provided in Section 5. Concerns raised relating to other Environmental Factors</p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-44 (Table 6-2) • Air quality: AQ-RES-44 (Table 6-2).
MF-RES-10	ANON-XJVE-DUKM-E	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • ecological risk to marine communities surrounding Scott Reef • potential impacts to marine fauna including listed threatened and migratory species that frequent the development area, particularly as a result of light and underwater noise emissions • the potential for ecological disasters as a result of unplanned hydrocarbon releases and resultant impacts on Scott Reef and marine fauna • potential impacts to the Murujuga Petroglyphs as a result of air emissions on the Burrup Peninsula • GHG emissions, and particular: <ul style="list-style-type: none"> ○ emissions intensity ○ historical air quality monitoring 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-5: Potential impacts to marine turtles (Section 4.27)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ Australia’s obligations in respect to the Paris Agreement. • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-47 (Table 6-2) • Air quality: AQ-RES-47 (Table 6-2) • Benthic habitats and communities: BCH-RES-10 (Table 6-3) • Marine environmental quality: MEQ-RES-5 (Table 6-4) • Consultation and other submissions: CAO-RES-7 (Table 6-6).
MF-RES-11	Australian Marine Conservation Society (AMCS) submission to North West Shelf assessments 2191 and 2186	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular, the need to reduce carbon emissions, Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy. • potential cumulative impacts Scott Reef and the ability to understand these potential impacts adequately enough to be able to assess them. • potential impacts to marine fauna and critical habitat for endangered species, including marine turtles and cetaceans. <p>Note that the submission refers to and supports other submissions from the conservation section including the Conservation Council of Western Australia (CCWA) rather than providing detailed comments. The submission</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u> With respect to concerns raised in regard to potential impacts to marine fauna and critical habitat at Scott Reef, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • BCH-1: Potential impacts to Scott Reef (Section 4.14) • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p>registers opposition for the proposal due to concerns with respect to carbon pollution and impacts on marine life.</p> <p>The full submission can be found in Error! Reference source not found.</p>	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-51 (Table 6-2) Benthic habitats and communities: BCH-RES-11 (Table 6-3).
MF-RES-12	CCWA / Clean State	<p>This submission was provided as uploaded documents. The submission includes two parts:</p> <ul style="list-style-type: none"> Browse Burrup Hub Report - a detailed report on carbon emissions from the proposed Burrup Hub project, as well as environmental and heritage impacts. A submission that summaries the outcomes of the Browse Burrup Hub Report and provide further specific comment on the proposed Browse Project GHG emissions. <p>The submissions specifically relate to:</p> <ul style="list-style-type: none"> GHG emissions and climate change particularly in relation to: <ul style="list-style-type: none"> the magnitude of emission from the proposed Burrup Hub Proposals the carbon intensity of Browse gas including methane content and global warming potential global gas demand projections cumulative GHG emission from the Burrup Hub Proposals latest climate science, carbon budgets and global analysis of climate change trends and impacts Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy coal to gas switching the role of gas in the future energy mix 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in regard to potential impacts to Scott Reef habitat and endangered marine and migratory species, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> BCH-1: Potential impacts to Scott Reef (Section 4.14) MEQ-1: Environmental Quality Management Plan (Section 4.15) MEQ-5: Use of non-water -based fluids (NWBFs) during drilling (Section 4.19) MEQ-6: Management of drilling and completion discharges (Section 4.20) MF-1: Potential impacts to marine fauna (general) (Section 4.23) MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) MF-4: Vessel – fauna interaction (Section 4.26) MF-5: Potential impacts to marine turtles (Section 4.27) MF-7: Potential impacts to cetaceans (Section 4.29). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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		<ul style="list-style-type: none"> ○ Woodside's efforts to avoid and reduce carbon emissions from the proposed Browse Project ○ mitigation efforts for the NWS LNG facility ○ offsetting and the SGM ● impacts on cultural heritage - Murujuga rock art ● risks to the health of people and communities from atmospheric emissions on the Burrup Peninsula ● potential impacts to marine life including endangered marine and migratory species from subsea drilling, seismic testing, industrial noise, light pollution, and heavy shipping operations ● risks from fracking to supply gas to Burrup Hub ● socio-economic impacts ● risk to investors and shareholders. <p>Note that the submission makes reference to the NWS Project Extension ERD. Where the submission relates to the NWS ERD and not the proposed Browse Project, this part of the submission has been addressed in the NWS Project Extension ERD Response to Submissions. The full. The full submission (both documents) can be found in Error! Reference source not found.</p>	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> ● Air quality (GHG emissions): AQ-RES-52 (Table 6-2) ● Air quality: AQ-RES-52 (Table 6-2) ● Consultation and other submissions: CAO-RES-9 (Table 6-6).
MF-RES-13	Conservation Council of Western Australia (CCWA)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.. Note that the Browse Burrup Hub Report prepared by Clean State and referenced above was also submitted by CCWA. This report can be found in Error! Reference source not found.. The submission relates to:</p> <p><u>Consultation and other submissions</u></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>Woodside notes the TRE drill centre is no longer proposed (refer to Section 2).</p> <p>With respect to concerns raised in relation to potential impact to marine fauna and critical marine fauna habitat, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> ● BCH-1: Potential impacts to Scott Reef (Section 4.14)

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		<p>The specific concerns raised by CCWA in relation to consultation and other submissions are provided in CAO-RES-10 (Table 6-6).</p> <p><u>GHG emissions and climate change</u> The specific concerns raised by CCWA in relation to GHG emissions are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Air quality</u> The specific concerns raised by CCWA in relation to air quality are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Environmental values of Scott Reef</u> The specific concerns raised by CCWA in relation to marine environmental quality and impacts to the environmental values of Scott are provided in response MEQ-RES-7 (Table 6-4).</p> <p><u>Marine fauna</u> The submission raised concerns with respect to:</p> <ul style="list-style-type: none"> • potential impacts to green turtles at Scott Reef from light emissions, noise emissions, chemical discharge, unplanned hydrocarbon releases and seabed subsidence. • potential impacts to cetaceans from noise emissions. • assertion that if the EIS/ERD conclusions are to be accepted by the EPA, the proponent must provide further information on the errors and omissions from the draft EIS/ERD including: <ul style="list-style-type: none"> ○ misleading statements in evaluating the impacts of underwater noise emissions on the risk of potential impacts to green turtles. In the EIS, Woodside justifies its assessment of the risk as ‘minor’, based on the argument that the noise 	<ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) • MF-7: Potential impacts to cetaceans (Section 4.29). <p>Further, the submission questions the assertion in the draft EIS/ERD that “of the two southern subspecies, only the pygmy blue whale has been observed in the region around Scott Reef”. As described in Section 5.3.2.5.2 of the draft EIS/ERD, the subspecies Antarctic blue whale (true blue whale) is considered to be uncommon north of 60°S and that given the known distribution of the subspecies it is not considered that the Antarctic Blue Whale will occur within the Project Area.</p> <p>With respect to the request for marine monitoring and other data, Woodside has commissioned approximately 60 studies within the Project Area, Scott Reef and the broader region that span approximately two decades. Studies have included baseline and annual programs for humpback whale, turtle, other marine megafauna and fish species in the region, as well as long-term monitoring of coral and fish communities at Scott Reef. The results of these studies are summarised in Chapter 5 of the draft EIS/ERD and the relevant technical</p>

