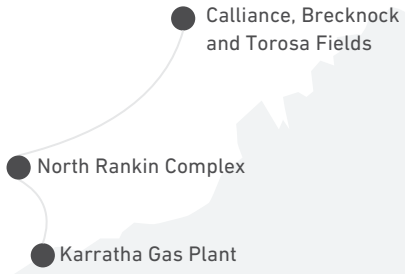
Browse Development

Information Sheet
April 2025



Browse to North West Shelf Project

Browse Basin, North-West Australia

Project Overview

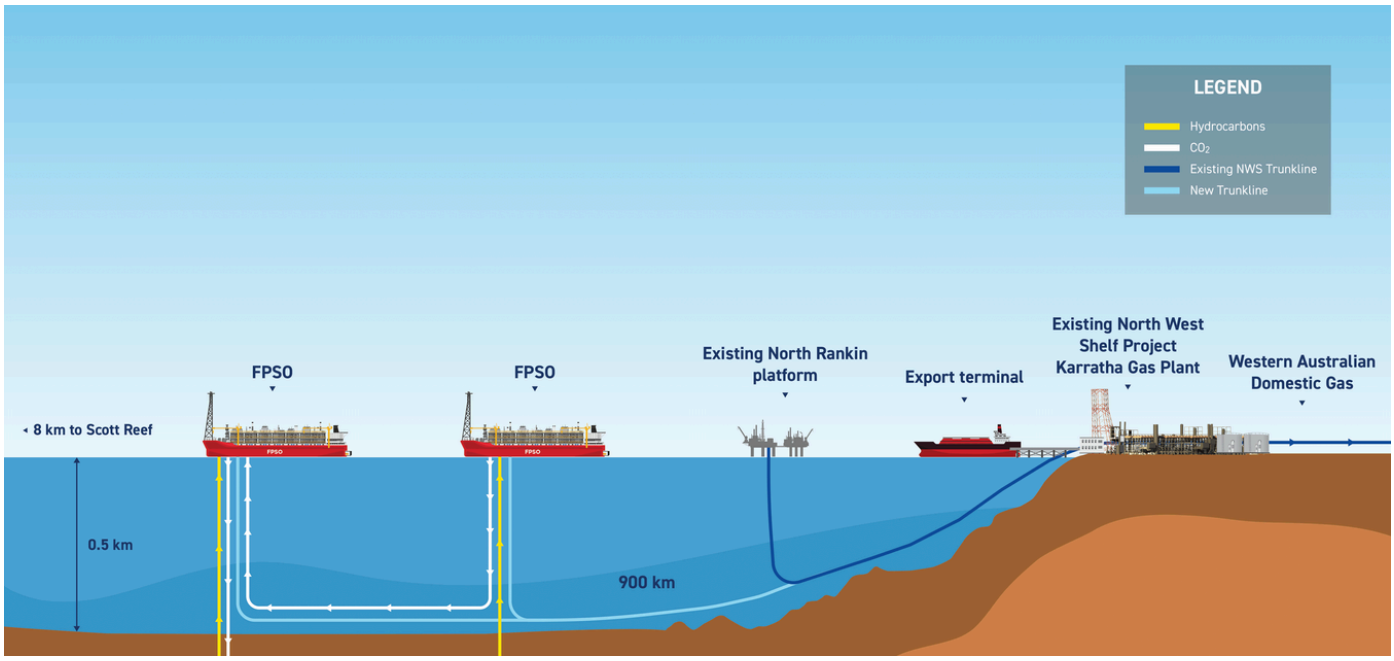
Woodside, as Operator for and on behalf of the Browse Joint Venture (BJV), is proposing to develop the Calliance, Brecknock and Torosa conventional natural gas fields located in the offshore Browse Basin, approximately 425 km north of Broome, Western Australia - the Browse to North West Shelf (NWS) Project (the **Project**).

