

DISCUSSION PAPER

BROWSE TO NWS PROJECT (CALLIANCE, BRECKNOCK AND TOROSA FIELDS)

History, Potential and Key Challenges in a Changing Global Energy Context

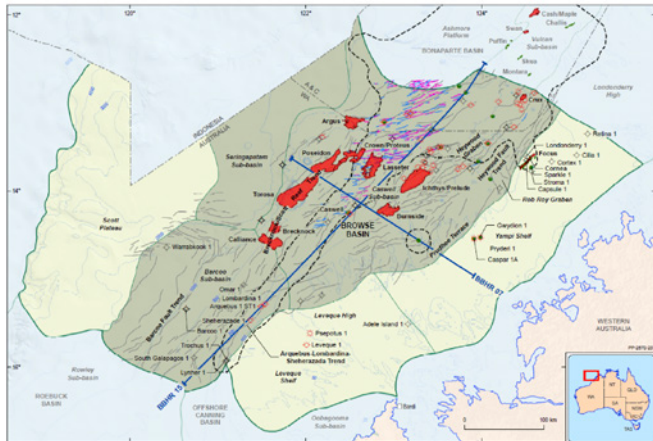
Geopolitical instability, shifting LNG demand dynamics, and increasing pressure on long-term energy security have renewed focus on large undeveloped gas resources. Australia remains a major LNG exporter; however, future supply growth is increasingly dependent on the commercialisation of technically complex and capital-intensive offshore developments.

The Calliance, Brecknock and Torosa fields, located in the Browse Basin offshore Western Australia, represent one of Australia's largest undeveloped gas resources. The fields are proposed to be developed as part of the Browse to NWS Project. Their development has been subject to prolonged evaluation, reflecting both project-specific complexity and broader changes in the global energy market.



PROJECT HISTORY

The fields are located approximately 425 km north of Broome, in water depths typically exceeding 400 metres. They were discovered through a series of exploration wells drilled between the 1970s and early 2000s, with subsequent appraisal programs confirming a substantial gas resource base.



Source: Geosciences Australia

The fields are operated by Woodside Energy on behalf of the Browse Joint Venture (BJV).

Over the past two decades, multiple development concepts have been considered, including:

- floating LNG
- onshore LNG processing at James Price Point
- backfill of the existing North West Shelf (NWS) Karratha LNG plant (discussed below).

Despite these evaluations, a final investment decision (FID) has not been reached. This reflects the challenge of aligning technical feasibility, commercial viability and regulatory requirements, particularly in a changing market environment.

OWNERSHIP

The composition of the BJV has evolved in recent months. Woodside Energy has exercised pre-emptive rights to acquire PetroChina's interest, while BP has announced the divestment of a 5% stake to GS Energy.

GS Energy has existing LNG and power generation interests in South Korea, including participation in the Boryeong LNG Terminal and operation of a combined heat and power plant serving regions south of Seoul.

Upon completion of these transactions, the BJV participants are expected to comprise:

- Woodside Energy (41.27%)
- BP (39.33%)
- Japan Australia LNG (14.40%)
- GS Energy (5%).

RESOURCE POTENTIAL

The fields are estimated to contain approximately 14 trillion cubic feet (Tcf) of gas and 411 million barrels of condensate, ranking them among the largest undeveloped gas accumulations in Australia.

The size and quality of the resource position the fields as a potential long-life LNG supply source capable of supporting multi-decade production. In strategic terms, the resource offers the potential to contribute to sustaining Australia's LNG export capacity, provide backfill for declining legacy projects and support continued energy demand growth across Asia.

DEVELOPMENT CONCEPT

The scale and characteristics of the resource have informed the development concept currently under consideration. The Browse to NWS Project centres on a phased offshore development integrated with existing infrastructure at the Karratha LNG plant.

Key elements of the concept include:

- subsea wells and gathering systems across the fields
- two floating production, storage and offloading (FPSO) facilities
- a ~900 km export pipeline connecting to an existing pipeline which connects to the Karratha LNG plant.

An offshore carbon capture and storage (CCS) solution has also been incorporated into the design. This is intended to materially reduce project emissions relative to earlier concepts and reflects both the CO₂ content of the resource and evolving regulatory and market expectations.



Source: modified from Woodside image

KEY CHALLENGES

COMMERCIAL VIABILITY

A primary challenge for the BJV is the project's capital intensity. Major cost drivers include large-scale offshore infrastructure and long-distance export gas pipelines. At the same time, the project must compete with lower-cost global LNG developments and alternative investment opportunities within the key BJV participants wider development portfolios, placing pressure on overall commercial viability.

PROJECT COMPLEXITY AND TECHNICAL RISK

The fields present several technical challenges including:

- deepwater development conditions
- the large geographic extent of the resource requiring extensive subsea systems
- the need for long-distance subsea gas pipelines.

These factors increase both development costs and execution risk relative to smaller or nearer-shore projects.

REGULATORY AND SOCIAL FACTORS

The project has been subject to evolving regulatory and social considerations. These include community and stakeholder engagement, particularly in relation to earlier onshore concepts, as well as increasing scrutiny of greenhouse gas emissions and decarbonisation pathways. Collectively, these factors have contributed to delays and introduce ongoing complexity in securing approvals.

MARKET DYNAMICS AND ENERGY TRANSITION

The LNG market outlook remains uncertain, shaped by both short-term disruptions and long-term supply growth. While near-term events, such as supply outages, may tighten markets, global LNG capacity is expected to expand significantly toward 2030, with the potential for periods of oversupply.

Within this context, the Browse to NWS Project must compete for capital in a market where lower emissions intensity, greater flexibility, and shorter payback periods are increasingly favoured. The integration of carbon management solutions, including CCS, is therefore becoming an important factor in project competitiveness.

PROJECT TIMING

Project timing remains contingent on resolving key commercial, regulatory and technical factors. These include finalisation of a viable development concept, alignment with available LNG processing capacity and achievement of regulatory approvals.

Development is expected to be staged, with initial gas production potentially aligned to declining output from existing fields supplying the Karratha LNG plant. On this basis, first gas could be achieved approximately five years following FID.

CONCLUSION

The fields represent one of Australia's most significant undeveloped gas opportunities. Their scale and resource quality provide the potential to support long-term LNG supply and extend the life of existing infrastructure.

However, the project also highlights the increasing complexity of large-scale energy developments, where capital intensity, technical risk, regulatory requirements and market uncertainty must be balanced.

Ultimately, the development of the Browse to NWS Project will depend on the ability of the joint venture to achieve competitive economics, manage emissions and regulatory expectations and align with evolving market conditions. In this context, the project sits at the intersection of energy security and the energy transition.

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FOR A DISCUSSION ON HOW WE CAN ASSIST YOU CONTACT

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