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		<p>emissions affect a ‘very small portion of offshore waters’ (i.e. the ocean), and will only occur within several hundred metres of the source. This justification deliberately ignores the fact that the TRE drill centres is located adjacent to habitat critical to the survival of the Scott reef-Browse stock of green turtles.</p> <ul style="list-style-type: none"> ○ Prejudicial methodology was used for the light density modelling, which informs the evaluation and assessment of light pollution impacts of green turtles. Woodside reuses its light density modelling from previously proposed FLNG facilities at Torosa. The major source of light emissions, the flare of the pilot flame, was not included in this assessment. It is completely unsatisfactory that the most impactful source (flaring) was excluded from the lighting modelling. ○ It downplays the impact that the potential seabed subsidence risk could have on habitat critical to the survival of the green turtle. While the EIS/ERD acknowledges that ‘slight impacts’ are predicted to occur from drilling (i.e. sinking of the seabed), it concludes that ‘reef growth rates are expected to match or exceed any sea level reduction’ and considers the impact ‘acceptable’. This evaluation is unfounded and discounts the vulnerability of the Sandy Islet habitat to sea level rise, cyclones and industrial threats. Loss of habitat will significantly impact on the ecological functioning and process of the green turtle stock. ○ It assesses the impacts on pygmy blue whales as ‘acceptable’, but fails to demonstrate any meaningful mitigation or amendments to the proposal to reduce these impacts. The EIS/ERD 	<p>report are also attached or referenced in the draft EIS/ERD. Further, summaries and detailed technical reports relating to proposed marine discharges, unplanned hydrocarbon releases, noise emissions (including animat exposure modelling) and drilling discharges are provided in the draft EIS/ERD. A further desktop lighting study has been undertaken as part of preparation of the responses to public submissions and is provided in Error! Reference source not found..</p> <p>With respect to the statements made in relation to acceptability under the EP Act:</p> <ul style="list-style-type: none"> • Underwater noise impacts – please refer to: <ul style="list-style-type: none"> ○ MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25) ○ MF-5: Potential impacts to marine turtles (Section 4.27). • Light modelling in relation to flaring – A desktop lighting assessment, taking into account the final National Light Pollution Guidelines for Wildlife (2020) has been undertaken and is provided in Error! Reference source not found.. Flaring at the Torosa FPSO was accounted for in this assessment. Please refer to MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) for further details. • Seabed subsidence – Please refer to MF-5: Potential impacts to marine turtles (Section 4.27) • Pygmy blue whales - Please refer to: <ul style="list-style-type: none"> ○ MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) ○ MF-7: Potential impacts to cetaceans (Section 4.29). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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		<p>states that ‘it is acknowledged that pygmy blue whales have been recorded in the channel between North and South Scott reef’. However, Woodside has proposed to build its TRE drilling unit and up to five production wells in this channel. The EIS/ERD contains no trace of feasible mitigation or proposals to change the location of the TRE well to reduce the intolerable impact of the drilling noise on the pygmy blue whales.</p> <ul style="list-style-type: none"> ○ The EIS/ERD does little to offer protections for this vulnerable population other than to follow EPA lighting guidelines if practicable and to monitor the population. As with other major WA oil and gas operations, monitoring the demise or decline of a sea turtle population does not equate to a mitigation or protection. 	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-52 (Table 6-2) • Air quality: AQ-RES-52 (Table 6-2) • Marine environmental quality: MEQ-RES-7 (Table 6-4) • Consultation and other submissions: CAO-RES-10 (Table 6-6).
MF-RES-14	Wilderness Society of WA	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • impact on marine fauna including seabird and migratory shorebirds, marine mammals, marine reptiles and fish • impacts on marine water quality and in particular the use of Non-water based drilling fluids (NWBF) • GHG emissions. <p>The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impact to marine fauna and critical marine fauna habitat, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25)

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No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • MF-4: Vessel – fauna interaction (Section 4.26) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-6: Presences and abundance of blue whales in Project Area (Section 4.28) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-58 (Table 6-2) • Marine environmental quality: MEQ-RES-9 (Table 6-4).
MF-RES-15	ANON-XJVE-DUMC-6	<p>Dear Environmental Protection Authority chair [redacted], I am writing to you today to lodge a submission as I am deeply passionate about keeping global temperatures below 1.5 degree increase. I work in climate change policy and I am acutely aware of the scientist’s projections and the climate change impacts that will increase in severity with rising greenhouse gas emissions.</p> <p>No approval should be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement. Therefore this project is incompatible with the Paris Agreement, and Australia’s commitment to that agreement. Global emissions are required to peak as soon as possible, and then reduce drastically before 2050. The Browse project, if approved, will be the most emissions intensive development in Australia, adding an</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. With respect to potential impacts to marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MEQ-1: Environmental Quality Management Plan (Section 4.15) • MEQ-2: Unplanned hydrocarbon release (Section 4.16) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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		<p>additional 7 million tonnes of CO₂e just through venting and pumping the gas 900km and about another 7.6 million tonnes CO₂e from processing at the North West Shelf LNG facility. This project alone will emit pollution equivalent to 2.7% increase over Australia’s total 2005 baseline.</p> <p>Approving this project, would be irresponsible.</p> <p>More specifically, in terms of air quality:</p> <p>This proposal will have significant implications for air quality, particularly considering the data used in the proponents environmental review is based on <i>ambient air monitoring undertaken during 2009-2015</i>.</p> <p><i>This project will emit significant greenhouse gas emissions, with no clear management plans on how these emissions will be controlled, in a time when emissions must be decreasing.</i></p> <p><i>The Browse Basin will be the State’s most emissions intensive LNG facility – with an emissions intensity of above the average for Australian LNG exports.</i></p> <p><i>There is also no mention of obtaining an emissions-free goal in Woodside’s own assessments.</i></p> <p><i>In terms of Social Surroundings (Heritage):</i></p> <p><i>The proposals threaten the cultural integrity by threatening the ability of traditional owners to access and use the area as they have done for millenia.</i></p> <p><i>A change in either ocean chemistry or air quality could drastically alter the local environment and with it; the species distribution in the area. While changes to flora and fauna populations affect the ecology of waterways, social values relating to waters, and may drastically alter the landscape; destroying continuous Indigenous cultural elements relating to our northern coasts.</i></p> <p><i>In terms of Marine Environmental Quality:</i></p>	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-31 (Table 6-2) • Air quality: AQ-RES-31 (Table 6-2) • Marine environmental quality: MEQ-RES-11 (Table 6-4).

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		<p><i>Several threatened and endangered marine species that exist in the area surrounding the proposal, including but not limited to:</i></p> <ul style="list-style-type: none"> - <i>Five species of marine turtles’ classified as threatened under the BC Act</i> - <i>the vulnerable and migratory Green Turtle (Chelonia mydas),</i> - <i>the endangered and migratory Leatherback Turtle (Dermochelys coriacea),</i> -<i>the endangered and migratory Loggerhead Turtle (Caretta caretta),</i> - <i>the vulnerable and migratory Hawksbill Turtle (Eretmochelys coriacea), and</i> -<i>the vulnerable and migratory Flatback Turtle (Natator depressus).</i> <p><i>There are sixteen sea snake species were identified as potentially occurring in the Proposal area. One of these species— the short-nosed sea snake (Aipysurus apraefrontalis), is classified as critically endangered under the Environment Protection and Biodiversity Conservation Act and threatened under the WA Biodiversity Conservation Act.</i></p> <p><i>A large number of seabird and shore bird species (or species habitat) may occur near the Proposal; these include species classified as threatened and migratory under the EPBC Act or specially protected under the BC Act.</i></p> <p><i>Shallow water fish species have been recorded in the waters of the Dampier Archipelago, comprising: 456 coral reef species; 116 mangrove species; 106 soft-bottom species, and 67 pelagic species.</i></p>	

