

中国石油集团寰球工程公司认购澳大利亚LNG有限公司19.9%股权框架协议签字仪式  
Signing Ceremony of Strategic Private Placement of 19.9% Shares of LNG Limited Australia to CNPC HQCEC



**LIQUEFIED NATURAL GAS LIMITED**

**ASX: LNG**

**CNPC HQCEC: Company Making Transaction**

Liquefied Natural Gas Limited  
5 Ord Street  
West Perth WA 6005  
+61 8 9366 3700  
[www.LNGlimited.com.au](http://www.LNGlimited.com.au)

# LNG Limited – An Overview “Post” CNPC HQCEC

**ASX Code** LNG

---

**Shares on Issue** 266 million

---

**Market Capitalisation** AUD 160 million (at AUD 0.60/share)

---

**Cash Reserves** AUD 34 million (at 31 March 2011), no debt

---

**Top 5 Shareholders** 45.88% ownership

---

**Major Shareholders** CNPC HQCEC (19.90%)  
Copulos Group (10.18%)  
Dart Energy Limited (6.01%)  
P W Bridgwood (4.99%)  
F M Brand (4.80%)

- 
- KEY MESSAGES:**
- ▶ Strategic Partner with global expectations for LNG
  - ▶ Endorsement of business model and technology
  - ▶ CNPC HQCEC committed to deliver Gladstone LNG
  - ▶ Tight Capital Structure
  - ▶ Directors’ commitment to shareholder value
  - ▶ Strong and experienced board and executives

# Key Features of HQCEC & LNG Limited Term Sheet

- ▶ Legally binding subject to definitive agreements and satisfaction of conditions precedents
- ▶ Conditions precedent include HQCEC obtaining FIRB and Chinese Government approvals and LNG Limited obtaining shareholder approval
- ▶ 19.9% (post placement) share placement to HQCEC, raising ~AUD 25 million
- ▶ Funds allocated to development of LNG Limited's Gladstone LNG Project at Fisherman's Landing, Port of Gladstone, Queensland (***Gladstone LNG Project***)
- ▶ HQCEC to nominate a non-executive director and executive director (joint CEO) to the Board of LNG Limited
- ▶ HQCEC to submit a fully termed engineering, procurement, construction and commissioning proposal for the Gladstone LNG Project, based on LNG Limited's OSMR® LNG process technology
- ▶ HQCEC and CNPC to be provided preferential rights to use LNG Ltd's OSMR® technology
- ▶ HQCEC and CNPC to consider direct investment in and purchase of LNG from the Gladstone LNG Project

# Who is China National Petroleum Corporation (CNPC)?

- ▶ China's largest oil (54% share) and gas (82% share) producer and supplier
- ▶ Ranked 10 in revenue amongst 2010 Fortune Global 500 companies
- ▶ Oil and gas assets and interest in 29 countries and presence in almost 70 countries
- ▶ Businesses covering petroleum exploration & production, natural gas & pipelines, refining & marketing, oilfield services, engineering construction, equipment manufacturing, R&D, capital management, finance and insurance services.
- ▶ Top 5 global oil and gas company
- ▶ 1.6 million employees

# Who is HQCEC?

- ▶ Wholly owned by CNPC
- ▶ Technology focussed engineering, procurement, construction, consulting, R&D, manufacturing, project management group
- ▶ Delivered more than 2000 projects in over 50 years of operation
- ▶ Executed and delivered China's first LNG receiving terminal
- ▶ EPC contractor for Jiangsu LNG receiving terminal near Shanghai
- ▶ EPC contractor for Dalian LNG receiving terminal using own technology
- ▶ Likely EPC contractor for Tangshan LNG receiving terminal near Beijing
- ▶ EPC contractor for 500,000 tonne per annum Ansai LNG plant in China using own technology
- ▶ Over 9,500 employees

