

PROPOSED BROWSE TO NORTH WEST SHELF DEVELOPMENT ENVIRONMENTAL REFERRAL

BROWSE BASIN NORTH-WEST AUSTRALIA

Key Information

- + In September 2018, the Browse Joint Venture (BJV) selected the Browse to North West Shelf development concept to progress into the concept definition phase.
- + Following this, in October 2018, Woodside Energy Ltd (Woodside) as Operator for and on behalf of the BJV referred the proposed Browse to NWS development to the Western Australian Environmental Protection Authority (EPA) and the Commonwealth Department of the Environment and Energy (DoEE).
- + Woodside invites interested parties to comment on the referral of the proposed Browse to NWS development during the public comment periods.
- + Your feedback is important to us and should be submitted directly to the EPA via www.epa.wa.gov.au or the DoEE via www.environment.gov.au.
- + The referral is the initial step in the approvals process for the proposed Browse to North West Shelf development.
- + The Browse Joint Venture understands the North West Shelf Joint Venture is preparing to refer a proposal which includes long term processing of third party gas, including Browse, at the Karratha Gas Plant.

About the consultation

Background

Woodside Energy Ltd (Woodside), as Operator for and on behalf of the Browse Joint Venture (BJV), is proposing to develop the Brecknock, Calliance and Torosa fields located approximately 425 km north of Broome in the offshore Browse Basin.

Hydrocarbon resources contained in these fields are predominately gas, with contingent resources of 13.9 trillion cubic feet (Tcf) of dry gas, and approximately 390 million barrels of condensate.

In September 2018, the BJV selected the Browse to North West Shelf (NWS) development concept to progress into the concept definition phase.

The concept is based predominantly on proven technologies including two floating production storage and offloading facilities, delivering gas through an approximately 900 km pipeline to existing North West Shelf infrastructure producing around 10 Mtpa of LNG/LPG and 1.4 Mtpa of domestic gas (100% project). Approximately 50 kbb/d of condensate is expected to be exported at the floating production storage and offloading facilities. Subject to commercial agreements and joint venture and regulatory approvals, gas will be transported to NWS infrastructure for transportation and processing.

Subject to all necessary joint venture and regulatory approvals being obtained and appropriate commercial arrangements

being finalised, indicative timeframes for the proposed Browse to NWS development (Proposed Action) comprise commencement of construction and drilling and completion activities from approximately 2021-2022. This will be followed by installation and commissioning activities, ready for start-up (RFSU) and commencement of operations occurring in the mid-2020s, and continuing for up to 50 years. Following operations, decommissioning activities will be carried out as part of the Proposed Action.

Woodside is committed to ongoing stakeholder engagement as the proposed Browse to North West Shelf development progresses.

Figure 1: Indicative FPSO facilities for the Browse Development (schematic not to scale)