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		<p><i>In the event of a hydrocarbon accident: (e.g. gas leak or oil spill), there is an extreme likelihood that this area will never recover.</i></p> <p><i>Depending on its severity (i.e. volume, hydrocarbon type and location), a hydrocarbon release would have the potential to impact water and sediment quality and alter habitats, as documented by studies of hydrocarbon concentrations in deep sea sediments following the blowout of the Deepwater Horizon.</i></p> <p><i>This could subsequently alter fauna behaviour, cause fauna injury or mortality, impact the aesthetic value of an area and alter the function, interests and activities of other users.</i></p> <p><i>Scott Reef will be most vulnerable to any hydrocarbon release as detailed by Woodside in Risk Scenarios 1 to 3 3 4.</i></p> <p><i>Coral communities have the potential to be impacted from exposure to floating hydrocarbons through smothering and coating, and exposure to dissolved and entrained hydrocarbons.</i></p> <p><i>Exposure to dissolved and entrained hydrocarbons (≥50 ppb and 100 ppb, respectively) has the potential to result in lethal or sub-lethal toxic effects to corals and other sensitive sessile benthos within the upper water column, including upper reef slopes (subtidal corals) and reef flat (intertidal corals).</i></p> <p><i>3 Event of a major hydrocarbon release at the seabed; cf Table 6-158 wherein: “scenario 1 had a high probability of affecting sediments associated with Scott Reef and Seringapatam Reef..” 4 Event of release between containers representing non-standard protocols</i></p> <p><i>Should a hydrocarbon release occur at the time of coral spawning (at potentially affected coral locations), there is</i></p>	

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		<p><i>the potential for a significant reduction in successful fertilisation and coral larval survival.</i></p> <p><i>Cetaceans, such as the Indo-Pacific humpback dolphin, that have direct physical contact with entrained or dissolved aromatic hydrocarbons may suffer ingestion of hydrocarbons either directly or via bioaccumulation through food.</i></p> <p><i>This may have flow on impacts to offspring as migratory cetaceans tend to travel in the area at-term or post-partum.</i></p> <p><i>Marine turtles, such as the green turtle, olive ridley turtle, flatback turtle and hawksbill turtle which all rely on the proposal area, are vulnerable to the effects of hydrocarbons at all life stages.</i></p> <p><i>Construction of infrastructure will have significant impact on the marine life</i></p> <p><i>The proposal also sits adjacent to atolls and reefs that are home to aquatic mammals during breeding, considering the elements of construction – especially drilling – and the proximity to nursing ground, the potential to harm calves and/or effect auditory function is severe.</i></p> <p><i>Conservation Advice for the short-nosed sea snake includes ensuring there is no anthropogenic disturbance in areas where the species occurs.</i></p> <p><i>Given sea snakes occur predominantly in shallow regions of the EMBA (the environment that may be affected), such as Scott Reef, Ashmore and Cartier, Rowley Shoals and other small offshore shoals and reefs, the construction of two floating LNG platforms and accessory structures will have a significant impact on the species.</i></p> <p><i>Thank you for reading my submission. I hope that you consider each of the different and important components</i></p>	

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No.	Submitter	Submission and/or issue	Response to comment
		<p>and determine that the environmental risk is too great to approve this project.</p> <p>Kind regards, [redacted]</p>	
MF-RES-16	ANON-XJVE-DU36-Y	<p>Note that the following is an extract from the submission. Refer to Table 6-2 (Line No. 14) for the full submission which relates primarily to atmospheric emissions.</p> <p><i>“I understand also that the area is a biodiversity hotspot, home to turtle nesting grounds, whale migration pathways and vulnerable coral reef systems”</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p> <p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-1: Potential impacts to marine fauna (general) (Section 4.23) • MF-5: Potential impacts to marine turtles (Section 4.27) • MF-7: Potential impacts to cetaceans (Section 4.29) • MF-8: Potential impacts to sea snakes (Section 4.30) • MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) • MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-14 (Table 6-2) • Air quality: AQ-RES-14 (Table 6-2) • Benthic communities and habitats: BCH-RES-12 (Table 6-3).
MF-RES-17	ANON-XJVE-DUK5-P	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Marine fauna</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ State, national and international climate policies and agreements ○ the transition to renewable energy sources ○ WA emissions ○ offsetting ○ employment opportunities ● damage to wetlands in the event of an oil spill ● potential impacts to Scott Reef ● potential impacts to marine fauna ● potential impacts to national heritage values including rock art ● potential health impacts to local communities resulting from air emissions on the Burrup Peninsula. ● Socio-economic impacts <p>The full submission can be found in Error! Reference source not found.</p>	<p>With respect to concerns raised in relation to potential impacts on marine fauna, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> ● MF-5: Potential impacts to marine turtles (Section 4.27) ● MF-7: Potential impacts to cetaceans (Section 4.29) ● MF-8: Potential impacts to sea snakes (Section 4.30) ● MF-9: Potential impacts to seabirds and migratory shorebirds (Section 4.31) ● MF-11: Potential impacts to fish (Section 4.33). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> ● Air quality (GHG emissions): AQ-RES-36 (Table 6-2) ● Air quality: AQ-RES-36 (Table 6-2) ● Benthic habitats and communities: BCH-RES-7 (Table 6-3) ● Consultation and other submissions: CAO-RES-12 (Table 6-6).

6.7 Consultation and other submissions

Table 6-6 presents the public submissions relating to consultation and other submissions not relating specifically to an EPA environmental factor.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA’s Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 6-6 Public submissions and Proponent’s response – consultation and other submissions