The Project has the potential to contribute to energy security in Western Australia and in the Asia Pacific region, with estimated production capacity of 11.4 million tonnes per year (LNG, LPG and domestic gas).

The proposed concept includes two floating production storage and offloading (FPSO) facilities, and an approximate 900 km pipeline to the NWS Project's existing infrastructure. Carbon capture and storage (CCS) infrastructure on the FPSOs would inject a significant portion of Browse reservoir carbon dioxide into the Calliance Storage Formation.

The Project is currently in the concept definition phase. Key work activities continue in support of progress towards front-end engineering design (FEED) entry on the Project, including optimising the development concept to improve cost and schedule certainty, securing relevant regulatory and environmental approvals, and progressing commercial agreements.

Figure 1. Proposed Browse Development value chain



Conceptual image only. Not to scale.

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's First Peoples. We acknowledge their connection to land, waters and the environment and pay our respects to ancestors and Elders, past and present. We extend this recognition and respect to First Nations peoples and communities around the world.

Carbon management

Carbon management is a key focus for the Project. The BJV has determined that a CCS solution to abate[1] a significant portion of Browse reservoir CO_2 is feasible. The CCS infrastructure and related activities (Browse CCS Project) has been incorporated into the offshore design.

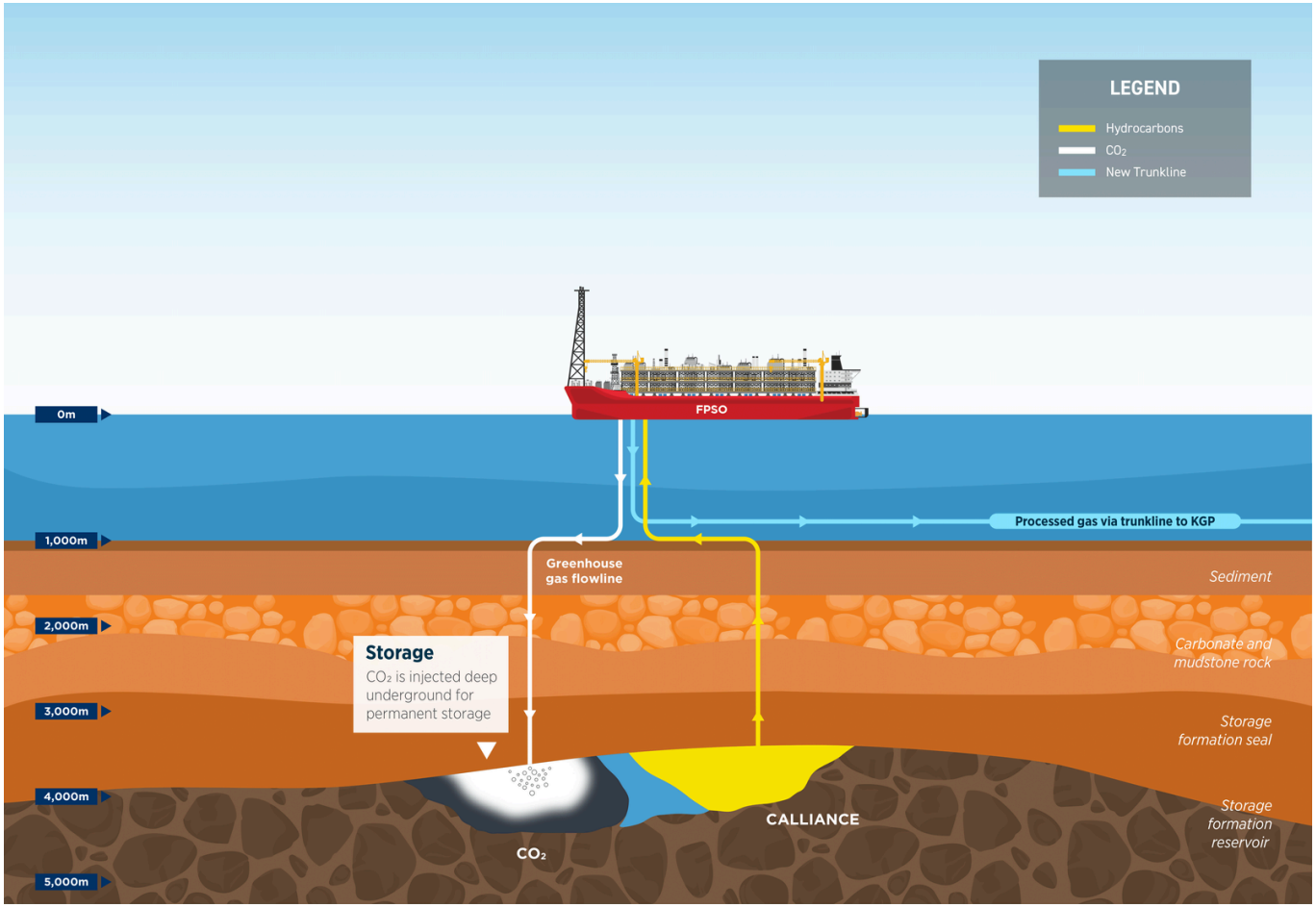
The Browse CCS Project will be designed to sequester the majority of the reservoir CO_2 from the Project by injecting it into the Calliance Storage Formation. This has the potential to deliver a significant reduction in the Scope 1 greenhouse gas (GHG) emissions from the Browse development.