# Shared Global Vision

- ▶ LNG Limited to become a global LNG developer and owner
- ▶ HQCEC to become the global LNG EPC contractor of first choice
- ▶ LNG Limited's OSMR<sup>®</sup> technology to become the global LNG process technology of first choice
- ▶ LNG Limited's Gladstone LNG Project to showcase CNPC, HQCEC and LNG Limited capability

## Immediate Objectives

- ▶ Secure gas supply and develop LNG Limited's Gladstone LNG Project
- ▶ Develop and market LNG Limited's OSMR<sup>®</sup> technology
- ▶ Progress evaluation of other LNG project opportunities

# Business Model...What Attracted CNPC & HQCEC?

**OSMR<sup>®</sup> liquefaction technology is central to LNG Limited's strategic focus in developing LNG projects**

<i>Technical highlights of LNG Limited Approach</i>	<i>Benefits for LNG Project Development</i>
Simple and efficient process Using proven liquefaction technology Low equipment count	Higher efficiency and less emissions by 20-40% Lower project cost by 30-50% Higher availability Easier installation, operations & maintenance Fast shut down and start up Faster construction schedule
Smaller land area requirement Smaller risk contours	Increases ability to strategically locate LNG projects Potential to site closer to gas supply Potential to site closer to existing infrastructure
Use of proven membrane tank technology	Lower construction cost of 20-50% Faster construction by around 10 months

## **Gladstone LNG Project to Prove the Business Model**



**OSMR<sup>®</sup> Process**  
*Developed and owned by LNG Limited*

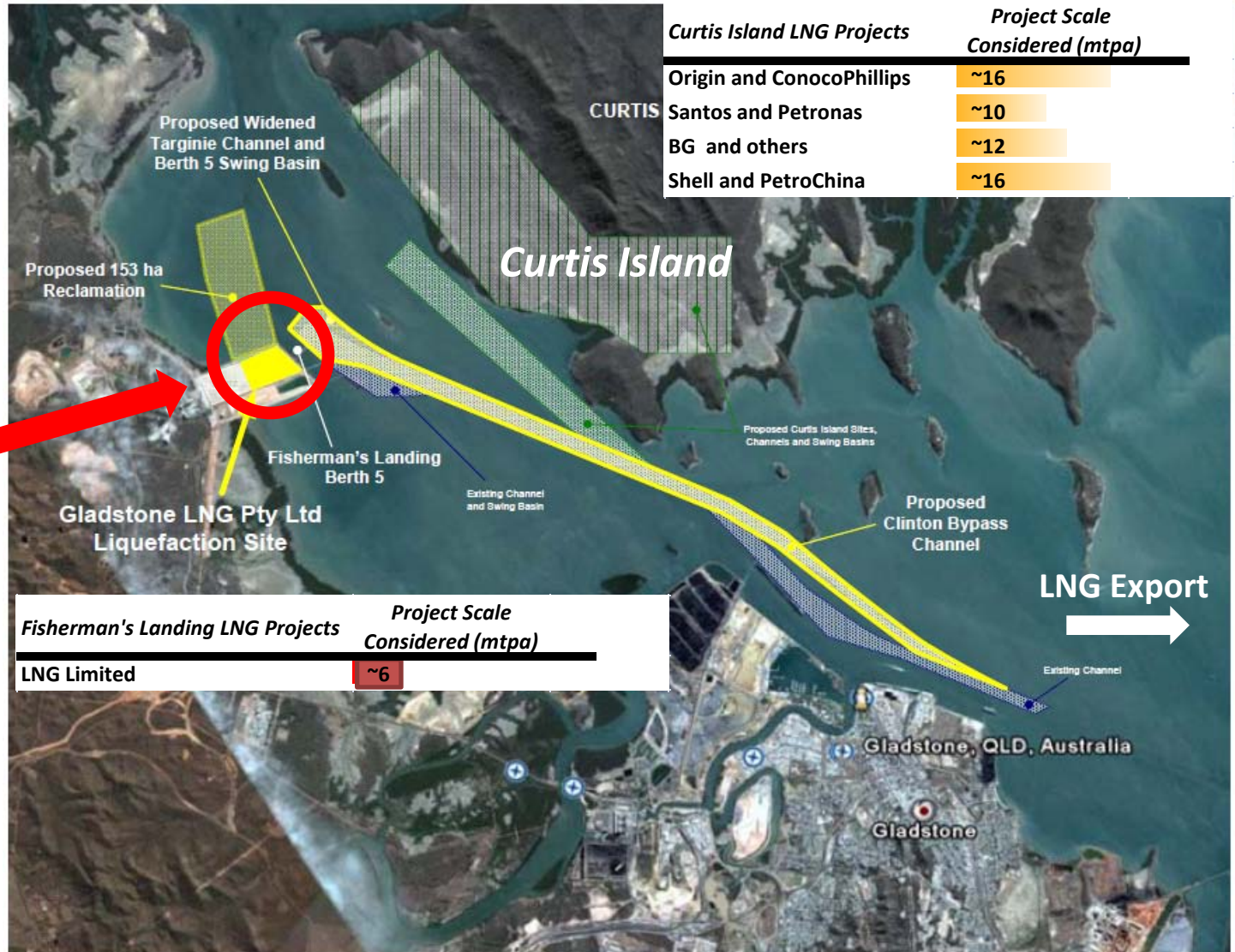
# Gladstone LNG Project “Fisherman’s Landing”