No.	Submitter	Submission and/or issue	Response to comment
CAO-RES-1	ANON-XJVE-DU3E-E	<p><i>I wish to make this submission in a personal capacity but drawing upon experience in health and safety. Within the oil and gas sector the disciplines of health and safety and environment are commonly merged as Health, Safety and Environment (HSE), perhaps due largely to the prevention and response nature of that work.</i></p> <p><i>I wish to raise conversation about the location of operational support services for an operation such as Browse. The Browse development is occurring 425 km north of Broome or some 2,500km from Perth. It is anticipated that most of the discipline support will be provided from Perth. By way of comparison Aberdeen is ~200km from oil and gas assets in the North Sea.</i></p> <p><i>The concern I raise is the lack of 'line of site' HSE discipline leads and other subject matter experts will have to the Browse in preventing and responding to incidents. In my experience head office staff get sidetracked with general administration and other life priorities when they are 'remotely' located from major production facilities. In contrast being near or easily accessible to major production facilities improves hazard identification and prevention as it is not filtered through human communication or technology tools, for which there are many limitations, that can skew the real state. There is still nothing more effective than the human senses when it comes to hazard identification.</i></p> <p><i>Further in the event of an environmental or safety incident, which often occur contemporaneously on a major hazard facility the location of the emergency response is a significant factor. Again the same 'filters' can distort facts leading to making sub-standard decisions in dealing with real time incidents.</i></p> <p><i>In these examples I hope to start a conversation about the location of important operational support functions for the Browse project and consideration of permanent locations</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>The design of Browse operating facility has considered the remoteness of its location. Woodside 2019 Sustainability Report also presented a very strong safety performance of 0.9 total recordable injury rate per million work hours. Management of offshore environment and safety will utilise combination of Woodside experience workforce and technology.</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>closer to the asset such as Broome, Derby or the Dampier Peninsula, where access the facilities is faster and information transfer is more reliable. This is in addition to added social and economic benefits that would flow to Kimberly region.</i></p>	
<p>CAO-RES-2</p>	<p>Western Australian Fishing Industry Council</p>	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p>
		<p><i>Physical Presence: Disturbance to Other Users</i> <i>Woodside noted that the long—term 500 metre safety exclusion zone around the FPSO is a relatively small area overlapping commercial fisheries therefore displacement activities is not expected to impact commercial fishing activities.</i> <i>WAFIC requests Woodside reassess this point. The impact is not based on the area of the 500 metre (permanent) exclusion zone over any one commercial fishery, it is a 500 metre (permanent) exclusion zone impact on the fishable areas / fished areas of a fishery.</i></p>	<p>It is acknowledged that the 500 m exclusion zone represents a permanent (for the lifetime of the project) exclusion around each of the two FPSO facilities. The context of the statement within the draft EIS/ERD in relation to the impact, is that the exclusion from these two areas will have a very limited operational or economic impact on the commercial fisheries which overlap the Project Area. It is considered that this statement is accurate, given that the Project Area is not an area of high commercial fishing activity.</p>
		<p><i>Note snagging risk to commercial fishers, especially to trawl fisheries (North West Slope Trawl and Pilbara Trawl). Woodside’s “Adopted Controls” of “ongoing consultation with commercial fishers etc that operate in the Project Area will be undertaken”.</i> <i>What does this mean? What are your targeted outcomes of this ongoing consultation? How will you remediate any potential impact to the commercial fishers who may be operating in this area?</i></p>	<p>The rationale for ongoing consultation with commercial fishers is to keep them informed on the current status and extent of any offshore operations within the fishery areas in order to avoid unplanned interactions with project vessels or facilities.</p>
		<p><i>Woodside notes the low fishing effort expected in the area of the project and that wells etc are marked on navigational charts and that wells are in water depths greater than 350 metres with no known subsea features of significance and fish populations, it is not considered that the loss of access within</i></p>	<p>The North West Slope Trawl Fishery encompasses an extensive Commonwealth marine area along the north-west coast approximately between the 200 m isobath and the outer limit of the Australian Fishing Zone (AFZ), including the MoU 74 Box. Fisheries data demonstrates that since 2008-09 season the fishery</p>

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		<p><i>the petroleum safety zones (representing a fraction of the area of the fisheries) will affect current fishing levels.</i></p> <ul style="list-style-type: none"> - <i>North West Slope Trawl fish between 200 and 750 metres water depth, the key indicator species is the mud dwelling scampi. Commercial fishers may potentially fish these areas.</i> - <i>Woodside is expecting commercial fishers to “give up” access rights for the 100% exclusive use of Woodside. Please note. the Woodside safety exclusion zones are not the only safety exclusion zones in the northwest shelf. How many other safety exclusion zones are overlapping these fisheries — you cannot assess the Woodside zones in isolated context. Cumulative impacts across a range of issues are significant.</i> - <i>It may be a lower fishing effort but. every bit adds up — if the commercial fishing industry lost “all” low fishing effort areas, over time this will come at a significant cost to our industry.</i> 	<p>has stabilised to between one to two vessels per year. While the proposed project infrastructure (i.e. subsea wells, flowlines and trunklines) will pose a potential snagging impact for these fishers, the extent of the Project Area in the context of the total fishery is minimal and is not likely to have any operational or commercial impacts.</p> <p>The requirement for a safety 'exclusion' zone around operating offshore facilities is a Commonwealth legislative requirement managed through Part 6.6 of the <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGS Act)</i>. This zone, typically 500 m, is designated to ensure the safety of the facility, crew and other marine users, given the potentially hazardous nature of the operating facilities.</p>
		<p><i>Physical Presence: Light and Underwater Noise</i></p> <p><i>Woodside notes that light emissions and underwater noise impacts will be negligible with no expected significant subsequent impact to fisheries - Woodside confirms there will be underwater noise monitoring of an operational well be undertaken to inform an adaptive management approach for noise management for the TRD and TRE wells if required, Will there be ongoing noise and light monitoring of the FPSO'?</i></p>	<p>There is no current plan for ongoing operational monitoring of light or underwater noise during steady state operations.</p> <p>Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • MF-2: Potential impacts to marine fauna as a result of light emissions (Section 4.24) • MF-3: Potential impacts to marine fauna as a result of noise emissions (Section 4.25).
		<p><i>Marine Discharges: Drilling and Completions Discharges</i></p> <p><i>Note this will be "managed in such a manner to avoid impacts to Scott Reef shallow water benthic communities and habitats"</i></p> <ul style="list-style-type: none"> - <i>How will this be managed and will there be ongoing monitoring?</i> - <i>Are any other shallow water areas located within this project boundaries and if so, how does Woodside plan to mediate this?</i> 	<p>No, other than Scott Reef, no other shallow water benthic communities and habitats (<75m bathymetry) exist within the Project Area.</p> <p>Management and mitigation of potential impacts to Scott Reef including monitoring and assurance are detailed in response “BCH-1: Potential impacts to Scott Reef” in Section 4.14.</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>- There is a difference between “avoid” and not occurring at all. What happens if Woodside cannot “avoid” negative marine discharges? Considering this is a long life project, does Woodside plan to review and monitor to ensure that the original avoidance strategy actually occurs over the life of the project without any negative or cumulative impacts, especially to the commercial fishing resource?</i></p> <p><i>Unplanned Hydrocarbon Releases</i></p> <p><i>Woodside notes that “in general, fisheries have the potential to be impacted by an unplanned hydrocarbon release through direct impacts to target populations or prey species and fishing gear and from the exclusion of users from a fishing area, potentially resulting in lost revenue”.</i></p> <p><i>It is not a “potential” loss — depending on the size of the unplanned hydrocarbon spill there will be a loss.</i></p> <p><i>This loss is not restricted to impacts on target key indicator species (eg tainted fish) and gear and restriction or loss of access to an area, it also will impact the fish spawn and could potentially wipe out an entire years’ spawning cycle and therefore ongoing longer cumulative repercussions and significant reduction of the sustainable viability of a commercial fishery.</i></p> <p><i>Reputation damage could potentially be significant resulting in long term lack of demand and or lower market price.</i></p> <p><i>Woodside notes that the risk of unplanned large spill is highly unlikely, this may be so from a desk analysis perspective, We didn't expect the Deepwater Horizon incident therefore we must look at this as a probable outcome.</i></p> <p><i>There is no mention at all in the information sent to WAFIC of any form of compensation to loss and or damages to commercial fishers. On behalf of commercial fishers WAFIC seeks further information on Woodside’s planned process</i></p>	<p>Woodside does not agree with the assertion that an unplanned large hydrocarbon release is a probable event and maintains its position that such an event is highly unlikely to occur. Refer to response “MEQ-2: Unplanned hydrocarbon release” in Section 4.16 for further discussion on unplanned hydrocarbon releases.</p> <p>The petroleum activity will be carried out in a manner that does not interfere with fishing to a greater extent than is necessary for the reasonable exercise of the BJVs rights and performance of duties. Woodside would consider the implications in the unlikely event of a hydrocarbon spill on a case by case basis.</p> <p>Further Section 6.3.21.7 of the draft EIS/ERD provides information on Woodside’s oil spill scientific monitoring program (SMP) which in the event of a Level 2 or 3 unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors is activated. The objectives of the SMP are:</p> <ul style="list-style-type: none"> • assess the extent, severity and persistence of the environmental impacts from the spill event • monitor subsequent recovery of impacted key species, habitats and ecosystems. <p>The SMP comprises ten targeted environmental monitoring programs which assess and monitor the status of a range of physical-chemical (water and sediment) and biological (species and habitats) receptors including EPBC Act listed species,</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<i>should commercial fishers / a commercial fishery suffer financial ongoing and cumulative loss.</i>	environmental and socio-economic values associated with protected areas.
CAO-RES-3	ANON-XJVE-DUVM-S	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • atmospheric emissions resulting from third party processing of Browse Gas • GHG emissions • employee accommodation and housing • potential impacts to national heritage values including rock art. • ability of Aboriginal groups to access the water and coastal land • potential impacts to marine environmental quality • potential impacts to marine fauna • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Social surrounds</u></p> <p>With respect to employee accommodation and housing, Woodside confirmed that there is no plan to construct onshore accommodation to support the proposed Browse Project. Woodside will continue to consult with local government authorities with respect to the proposed Browse Project.</p> <p>With respect to concerns in relation to the displacement of Aboriginal people, please refer to the following responses in relation to this Environmental Factor in Section 4:</p> <ul style="list-style-type: none"> • SE-1: Displacement of Aboriginal people as a result of project infrastructure (Section 4.34). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-22 (Table 6-2) • Air quality: AQ-RES-22 (Table 6-2) • Benthic communities and habitats: BCH-RES-5 (Table 6-3) • Marine environmental quality: MEQ-RES-12 (Table 6-4) • Marine fauna: MF-RES-4 (Table 6-5).