The Browse CCS Project was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) in October 2024 (EPBC Number: 2024/10028) for environmental approval under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

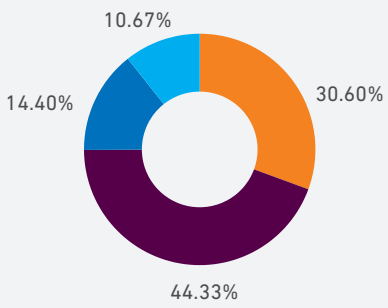
The BJV continues to evaluate further carbon abatement[1] and energy efficiency opportunities to reduce and manage GHG emissions from the Project.

1. Abate/Abatement: Avoidance, reduction or removal of an amount of carbon dioxide or equivalent.

Figure 2. Proposed Browse CCS system.



Conceptual image only. Not to scale. The Browse CCS System will be designed to reduce the carbon intensity of Browse LNG as an energy source as well as reducing reliance on carbon offsets to meet net GHG emissions requirements.



Participating interests

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

Woodside Energy Ltd is the Operator

Environmental assessment

As part of the environmental approval process the Project was referred to the Western Australian Environmental Protection Authority (EPA) and the Commonwealth DCCEEW in 2018. Since then, the assessment process has continued with public comment periods, assessment and additional information provided including detailed management plans for key environmental aspects.

We have continued to collect scientific data relevant to the development area and monitor advances in global best practice environmental measures, since the project was referred. In September 2024, Woodside provided new information and best practice measures to both the EPA and DCCEEW to further demonstrate our commitment to avoid and minimise any potential environmental impact from the proposed development.

New environmental data and measures

In addition to the scientific data and measures included in the initial environmental referral documents, in September 2024, Woodside provided new data to the regulators and committed to additional best practice measures to further reduce the potential environmental impact of the Project. This included:

- Applying several measures to further reduce the risk of noise from Project activities disturbing a foraging pygmy blue whale, including prohibiting construction activities in State waters from occurring at time when foraging whales are likely to be present and implementing an adaptive management plan that responds to live information on the pygmy blue whale presence near Project activities.
- Modifying activities to further reduce the impact to green turtles, including relocating a drilling centre outside of the habitat critical to the survival of green turtles and establishing strict limits on commissioning flaring of which the light glow could impact green turtle nesting activities.
- Reduction of vessel speed limits in State waters from 12 knots to 6 knots.
- Sharing new 3D subsidence modelling that demonstrates there is no credible threat of significant impact to critical turtle nesting habitat at Sandy Islet from Browse hydrocarbon extraction.
- Committing to work with relevant State agencies to preserve Sandy Islet turtle nesting habitat during operations, regardless of the cause of habitat loss.