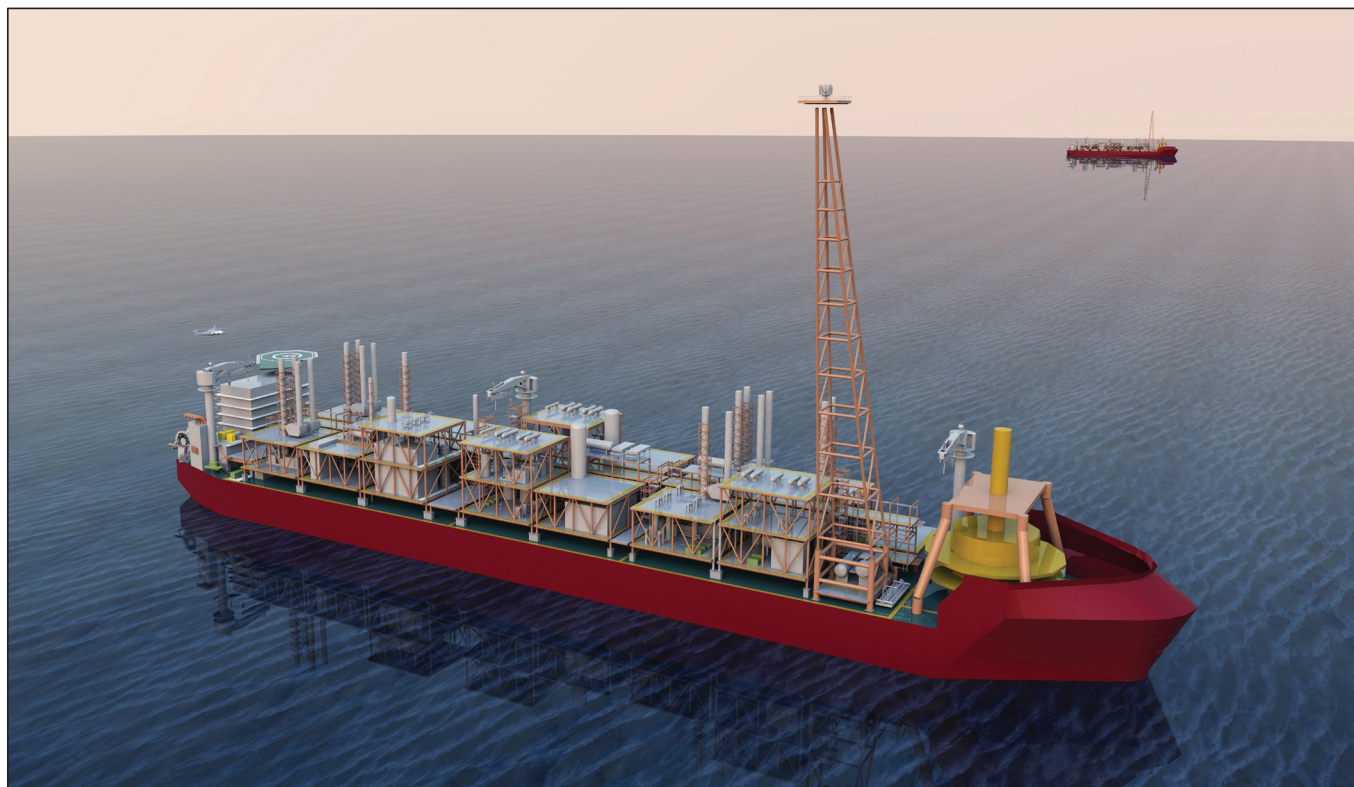


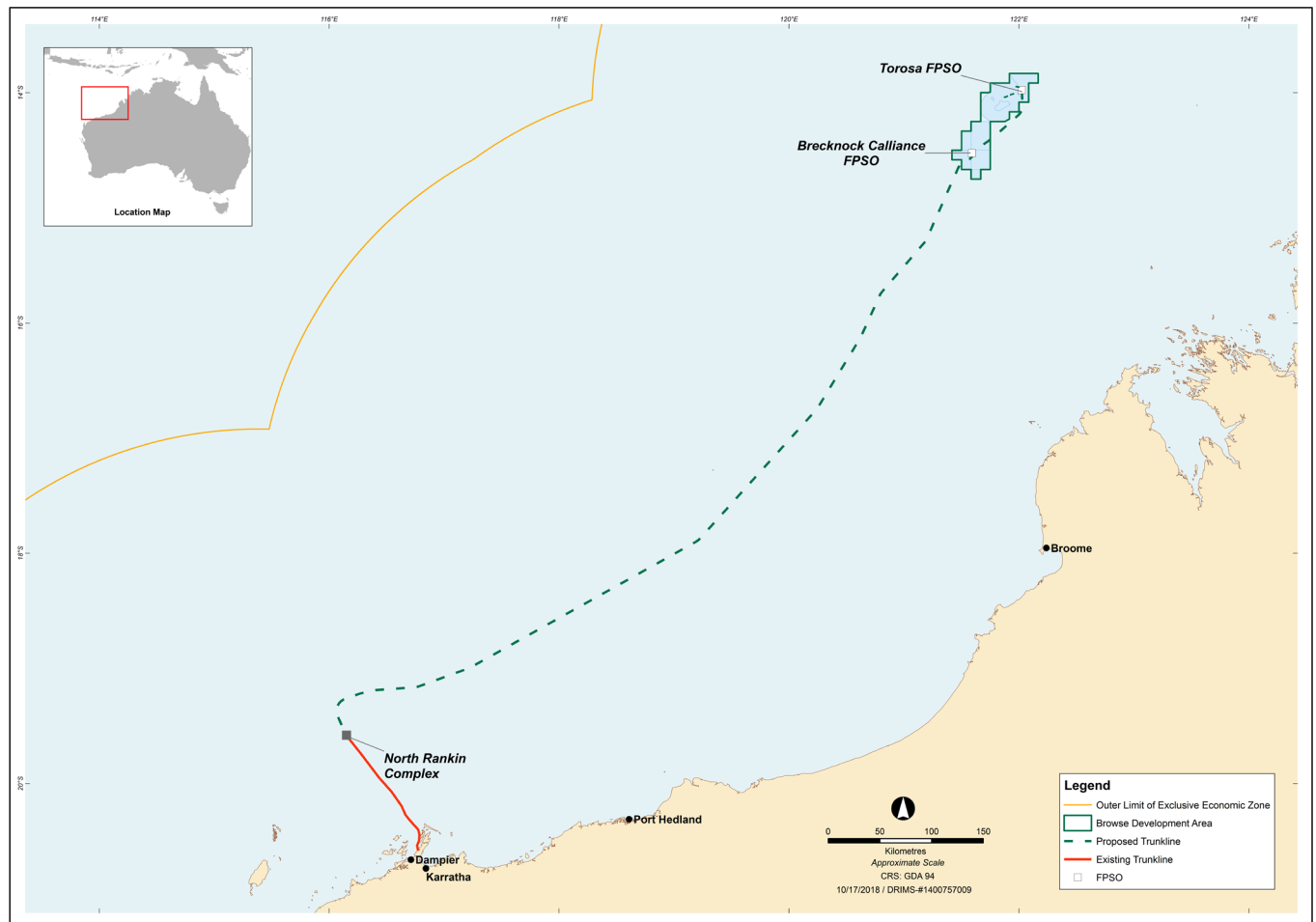
Table 1: Participating interests

Participant	%
Woodside Browse Pty Ltd	30.60%*
Shell Australia Pty Ltd	27%
BP Development Australia Pty Ltd	17.33%
Japan Australia (MIMI Browse) Pty Ltd	14.40%
PetroChina International Investment (Australia) Pty Ltd	10.67%

*Woodside Energy Ltd is operator for and on behalf of the Browse Joint Venture

Proposed Browse to North West Shelf Development Environmental Referral

Figure 2: The proposed Browse Project area



The proposed Browse to NWS development spans both Commonwealth and State jurisdictions.

As such, in October 2018, Woodside, as Operator for and on behalf of the BJV referred the proposed Browse to NWS development to the Western Australian Environmental Protection Authority (EPA) and the Commonwealth Department of the Environment and Energy (DoEE).

The BJV understand the North West Shelf Joint Venture (NWS JV) is preparing to refer a proposal which includes long term processing

of third party gas including Browse, at the Karratha Gas Plant (KGP). Potential impacts associated with the NWS JV action will be described in that referral.

The Project Area (see **Figure 2**) consists of the Browse Development area and the pipeline corridor to the proposed tie-in point near the North Rankin Complex.

A supporting document (available on the EPA, DoEE and Woodside websites) has been prepared to support the State and Commonwealth referrals that details:

- + The proposed upstream development and activities that will be undertaken;
- + Identification of key stakeholders;
- + Description of the environment in and around the proposed development;
