

DISCUSSION PAPER

THE GREATER SUNRISE GAS FIELDS (TIMOR SEA)

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

Global gas markets are undergoing structural change. Geopolitical uncertainty, evolving energy security priorities and the transition to lower-carbon systems are reshaping investment decisions. In this environment, large undeveloped gas resources are regaining strategic importance, particularly those capable of supporting long-term LNG supply.

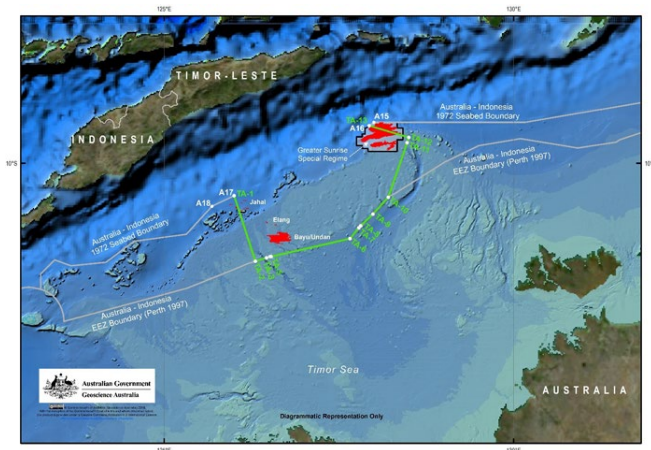
The Greater Sunrise fields, located in the Timor Sea between Australia and Timor-Leste, represent one of the region's most significant undeveloped gas accumulations. Their strategic relevance has grown alongside rising Asian energy demand, the need for secure LNG chains with minimal risk of shipping disruptions and the shared priorities of both Australia and Timor-Leste.

Despite being discovered decades ago, the fields remain undeveloped due to a combination of commercial, technical and geopolitical challenges. However, recent alignment between Woodside Energy and the Government of Timor-Leste may present a pathway to progress.

EXPLORATION HISTORY

Greater Sunrise comprises the Sunrise and Troubadour fields (Woodside 33.44% (operator), Timor GAP 56.56%, Osaka Gas 10%). These were discovered through exploration drilling in the 1970s and 1990s, with subsequent appraisal confirming a substantial gas and condensate resource.

The fields are located in a historically complex jurisdictional setting, reflecting overlapping maritime claims between Australia and Timor-Leste.



Source: Department of Foreign Affairs & Trade website

RESOURCE POTENTIAL

Greater Sunrise contains significant gas and condensate volumes, making it one of the largest undeveloped offshore resources in the Timor Sea.

The estimated reserves (2C) are 5 trillion cubic feet (TCF) of gas and 226 million barrels of condensate.

The scale of the gas resource is sufficient to support LNG production over multiple decades.

DEVELOPMENT CONCEPT

Development options have evolved over time, reflecting competing technical, commercial and geopolitical considerations. Key concepts assessed include:

- Floating LNG (FLNG)
- Tie-back to the Bayu-Undan facilities to supply the Darwin LNG plant
- Export pipeline connection to the Ichthys system
- Onshore LNG development in Timor-Leste (TLNG).

The Darwin LNG tie-back is no longer viable following the commencement of production at the Barossa field. Attention has increasingly shifted toward the TLNG option. While this maximises local economic benefits, it introduces higher cost and execution risk relative to earlier concepts.

In late 2025, Woodside Energy and the Government of Timor-Leste agreed to progress studies for a 5 mtpa LNG development in Timor-Leste (Woodside Energy). The offshore development would involve subsea wells and production systems across both fields.

KEY CHALLENGES

COMMERCIAL VIABILITY

Achieving commercial viability remains a key constraint. Capital requirements for long-distance pipelines, offshore infrastructure and LNG facilities are substantial.

While TLNG offers strong economic benefits for Timor-Leste, it materially increases risk compared with lower-cost tie-back options. When comparing a greenfield LNG plant in Timor-Leste with one in Australia investors must also consider sovereign risk across both jurisdictions, including:

- Governance maturity in Timor-Leste
- Exposure to Australia's proposed Domestic Gas Reservation Scheme.

