Tassie Shoal LNG Project

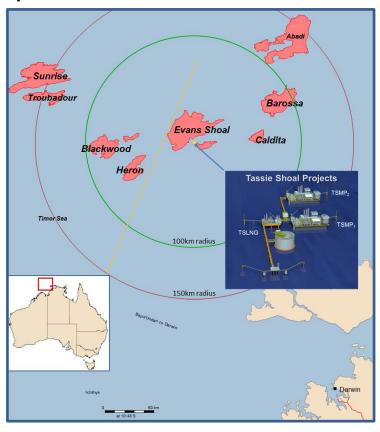
(Melbana 100%#)



Project Overview

The Tassie Shoal LNG Project (TSLNG) offers a commercialisation path to LNG for any of the remote gas resources in the region. The design basis is that liquids would be removed from the raw gas at the field location and dry gas piped to Tassie Shoal for processing into LNG.

Location Map



Centrally located to regional gas supplies

The location is adjacent to many undeveloped gas resources in the region.

Key Project Metrics

- Water Depth: ~15m
- Capacity: 3.0MTA, expandable to 4.0MTA
- Single module construction
- Processing platform: Jack-up steel structure
- Self installing platform: 100m x 50m
- APCI Dual Mixed Refrigerant technology
- Gas feed assumption: <3% CO₂
- Process Cooling: Closed loop fresh water with indirect seawater heat exchange
- Storage: 170,000 m³ conventional secondary containment tank on concrete GBS caisson
- LM6000 Aero-derivative gas turbine drivers
- Electric drives
- Conventional Jetty
- Fabrication Location: South East Asia TBC



TSLNG Expandable to 4MTA Designed by Industry Leaders

Designed by the World's Leading Experts

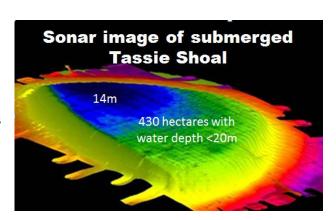
Pre-FEED design has been completed and the project costed by the world's leading designers WorleyParsons, Arup with input from APCI.

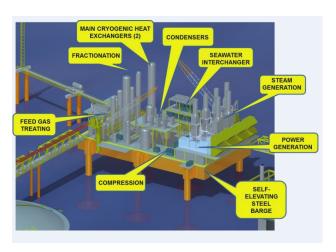
Competitive Advantage – single module construction

TSLNG design embeds a number of key competitive advantages when compared to onshore or FLNG alternatives:

Competitive advantages result in low cost project

- Shallow water development site at Tassie Shoal
- Benign metocean conditions
- Facilities to be located on sea floor, avoiding FLNG complexities
- Process plant designed to be constructed in a single module and carried by heavy lift vessel to site and placed directly on sea floor
- LNG tank to be constructed in casting basin and wet towed to site, then ballasted directly onto sea floor
- Construction at a low cost SE Asian site
- Low cost seawater cooling process
- Able to be relocated at end of project life





Environmental Approvals

Government Approvals in place

Melbana has secured Federal Government Environmental Approvals for an LNG plant to be located at Tassie Shoal. TSLNG Project was assessed by the Federal Government under the Environment Protection and Biodiversity Conservation Act 1999 and Environmental Approval was granted in 2004. Approvals are valid until 2052.

Major Project Facilitation Status

MPF previously granted The project has previously been granted Major Project Facilitation (MPF) status by the Federal Government Department of Infrastructure and Transport. The Australian government grants Major Project Facilitation (MPF) status to projects that meet strict criteria. The MPF service endeavours to ensure that Commonwealth approval processes are coordinated with relevant state and territory government approval processes. MPF status is currently inactive but will be renewed once commercialisation hurdles are overcome and coordination of development approvals is required.

Indicative Cost Savings over Onshore or FLNG

The following comparison table details Melbana's estimate of indicative costs for development of 3.6 MTA LNG plants supplied from an indicative low CO₂ gas resource.

~US\$2-\$4B Savings Vs Onshore and FLNG

Ongoing

appraisal of regional

stranded gas

discoveries

Estimated Costs (US\$M)	Onshore Darwin LNG	FLNG	TSLNG*	TSLNG Vs Onshore Darwin	TSLNG Vs FLNG	
Plant	2,665	7,240	1,345	1,320	5,895	
FPSO Liquids Removal	1,000	-	1,000		-1,000	~\$2B
Pipeline (from 170kms north of TS)	1,300	-	440	860	-440	saving vs Darwin
LNG Tank	425	-	410	15	-410	Onshore
Jetty Structure/Topsides	300	-	410	-110	-410	
Project Development & Owners Costs	250	360	175	75	185	~ \$4B saving
Upstream	2,500	2,500	2,500			vs FLNG
Total	8,440	10,100	6,280	2,160	3,820	
Unit Cost \$/tpa	2,344/t	2,806/t	1,744/t	600/t	1,061/t	

- "Estimate by WorleyParsons, Arup and APCI for LNG Plant at Tassie Shoal scaled for 3 6MTA and 4% CO2 to compare costs for functionally similar LNG liquefaction plant at Darwin
- FLNG costs extrapolated from Prelude published data, reduced on relative CO₂, GOR, repeat build savings, etc.

Regional Undeveloped Resources

Greater Sunrise (NT/RL2, NT/RL4, JPDA 03-19, JPDA 03-20)

Woodside and their joint venturers have proposed a 4MTA Floating LNG option for the gas resource located at Greater Sunrise. The Timor-Leste authorities have indicated the development concept is unacceptable.

Evans Shoal (NT/RL7)

The Evans Shoal gas discovery lies directly adjacent to NT/P68 and only 10 km from Tassie Shoal. An appraisal well was successfully drilled in late 2013. Eni have indicated they believe the raw gas in place is 8Tcf.

Petrel, Tern & Frigate (NT/RL1, WA-27-R, WA-40-R)

GDF, Santos and Origin Energy confirmed their proposed FLNG project was not commercially viable and all development options will be considered.

Barossa (NT/RL5)

The well drilled in the permit in 2006 tested 16% CO₂ gas. In June 2012 SK E&S farmed into both NT/P69 and NT/P61 earning up to a 49.5% interest in both permits for funding up to US\$520 million in carry obligations and contingent milestone payments. Appraisal of this resource is continuing.

Caldita (NT/RL6)

The last well drilled in the permit in 2007 tested 13% CO₂ gas. In June 2012 SK E&S farmed into both NT/P69 and NT/P61 earning up to a 49.5% interest in both permits for funding up to US\$520 million in carry obligations and contingent milestone payments.

The potential exists to optimise gas stream blends to produce both a 25% CO₂ feedstock stream for methanol production via the Tassie Shoal Methanol Project and a low CO₂ feedstock stream for TSLNG.

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