Proposed Design & Layout



# Gladstone LNG Project Location



**GLADSTONE LNG**  
**Fisherman's Landing**

# What do we have in Gladstone LNG

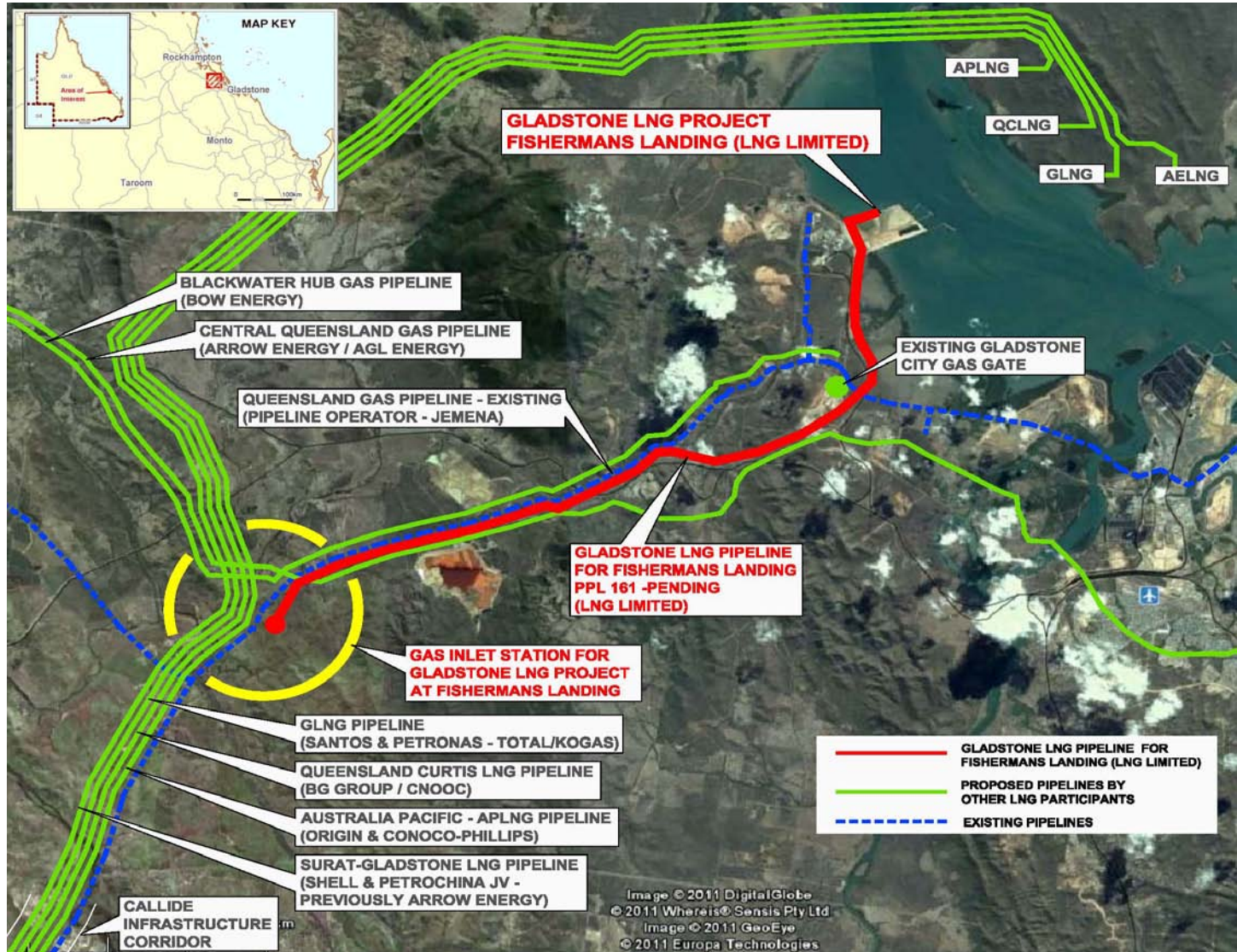
- ▶ Site Agreement for Lease executed
- ▶ Superior mainland site with access to existing infrastructure
- ▶ Site area can potentially accommodate 4 LNG trains at guaranteed 6 mtpa
- ▶ Environment approval (2x1.5mtpa LNG trains: OSMR<sup>®</sup> and membrane tank)
- ▶ Stage 1 dredging and disposal approval received
- ▶ FEED completed by LNGL/SKEC/LOR and detail design commenced
- ▶ Fixed price EPC proposal submitted (low cost)
- ▶ Access to OSMR<sup>®</sup> and membrane tank technology
- ▶ Most efficient LNG process by 30% (~6.5% of feedgas used for fuel)
- ▶ Lowest capital cost LNG project in Gladstone (~US\$300/tpa for 2 LNG trains)
- ▶ Fastest project schedule of ~30 months (usually 40+ months)
- ▶ Construction started (\$50m spent; 5 months of EPC program completed)
- ▶ Potential LNG end buyer (with terminals) and financing capabilities
- ▶ Gas supply plan
- ▶ Gas spur pipeline approval application lodged (refer to slide 12)