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No.	Submitter	Submission and/or issue	Response to comment
CAO-RES-4	ANON-XJVE-DUMU-R	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions, and in particular: <ul style="list-style-type: none"> ○ the magnitude of GHG emissions ○ Australia’s obligation under the Paris Agreement ○ renewable energy • potential impacts to wetlands • potential impacts to rock art • impacts to cultural integrity resulting from displacement of Aboriginal people • potential impacts to marine fauna including marine turtles, sea snakes, cetaceans, seabirds and shorebirds and fish • the potential for an unplanned hydrocarbon release and resultant impacts • potential impacts to Scott Reef resulting from an unplanned hydrocarbon release • potential impacts during construction, especially drilling. <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to the concerns raised in relation to the potential displacement of Aboriginal people, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • SE-1: Displacement of Aboriginal people as a result of project infrastructure (Section 4.34). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-29 (Table 6.3) • Air quality: AQ-RES-29 (Table 6.3) • Benthic habitats and communities: BCH-RES-6 (Table 6-3) • Marine fauna: MF-RES-5 (Table 6-5).
CAO-RES-5	Denmark Environment Centre (ANON-XJVE-DUK8-S)	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions • potential impacts to national heritage values, including rock art • potential impacts (in particular as a result of underwater noise emissions during drilling) to marine fauna including marine turtles, sea snakes, seabirds and migratory shorebirds, and fish. • potential impacts as a result of an unplanned hydrocarbon release 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to concerns raised in relation to the potential for displacement of Aboriginal people, please refer to the following response in Section 4:</p> <ul style="list-style-type: none"> • SE-1: Displacement of Aboriginal people as a result of project infrastructure (Section 4.34). <p><u>Concerns raised relating to other Environmental Factors</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • potential impacts to wetlands • potential impacts to Scott Reef, particularly during drilling • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found..</p>	<p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-41 (Table 6-2) • Air quality: AQ-RES-41 (Table 6-2) • Benthic habitats and communities: BCH-RES-9 (Table 6-3) • Marine environmental quality: MEQ-RES-3 (Table 6-4) • Marine fauna: MF-RES-7 (Table 6-5).
CAO-RES-6	City of Karratha (ANON-XJVE-DUK2-K)	<p><i>The City of Karratha supports the proposed Browse to NWS Project.</i></p> <p><i>The City of Karratha supports the rationale for selecting the “piping Browse gas to the Burrup Peninsula for processing onshore” option, being that it provides the opportunity to minimise environmental impact by developing the Browse hydrocarbon resources using an existing onshore facility. The City also notes that this is a proven, low risk option.</i></p> <p><i>The City is excited about the increased employment and population that this project will bring. The City’s preference is that Karratha-based operational workers and their families live in the City of Karratha. The City has the infrastructure and amenities that can support and sustain this growth. Many partners, including Woodside, the NWS Joint Venture and the State Government, have contributed to creating this strong foundation to building the Capital of the North West.</i></p> <p><i>The City wants to assist Woodside wherever it can to provide support services and infrastructure locally to develop the most sustainable operational model possible.</i></p> <p><i>The Browse to NWS Project will make a substantial contribution to the State and National economy over the life of</i></p>	<p>Woodside, on behalf for the BJV thanks all submitters of letters of support and no objection, for their interest in the proposed Browse Project.</p>

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		<p><i>the project. The impacts on the environment and social surroundings will be most noticeably felt on the Burrup Peninsula and in the communities of the City. It is important that the public financial benefits generated from the proposed Browse to NWS Project contribute to improving visitors' access to, appreciation of and caring for the exceptional environmental values of the area, and to enhancing the physical and social infrastructure required to accommodate this project while improving liveability.</i></p> <p><i>The City of Karratha supports Woodside in its efforts and initiatives to reduce carbon emissions from its operations. Based on Woodside's excellent track record, the City expects that Woodside will continue to obtain all necessary approvals, comply with relevant statutory requirements and strive for best practice in operating the Browse to NWS Project.</i></p>	
CAO-RES-7	ANON-XJVE-DUKM-E	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • ecological risk to marine communities surrounding Scott Reef • potential impacts to marine fauna including listed threatened and migratory species that frequent the development area, particularly as a result of light and underwater noise emissions • the potential for ecological disasters as a result of unplanned hydrocarbon releases and resultant impacts on Scott Reef and marine fauna • potential impacts to the Murujuga Petroglyphs as a result of air emissions on the Burrup Peninsula • GHG emissions, and particular: <ul style="list-style-type: none"> ○ emissions intensity ○ historical air quality monitoring 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to concerns raised in relation to the potential for displacement of Aboriginal people, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • SE-1: Displacement of Aboriginal people as a result of project infrastructure (Section 4.34). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-47 (Table 6-2) • Air quality: AQ-RES-47 (Table 6-2) • Benthic habitats and communities: BCH-RES-10 (Table 6-3)