- + Identification of the environmental impacts and risks associated with the proposed development; and
- + Identification of the potential management measures that will be employed to ensure the environmental impacts and risks are acceptable.

Commonwealth Jurisdiction

The Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.

The proposed Browse to NWS development was referred to the Department of Environment and Energy (DoEE) under the EPBC Act in October 2018. A copy of the referral will be publicly available on the DoEE website (www.environment.gov.au).

The scope of the proposed action (see **Figure 2** and **3**) includes:

- + Development drilling, completion and well unload activities (drilling and completion) of the Brecknock, Calliance and Torosa reservoirs;
- + Installation and commissioning of subsea infrastructure, including anchors and mooring lines, umbilicals, flowlines, risers, and manifolds;
- + Installation and commissioning of the Browse Trunkline and inter-field spurline including tie-in to existing NWS Project infrastructure near the North Rankin Complex;
- + Installation, hook-up and commissioning of the FPSOs;
- + Operation of the subsea infrastructure, including wells/wellheads, umbilicals, flowlines, risers, and manifolds;
- + Operation of the FPSOs, including condensate stabilisation, storage and offtake, gas processing (CO₂ and water removal and gas compression) and export;
- + Transmission of gas from the FPSOs to existing North West Shelf infrastructure tie in point; and
- + Decommissioning of subsea infrastructure, FPSOs, Browse Trunkline (BTL) and inter-field spurline at the end of reservoir field life (approximately 50 years).