# What does Gladstone LNG finally need?... Gas Supply

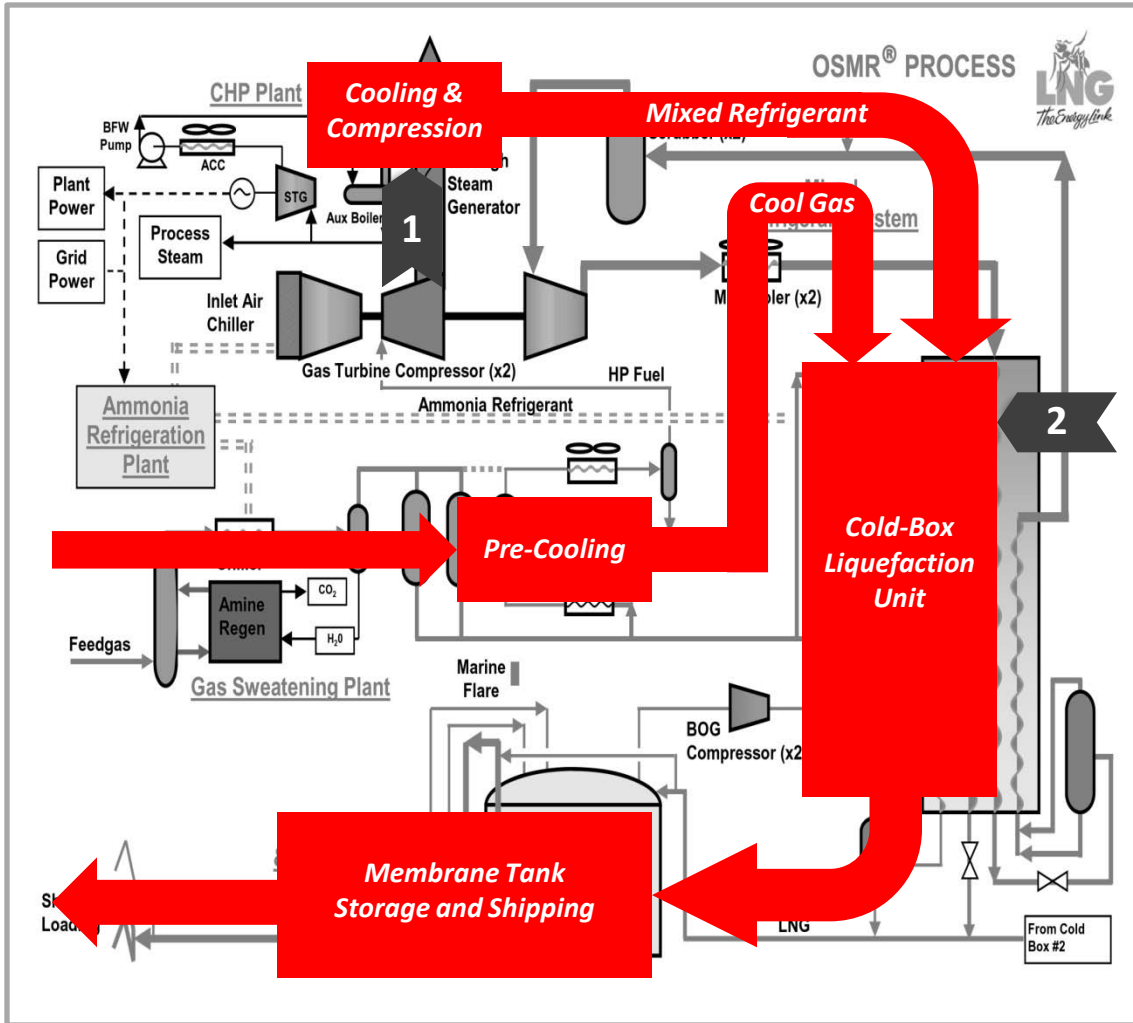
- ▶ 18,000 PJ\* risked forecast 2P reserves uncommitted in Queensland
- ▶ Key focus on coal seam gas companies for gas supply of ~4,500PJ for 3 mtpa
- ▶ Gas supply plan now focused on **SIX** suppliers, including Metgasco
- ▶ Gladstone LNG project a potential option for ramp-up gas supply from the planned larger scale LNG projects on Curtis Island, Port of Gladstone
- ▶ Gas supply plan is supported by strategic partner CNPC HQCEC
- ▶ Gas supply inlet point for all LNG projects ~ 21 km from Fisherman's Landing
- ▶ Gas suppliers timetable to supply now fully defined

\*Company: internal independent report

# Gladstone LNG "Spur" Pipeline



# Technology and OSMR® Benefits



## OSMR® KEY DESIGN FEATURES

### Simplicity in design, construction and operation

- ▶ Faster build
- ▶ Reduced capital intensity

### Mid-scale

- ▶ Location flexibility
- ▶ Reduced capital requirement

### High efficiency and low emissions

- ▶ Better economics
- ▶ Reduced emissions

**Total energy efficiency improvement of 30% over conventional LNG processes results from OSMR® process innovations:**

- 1** Gas turbine inlet air cooling improves plant capacity by 15%
- 2** Supplementary cold-box cooling improves plant capacity and efficiency by 25%