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ Australia’s obligations in respect to the Paris Agreement. • impacts to cultural integrity resulting from displacement of Aboriginal people. <p>The full submission can be found in Error! Reference source not found..</p>	<ul style="list-style-type: none"> • Marine environmental quality: MEQ-RES-5 (Table 6-4) • Marine fauna: MF-RES-10 (Table 6-5).
CAO-RES-8	ANON-XJVE-DUKB-3	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • potential issues in relation to future decommissioning and impacts on the marine environment (addressed in Table 6-4) • potential impact to the marine environment from the installation of Project infrastructure (addressed in Table 6-4) • socio-economic impacts • GHG emissions including potential impact of climate change on a wide range of receptors (addressed in Table 6-2) • potential impacts to national heritage values including rock art (addressed in Table 6-2). <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to concerns raised with respect to the economic benefits of the proposed Browse Project, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • SE-2: Socio-economic benefits of the proposed Browse Project (Section 4.35). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-49 (Table 6-2) • Air quality: AQ-RES-49 (Table 6-2) • Marine environmental quality: MEQ-RES-6 (Table 6-4)
CAO-RES-9	CCWA / Clean State	<p>This submission was provided as uploaded documents. The submission includes two parts:</p> <ul style="list-style-type: none"> • Browse Burrup Hub Report - a detailed report on carbon emissions from the proposed Burrup Hub project, as well as environmental and heritage impacts. 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to concerns raised in relation to socio-economic considerations, please refer to the following responses in Section 4:</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • A submission that summaries the outcomes of the Browse Burrup Hub Report and provide further specific comment on the proposed Browse Project GHG emissions. <p>The submissions specifically relate to:</p> <ul style="list-style-type: none"> • GHG emissions and climate change particularly in relation to: <ul style="list-style-type: none"> ○ the magnitude of emission from the proposed Burrup Hub Proposals ○ the carbon intensity of Browse gas including methane content and global warming potential ○ global gas demand projections ○ cumulative GHG emission from the Burrup Hub Proposals ○ latest climate science, carbon budgets and global analysis of climate change trends and impacts ○ Australia’s obligations under the Paris Agreement and Western Australia’s GHG policy ○ coal to gas switching the role of gas in the future energy mix ○ Woodsides efforts to avoid and reduce carbon emissions from the proposed Browse Project ○ mitigation efforts for the NWS LNG facility ○ offsetting and the SGM • impacts on cultural heritage - Murujuga rock art • risks to the health of people and communities from atmospheric emissions on the Burrup Peninsula • potential impacts to marine life including endangered marine and migratory species from subsea drilling, seismic testing, industrial noise, light pollution, and heavy shipping operations • risks from fracking to supply gas to Burrup Hub 	<ul style="list-style-type: none"> • SE-2: Socio-economic benefits of the proposed Browse Project (Section 4.35). <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p> <p>In regard to the project and corporate risk raised Woodside notes that they continue to assess and mitigate all project and corporate risks. The draft EIS/ERD and associated documents have been prepared to enable to assessment of the environmental acceptability of the proposed Browse Project with respect to the relevant legislation. The risks raised in the submission are not the subject of the assessment.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-52 (Table 6-2) • Air quality: AQ-RES-52 (Table 6-2) • Marine fauna: MF-RES-12 (Table 6-5).

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> • socio-economic impacts • risk to investors and shareholders. <p>Note that the submission makes reference to the NWS Project Extension ERD. Where the submission relates to the NWS ERD and not the proposed Browse Project, this part of the submission has been addressed in the NWS Project Extension ERD Response to Submissions. The full. The full submission (both documents) can be found in Error! Reference source not found..</p>	
CAO-RES-10	Conservation Council of Western Australia (CCWA)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found.. Note that the Browse Burrup Hub Report prepared by Clean State and referenced above was also submitted by CCWA. This report can be found in Error! Reference source not found.. The submission relates to:</p> <p><u>Consultation and other submissions</u></p> <ul style="list-style-type: none"> • concerns with the environmental impact assessment process, particularly in relation to meeting the objectives of the EP Act • concerns relating to the duration and timing of public consultation • CCWA’s intention to provide supplementary comments • additional information requested from the proponent including: <ul style="list-style-type: none"> ○ Greenhouse Gas Management Plan ○ other management plans ○ data to enable assessment of health impacts ○ marine monitoring and other data to enable assessment of impacts on the marine environment 	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p><i>EIA process</i></p> <p>The draft EIS/ERD was prepared in accordance with the Commonwealth EIS Guidelines (EISG) and the Environmental Scoping Document (ESD).</p> <p><i>Duration and timing of public consultation</i></p> <p>The projects related to the Burrup Hub (proposed Browse Project, NWS Project Extension, Scarborough) are proceeding through separate approvals processes. While Woodside Energy Ltd is the Operator in relation of each of these proposed projects, Woodside is operator on behalf of different Joint Ventures (JVs) (Browse JV, NWS JV and Scarborough JV).</p> <p>Woodside notes the public review period is set by the EPA. The original six-week period was extended by two weeks as the public comment period ran over the Christmas period.</p> <p><u>Supplementary comments</u></p> <p>Woodside understands that the public review period is now closed.</p> <p><u>Additional information requests</u></p>

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No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> ○ the conclusion and results of independent studies regarding the impacts of acid gas emissions from LNG processing on Murujuga rock art <p><u>GHG emissions and climate change</u> The specific concerns raised by CCWA in relation to GHG emissions are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Air quality</u> The specific concerns raised by CCWA in relation to air quality are provided in response AQ-RES-52 (Table 6-2).</p> <p><u>Environmental values of Scott Reef</u> The specific concerns raised by CCWA in relation to marine environmental quality and impacts to the environmental values of Scott are provided in response MEQ-RES-7 (Table 6-4).</p> <p><u>Marine fauna</u> The specific concerns raised by CCWA in relation to marine fauna are provided in response MF-RES-13 (Table 6-5).</p>	<p>Woodside has provided a GHG MP within this Response to Submission on State ERD (Error! Reference source not found.) An EQMP has been provided in (Error! Reference source not found.). Information on marine studies is provided in Chapter 5 of the draft EIS/ERD. With respect to studies relating to impacts on Murujuga rock art please refer to the response to SS-KIR-1 in the NWS Project Extension ERD Response to Submissions (Section 3.3.2, Table 3-9).910875</p> <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-52 (Table 6-2) • Air quality: AQ-RES-52 (Table 6-2) • Marine environmental quality: MEQ-RES-7 (Table 6-4) • Marine fauna: MF-RES-13 (Table 6-5).
CAO-RES-11	Submission on Browse-Burrup Hub_Redacted	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • socio-economic considerations of the proposed Browse Project • GHG emissions and potential impacts on Australia’s heritage and environmental receptors. <p>The full submission can be found in Error! Reference source not found..</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u> Please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • SE-2: Socio-economic benefits of the proposed Browse Project (Section 4.35). <p><u>Concerns raised relating to other Environmental Factors</u> With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p>

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CAO-RES-12	ANON-XJVE-DUK5-P	<p>This submission was provided as an uploaded document. The submission relates to:</p> <ul style="list-style-type: none"> • GHG emissions and in particular <ul style="list-style-type: none"> ○ State, national and international climate policies and agreements ○ the transition to renewable energy sources ○ WA emissions ○ offsetting ○ employment opportunities • damage to wetlands in the event of an oil spill • potential impacts to Scott Reef • potential impacts to marine fauna • potential impacts to national heritage values including rock art • potential health impacts to local communities resulting from air emissions on the Burrup Peninsula. • Socio-economic impacts <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-57 (Table 6-2). <p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to the comments made in relation to the socio-economic impact of the proposed Browse Project, please refer to the following responses in Section 4:</p> <ul style="list-style-type: none"> • SE-2: Socio-economic benefits of the proposed Browse Project (Section 4.35). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-36 (Table 6-2) • Air quality: AQ-RES-36 (Table 6-2) • Benthic habitats and communities: BCH-RES-7 (Table 6-3) • Marine fauna: MF-RES-17 (Table 6-5).
CAO-RES-13	ANON-TCUY-7GQ2-6	<p>This submission was provided as an uploaded document. Note that while this submission has been submitted in response to the proposed Browse Project draft EIS/ERD, the contents relate primarily to the NWS Project Extension ERD, including reference to the nominated key EPA factors, emissions estimates and rock art. Where the submission relates to the NWS Project Extension ERD, the submission has not been addressed here.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation and other submissions</u></p> <p>With respect to the comments made in relation to the socio-economic impact of the proposed Browse Project, please refer to the following responses in Section 4:</p>