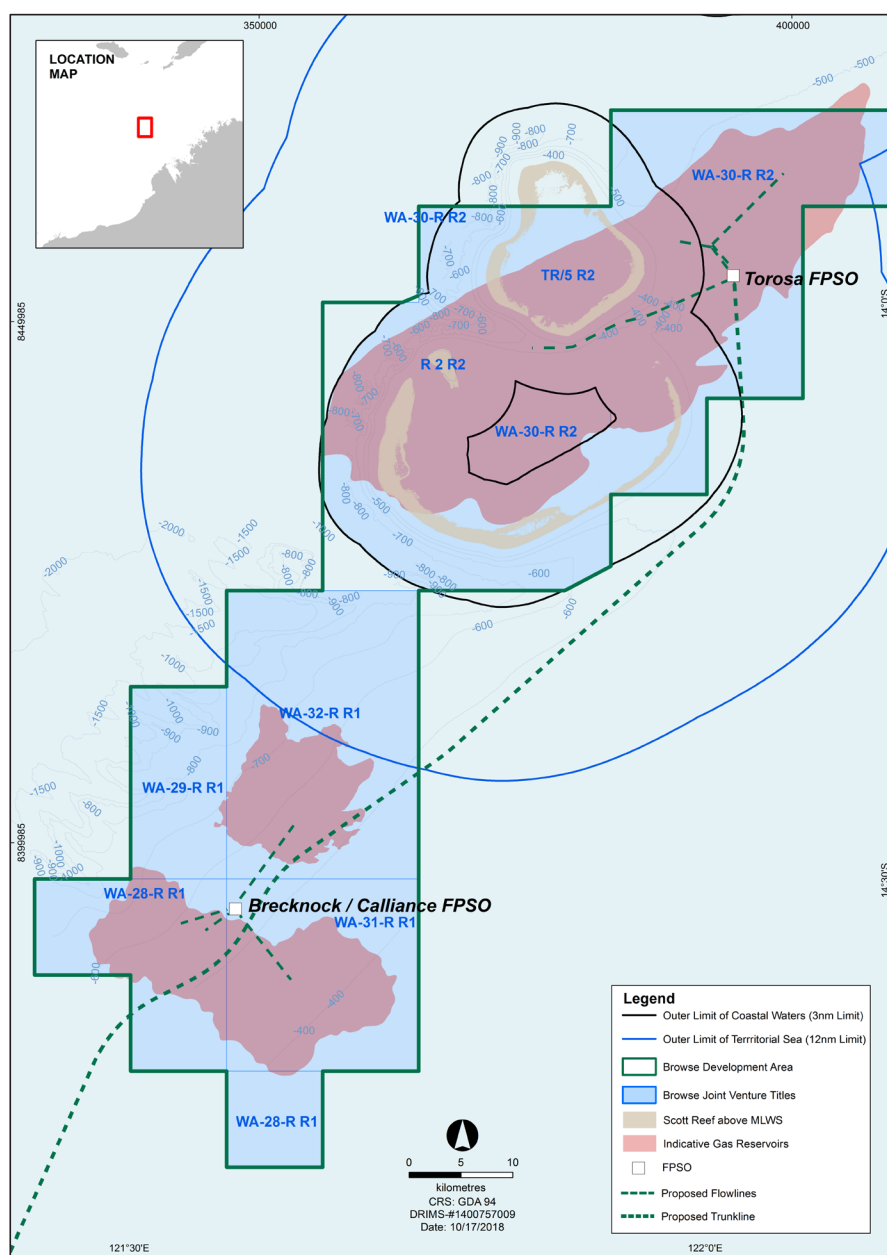
State Jurisdiction

The Environmental Protection Act 1986 (WA) (EP Act) is Western Australia's primary environmental legislation. The EP Act provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing.

The proposed Browse to NWS development was referred to the WA Environment Protection Authority in October 2018. A copy of the referral will be publicly available on the EPA website (www.epa.wa.gov.au). Following this, the EPA will decide on the level of assessment for the proposed development.

The scope of the proposed action (see **Figure 2**) comprises the proposed development of wells within state waters. Extracted hydrocarbons will be transferred via subsea infrastructure, including wellheads, manifolds and flowlines, to the FPSO facilities, located in Commonwealth waters. The referral comprises a limited subset of infrastructure and activities.

Figure 3: The Browse Gas Reservoirs Location



Environmental Management

Woodside has a strong track record of undertaking activities safely and in an environmentally responsible manner.

The environment in and surrounding the proposed development area has been characterised through desktop reviews and scientific surveys. The area surrounding the reservoirs, proposed facilities and subsea infrastructure has been extensively investigated during previous development concepts.

Woodside has commissioned around 60 key studies within the proposed development area, Scott Reef and the broader region that span approximately two decades. This includes programs to build understanding

on 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 referral and supporting document details environmental impacts and risks associated with the proposed development.

Opportunity For Public Comment

Since 2004, Woodside has undertaken extensive consultation regarding proposals to develop Browse resources with a wide variety of stakeholders including Federal, State and Local governments, Indigenous representatives, environment and conservation groups, non-government

organisations, tourism operators, fishing groups, local business and service providers and local community. The feedback obtained from these consultations has been used extensively to inform the Concept Select phase and early planning associated with the Development.

Woodside invites interested parties to comment on the proposed Browse to North West Shelf development Environmental Referral during the public comment periods.

Further information about the government referrals process is available on the EPA and DoEE websites.

Contact and further information

This fact sheet, the Browse to NWS Environmental Referral and further information on the proposed Browse Development can be found on the Woodside website www.woodside.com.au

Queries can be provided to Woodside by:

- + Emailing feedback@woodside.com.au
- + Calling 1800 442 977