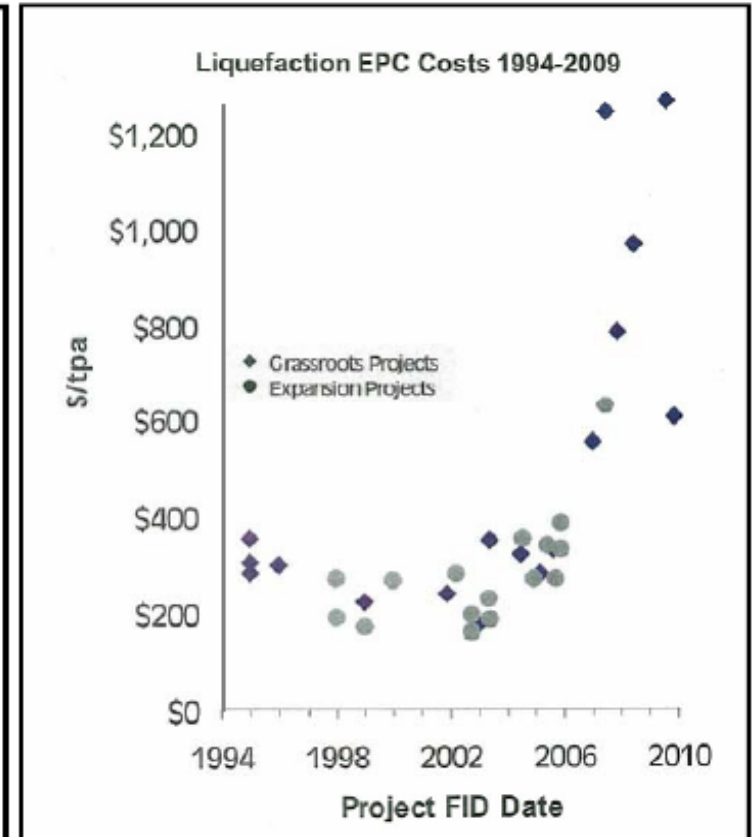
# Commercial Benefits of LNG Ltd's Technology and Methodology

## Project cost breakdown (USD):

▶ Engineering	\$29m
▶ Procurement	\$210m
▶ Construction	\$374m
▶ Other (incl contingency)	<u>\$107m</u>
Total EPC (1 train)	<u>\$720m</u> ↓
Marine Works	\$85m
Additional train	<u>\$300m</u>
<u>Total cost for 3.5mtpa</u>	<u>\$1,105m</u>