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		<p>In relation to the proposed Browse Project, the submission relates primarily to</p> <ul style="list-style-type: none"> the potential impacts associated with an unplanned hydrocarbon release on marine environmental quality the newly identified species of siphonophores socio-economic impacts. <p>The full submission can be found in Error! Reference source not found.</p>	<ul style="list-style-type: none"> SE-2: Socio-economic benefits of the proposed Browse Project (Section 4.35). <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> Air quality (GHG emissions): AQ-RES-61 (Table 6-2) Air quality: AQ-RES-61 (Table 6-2) Marine environmental quality: MEQ-RES-10 (Table 6-4).
CAO-RES-14	Murujuga Aboriginal Corporation (MAC) (ANON-XJVE-DUKU-P)	<p>This submission was provided as an uploaded document. The full submission can be found in Error! Reference source not found. The submission relates to:</p> <p><u>Air quality and GHG emissions</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to air quality GHG emissions are provided in AQ-RES-42 (Table 6-2).</p> <p><u>Marine fauna</u></p> <p>The specific concerns raised by MAC and MACs recommendations relating to marine fauna are provided in MF-RES-8 (Table 6-5).</p> <p><u>Consultation</u></p> <p>Within the submission and the recommendations provide that relate to GHG emissions, air quality and marine fauna, concerns are raised with respect to the consultation with MAC undertaken by Woodside.</p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p><u>Consultation</u></p> <p>Engagements with Traditional Owners are included in Table 4-2 of the draft EIS/ERD including with MAC. Additional engagements with Indigenous stakeholders since the finalisation of the draft EIS/ERD have been undertaken and these are outline in 3.6.</p> <p>Engagements with Traditional Owners respond to the issues raised in those forums or by prior comment. With regard to specific engagement with MAC:</p> <ul style="list-style-type: none"> In July 2020, Woodside provided full detailed responses to the MAC comments on the Browse draft EIS/ERD. In August 2020, Woodside met with MAC to provide further detail on these responses where required. MAC advised that they would provide comments on Woodside responses in four weeks. Woodside is committed to ongoing engagement with MAC on environment and heritage issues

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			<p>across all operations and proposals on or near Murujuga.</p> <p><u>Concerns raised relating to other Environmental Factors</u></p> <p>With respect to the concerns raised that relate to other Environmental Factors, please refer to:</p> <ul style="list-style-type: none"> • Air quality (GHG emissions): AQ-RES-42 (Table 6-2) • Air quality: AQ-RES-42 (Table 6-2) • Marine fauna: MF-RES-8 (Table 6-5).
<p>The following submissions represent 'proforma submissions' where a template of a submission has been prepared by an organisation, enabling member of the public to provide a submission. An option is also often provided to provide additional comments to the submission. Proforma submissions and additional text relating the consultation and other issues not directly related to a key environmental factor as determined by the EPA, as well as the Proponents response are provided below.</p>			
<p>PRO-CAO-RES-1</p>	<p>Proforma submission</p>	<p><i>Header - Assessment # 2186: Proposed North West Shelf Project Extension</i></p> <p><i>Dear [redacted] Chairperson Environmental Protection Authority WA) and Minister MacTiernan (Minister for Regional Development; Agriculture and Food; Ports),</i></p> <p><i>I am writing to express my deep concern with the proposal for the Burrup Hub and the Browse Basin development. I'm alarmed about the industry reports that this hub could also be connected to several new major onshore gas projects in the farming region around Dongara.</i></p> <p><i>The Waitsia and West Erregulla projects are still going through assessment and exploration processes, yet it seems like the Burrup Hub project is already talking up access to vast amounts of gas around the Mid West, claiming "new exploration technologies and deeper drilling" will give them access to gas "previously out of reach".</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such the reader is referred to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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		<p><i>The serious opposition from regional communities and farmers across WA to fracking gasfields is well known to the Government.</i></p> <p><i>It is totally inappropriate for the Government to be considering this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.</i></p> <p><i>The environmental assessment of the Burrup hub project must consider the impacts of all these future gas developments and Woodside must disclose all gas supplies and their environmental impacts.</i></p> <p><i>It is also out of line when we are already experiencing the negative impacts of a changing climate to even consider opening up what could be one of the most polluting new projects on earth. WA needs to do better, stop growing the flow of polluting gas and get serious about economic opportunities from clean renewable energy and renewable energy exports.</i></p> <p><i>I strongly oppose the proposal for the Burrup Hub, Browse Basin and North West Shelf LNG projects and links to the project to the spread of onshore gasfields across farming regions of WA.</i></p> <p><i>Thank you for the opportunity to have my say on this project.</i></p>	
PRO-CAO-RES-2	Proforma submission (additional text)	<p><i>Please do some research. Fracking poisons the land and the water. It is a toxic and brutal process to unleash on any landscape.</i></p> <p><i>See what happened at Condomine river near Warragamba. Flaming water. Any where that has been fracked in America. Totally toxic. They must be offering you a lot of money to look the other way.</i></p> <p><i>Your children and grandchildren will hate you for the shortsighted decision to allow this. \$ is worthless if your land and water is poisoned.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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		<i>your responsibility to ensure this is protected for generations to come.</i>	2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-6	Proforma submission (additional text)	<i>Please start looking at our long term future - tourism would go though the roof of the Kimberley was looked after. It's starting to look like Hedland in Broome you fools. Look at the age of these moving now families don't want to be here it's a methamphetamine riddled bogs hole. The family holiday destination with indigenous connection and promotion is dying with this sort of policy of profiteering at all cost.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-7	Proforma submission (additional text)	<i>These companies have no respect for Western Australia; they agree to whatever license conditions are needed to get approval and then blatantly ignore them once the plant is operational, knowing full well that no Government or Department has the fortitude to impose meaningful penalties or to shut them down. All sorts of commitments and snake oil solutions are promised, but inevitably come to nothing, and they just keep on polluting and our Government is complicit by allowing them to do it. It must stop.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-8	Proforma submission (additional text)	<i>It is ironic that Australia's reserves of Oil, Gas and Uranium, thought to be an asset, are actually an achilles heel that, due to the pressure for revenue if stifling what really needs to happen, a national energy policy, and innovation away from exporting a product which will become toxic stranded assets in the foreseeable future.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of

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		<p><i>Environmental and Indigenous; There is a big groundswell of opposition towards Fracking the the expansion of the Gas industry in general. The indigenous groups are lining themselves up for a battle and they have the backing of a board spectrum of the wider Australian public, who, due to recent events, are awakening from their lethargy in regards to the wider threat of climate change and the fossil energy business as usual scenario. Add to that the more frequent droughts and the prospect of the contamination of ground water supplies, and the entire expansion of the gas industry just does not make sense.</i></p> <p><i>Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. You must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside’s proposal as the State should be pursuing the cheap and abundant renewable resources we have available right here in WA, to enable an orderly transition that must and will occur anyway.</i></p>	<p>the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-9	Proforma submission (additional text)	<p><i>The Government needs to fully consider the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-10	Proforma submission (additional text)	<p><i>to do anything less than stop this project is a betrayal to every living creature in this country.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf</p>