A number of these measures have been included in an amendment to the Browse to NWS Project State proposal that was submitted to the WA EPA in March 2025. Further information on the amendment is available at woodside.com/browse

Green turtle nesting habitat at Sandy Islet

Sandy Islet is located more than 20 km from the nearest planned drilling activity and 30 km from the nearest FPSO. It is a small sandy cay that provides nesting habitat for green turtles, which is a dynamic formation subject to sea level variability, storm surges, cyclones and natural subsidence (downward vertical movement).

Subsidence from gas extraction was identified as a potential threat to Sandy Islet in the Browse to NWS Project Environmental Impact Statement. To improve our understanding of this, in 2024, with the emergence of new technology, Woodside conducted higher resolution subsidence modelling that indicated there is a 95% probability that subsidence under Sandy Islet would be less than 3.8 mm over the life of the Project.

Sandy Islet may still be threatened by natural pressures in the future. Woodside is committed to monitoring changes to Sandy Islet and continuing to study its dynamics to understand the best methods to design management strategies that can help protect turtle nesting habitat at Sandy Islet.

Figure 3. Sandy Islet. Woodside and Australian Institute of Marine Science, 2013. "Discovering Scott Reef", p. 155. Note. Infrastructure seen in the image are the remains of a weather station which was operational between 1970 and 1995.

Scott Reef

Scott Reef is an isolated coral reef system located on the edge of Australia's continental shelf, about 425 km north-west of Broome - a 24-hour commute from Broome by vessel. It consists of two formations created by accumulated skeletons of corals and algae over millions of years and supports a range of biodiversity.

Project activities are not expected to impact Scott Reef. No drilling would occur on Scott Reef, in the North/South Scott Reef lagoons or the Scott Reef Channel. The nearest drilling would occur approximately 3 km from the reef to extract hydrocarbons located more than 3 km below the seabed. The closest Browse FPSO would be located almost 8 km from the reef.

No physical contact from project activities (e.g., discharges from drilling etc.) are predicted to contact Scott Reef above the 75 m contour where corals are found. All proposed activities would occur in waters more than 300 m deep.

Supporting science at Scott Reef

Scott Reef and other reefs in the Pilbara and Kimberley were considered "poorly understood" by the Australian Institute of Marine Science (AIMS) three decades ago. However, over the past 30 years, more than 50 expeditions by numerous marine scientists have led to extensive research and understanding of Scott Reef.

In 1993, Woodside supported AIMS' extensive survey of coral and fish communities. This led to the establishment of a long-term monitoring program in 1994, which continues today. The Scott Reef coral reef monitoring program is globally one of the few continuous programs providing insight into the health and condition of resident corals and fish.

The wide-ranging Scott Reef research projects have revealed important insights into a complex ecosystem and have delivered a wealth of knowledge to support Woodside's long-term environmental planning and management.

Environmental research programs

In conjunction with leading Australian academic and research organisations, the BJV have invested in environmental research and studies for over three decades to better understand the offshore marine environment in the vicinity of the Browse resources.

These programs have resulted in more than 70 scientific peer-reviewed publications in international journals on the environment and species of the Browse region – their distribution, biology, and ecology. This knowledge has been used to help the ongoing management of the marine environment in the Browse region.

As a result of the investment by the BJV and others, Scott Reef has one of the most intensive long-term monitoring programs of any Australian reef system.

The BJV continues to support marine monitoring programs to improve our understanding of turtle and whale activity in the Scott Reef area. These programs involve the use of innovative technology including high-definition satellite imagery and underwater microphones to better understand the marine environment and inform our management plans for any future Project activities.