GEOPOLITICAL AND GOVERNANCE COMPLEXITY

Greater Sunrise operates within a complex binational governance framework.

The maritime claims between Australia and Timor-Leste were resolved through the Maritime Boundary Treaty signed in 2018. This treaty provides a legal basis for the joint management and development of Greater Sunrise, as well as for revenue sharing between the two nations. However, alignment of stakeholder objectives remains critical to project progress.

TECHNICAL AND INFRASTRUCTURE CHALLENGES

The Timor Sea presents technical challenges, particularly for export pipeline construction and operation.

Greater Sunrise lies approximately 450 km from Darwin and 150 km from Timor-Leste.

However, the Timor Trough, between the fields and Timor-Leste, poses a significant constraint. The Timor Trough:

- Is up to 70 km wide
- Has depths ranging from 1,500 to 3,000 metres.

Pipeline installation and operation in depths reaching 3,000 metres is at the leading edge of current engineering capability and materially increases cost and risk. Floating submerged pipelines for long distances, which would eliminate the need for seabed installation across the Timor Trough, are still in early development.

Development concepts requiring new infrastructure in relatively undeveloped regions further increase execution risk, particularly in relation to logistics, workforce capability and supporting infrastructure.

MARKET DYNAMICS AND ENERGY TRANSITION

The LNG market outlook remains uncertain, shaped by both short-term disruptions and longer-term supply growth.

Short to medium term supply disruptions, such as outages in Qatar, may tighten markets. While LNG production capacity is expected to increase from 2024 to 2030 by approximately 250 mtpa (IEA).

A potential surplus around 2030 could suppress prices. However, lower prices may stimulate demand, potentially supporting new entrants such as TLNG in the early to mid 2030s.

Greater Sunrise must also compete globally for capital against projects with lower cost and technical risk.

PROJECT TIMING

Greater Sunrise has experienced prolonged delays, with multiple deferred FID timelines.

Progress depends on:

- Finalising the development concept (currently centred on TLNG)
- Establishing commercial agreements
- Aligning joint venture and government priorities.

Current planning assumptions indicate a potential window for the start of LNG production between 2032 and 2035, subject to these conditions being met (Woodside Energy).

OUTLOOK

Greater Sunrise remains a strategically important resource in the Asia-Pacific region, with potential to:

- Support long-term LNG supply into Asian markets
- Contribute significantly to Timor-Leste's economic development.

From a market perspective, Asian buyers may increasingly seek LNG from politically stable regions with less risky shipping routes. Australian supply offers routes that avoid key geopolitical chokepoints such as the Strait of Hormuz, the Malacca Strait and the South China Sea.

CONCLUSION

Greater Sunrise represents one of the most significant undeveloped gas resources in Australia's near region. The resource base is sufficient to support decades of LNG supply and play a meaningful role in regional energy security.

However, development has been constrained by the interplay of cost, risk, governance and market dynamics. The project highlights the complexity of delivering large-scale offshore gas developments where commercial and national interests intersect.

Drake / ENERGY & MARITIME CONSULTING

Drake Energy & Maritime Consulting provides strategic advisory and consultancy services to clients in the energy, infrastructure and maritime sectors.

Drawing from extensive industry experience working in executive and advisory roles across these sectors, our team of specialist consultants offers organisations pragmatic and customised advice that is specific to the energy,

infrastructure and maritime sectors' distinct issues and individual challenges.

This comprehensive offering of professional expertise enables Drake Energy & Maritime Consulting to develop strategic, industry-informed strategies and solutions to assist our clients in managing and improving their operations in the energy, infrastructure and maritime sectors.

FOR A DISCUSSION ON HOW WE CAN ASSIST YOU CONTACT

Rod Johannessen (Director/Principal Consultant)

📞 0400 950 587 ✉️ rod@demc.net.au 🌐 demc.net.au