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			<p>Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-11	Proforma submission (additional text)	<p><i>Being a farmer in Carnarvon I know the importance of a good water supply to the growing of food. Any risk of pollution to our ground water in totally wrong! Drilling through aquifers and pumping gas through them, relying on bore casings that a percentage are know to fail should not be allowed.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-12	Proforma submission (additional text)	<p><i>Additionally there has been an economic cost to the massive fracking operations in the US in that prices have dropped for the product</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-13	Proforma submission (additional text)	<p><i>Fracking projects overseas have proven to be disastrous to the environment, giving irreparable damage to rivers, soil and the atmosphere, its a costly, inefficient, dirty and terrible way to produce energy.. solar, wind and tidal energy have been proven to be cheaper and far healthier to us and the environment, the only reason fracking can happen is if corruption and dodgy deals are in place, STOP IT NOW!!!!!!!!!!!!</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of</p>

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		<i>EVERYONE'S HEALTH DEPEND ON IT!!!! INCLUDING YOURS</i>	the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-14	Proforma submission (additional text)	<i>Proposal for the Burrup Hub and the Browse Basin development. Think globally and act locally. Food security and climate safety are more important than corporate profit. Fracking irreparably pollutes both ground- and surface-water, and the inevitable methane leaks add to climate warming. To trade one of the best parts of the WA wheatbelt for gas that would be exported along with most of the profit, as well as adding to global warming, simply does not make sense.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-15	Proforma submission (additional text)	<i>Gas seam mining is a highly risky business and I do not believe the affects of fracking can be contained or will be contained by profit driven companies. Our most precious resource is clean water. Fracking for gas risks contaminating our clean ground water destroying our agricultural industry and their production of clean food and all life that depends on uncontaminated water.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-16	Proforma submission (additional text)	<i>Please consider our environmental guys. Easy to frack our future away for a few dollars but please put the things into perspective with what we have been blessed with, water fresh water, fruit vege etc area to develop something that is natural without risk or doubt.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).

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No.	Submitter	Submission and/or issue	Response to comment
			Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-17	Proforma submission (additional text)	<i>It is totally inappropriate that the Government consider this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-18	Proforma submission (additional text)	<i>The environmental assessment of the Burrup hub project must consider the impacts of all these future gas developments, Especially Where It Concerns FRACKING and Woodside must disclose all gas supplies and their environmental impacts.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-19	Proforma submission (additional text)	<i>Now is the time to be changing our lifestyles and exploring different ways of living in order to protect and be able to continue to experience the beauty we have inherited, instead of squandering resources that took millions of years to be created. Regards</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.

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No.	Submitter	Submission and/or issue	Response to comment
PRO-CAO-RES-20	Proforma submission (additional text)	<p><i>Dear EPA Chair and Minister for Regional Development, Agriculture and Food, Ports and Minister Assisting the Minister for State Development, Jobs and Trade</i></p> <p><i>You will be aware that the Waitsia and West Erregulla projects are still undergoing assessment and exploration processes, while the Burrup Hub project is anthropogenic claiming “new exploration technologies and deeper drilling” are giving them access to gas “previously out of reach”.</i></p> <p><i>Strong opposition from regional communities and farmers across WA to fracking gasfields is well known to the government.</i></p> <p><i>It is difficult to understand how the government can consider this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion? Apart from massive wads of money to vested interests that is.</i></p> <p><i>We are already experiencing the negative impacts of anthropogenic climate disruption and to even consider opening up what could be one of the most polluting new projects on earth is C ... R ... A ... Z ... Y. Renewable energy and renewable energy exports are the future. .</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-21	Proforma submission (additional text)	<p><i>I am writing on behalf of myself, but also farmers I work with in the Mid West, to express my deep concern with the proposal for the Burrup Hub. I’m alarmed about the industry reports that these could be connected to two new major onshore gas projects in our farming region around Dongara. The Waitsia and West Erregulla projects are still going through exploration and assessment processes, yet it seems like this massive project is already talking up access to vast amounts of gas in our Mid West, claiming “new exploration technologies and deeper drilling” will give them access to gas “previously out of reach”. The serious opposition from regional communities and</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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No.	Submitter	Submission and/or issue	Response to comment
		<p><i>farmers across WA to fracking gasfields is well known to the Government, and we know there's tight gas that the companies are keen to co-develop through fracking in the Mid West. It is totally inappropriate for the Government to be considering the Burrup gas hub proposal without fully and get serious about economic opportunities from clean renewable energy and renewable energy exports. I strongly oppose the proposal for the Browse Basin and North West Shelf LNG projects as part of the Burrup Hub and links to the project to the spread of onshore gasfields across farming regions of WA. Thank you for the opportunity to have my say on this project.</i></p>	
<p>PRO- CAO- RES- 22</p>	<p>Proforma submission (additional text)</p>	<p><i>Protection of WA's environment and development of its economy should not be nothing more than a numbers game. Proforma submissions as provided by the Conservation Council of WA in opposition to exploration for oil and gas as per above should be dismissed as lacking substance and hence not be considered by the EPA when assessing the project. I therefore urge you to assess the merits or otherwise of any project on the substance of the development proposal and on the basis of evidence put forward by submitters.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. Please refer to the response to PRO-MEQ-RES-1 in Table 6-4.</p>
<p>PRO- CAO- RES- 23</p>	<p>Proforma submission (additional text)</p>	<p><i>It is uttey inappropriate for the Government to be considering this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.</i></p>	<p>We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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No.	Submitter	Submission and/or issue	Response to comment
PRO-CAO-RES-24	Proforma submission (additional text)	<i>I find it alarming that the Government ignores the environmental destruction and the poisoning of our water and still propose fracking. In fact all steam ahead. I think this is madness considering the experience in the USA and the poisoning of clean water and the hazard of gas leaks. That's just saying 2 simple hazards and there's more if you care to do your research. The people who are opposing this are people that vote. The risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-25	Proforma submission (additional text)	<i>I am disappointed in the WA Government's feeble approach to fracking: there should be a total ban and that should be the end of it. In the name of basic human dignity, there must be limits to GREED.</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-RES-26	Proforma submission (additional text)	<i>I am contacting you in response to the current consultations on the proposed Browse Basin and North West Shelf LNG projects as part of the Burrup Hub. My key concern is that the Burrup Hub development will lead to a major new fracking industry in WA, with devastating</i>	We acknowledge the comments made and provide the following information in response to the matters raised. This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15). Woodside confirms that there is no fracking associated with the proposed Browse Project.
PRO-CAO-	Proforma submission (additional text)	<i>Why are we proposing to sacrifice our country for the benefit of other countries?</i>	We acknowledge the comments made and provide the following information in response to the matters raised.

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No.	Submitter	Submission and/or issue	Response to comment
RES-27		<i>FRACKING IS A RECKLESS PROCESS THAT DOES NOTHING BUT DESTROY OUR ENVIRONMENT WHILE WASTING AND POLLUTING OUR WATER. WATER IS THE SINGLE MOST IMPORTANT ITEM FOR ANY HUMAN BEING, ANIMAL OR PLANT</i>	<p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>
PRO-CAO-RES-28	Proforma submission (additional text)	<i>West Shelf LNG projects as part of the Burrup Hub. As a Driller myself, I am particularly concerned that the Burrup Hub development will lead to a major new fracking industry in WA, with devastating</i> Yours [redacted]	<p>We acknowledge the comments made and provide the following information in response to the matters raised.</p> <p>This proforma, while provided to the Browse Project as a public submission, relates to the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335). As such, please refer to response O-21 of the NWS Project Extension ERD Response to Submissions (Section 3.5.3, Table 3-15).</p> <p>Woodside confirms that there is no fracking associated with the proposed Browse Project.</p>

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