Efficiency benefit (2.5% more  
LNG sales) at \$10/MMbtu NPV<sub>10</sub> \$387m

**EPC cost index for 3.5mtpa \$300/tpa**  
Project cost using cascade  
or other process >\$600/tpa >\$2,100m

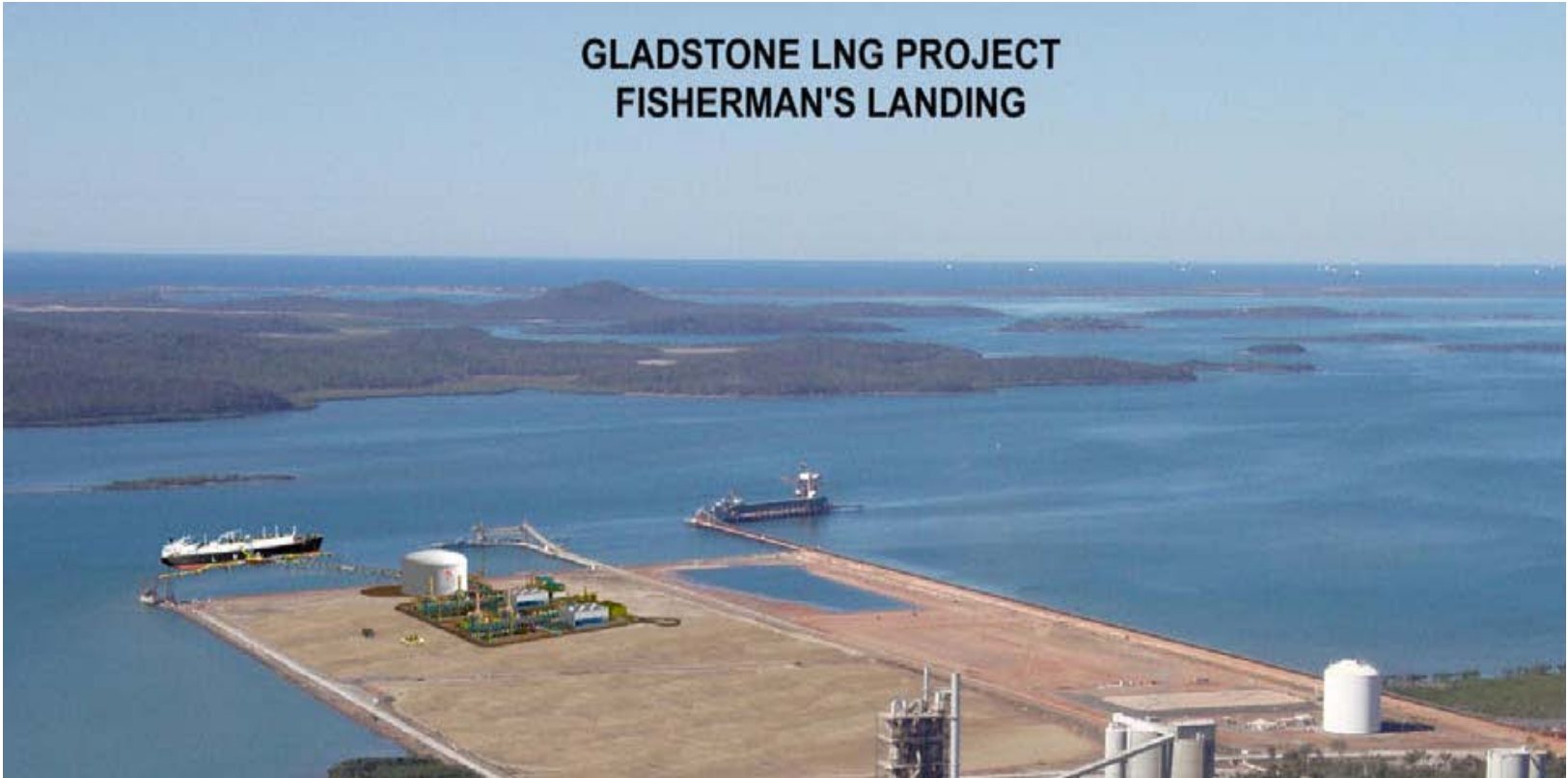


**Commercial Benefit at FL alone  
>\$1,400m for 3.5mtpa**

# Summary of OSMR<sup>®</sup> Benefits

- ▶ Best solution - all aspects of the plant including gas pre-treatment, liquefaction, storage, utilities, construction techniques etc optimised and integrated. Numerous industry experts (consultants, process licensors, equipment suppliers, contractors, operators etc) engaged to accomplish the best techno-economic solution, Ability to operate at approx. 70 TJ/D (apprx. 30 PJ/PA)
- ▶ Liquefaction system - single mixed refrigerant composition, flowrate and pressures optimised to match cooling curve and best fit standard available equipment. Proven SMR process used with numerous reference sites
- ▶ Efficient process - only ~6.5% of feedgas used as fuel for the process. Modern high efficiency gas turbines (MR compressors) and CHP plant utilised for utility power
- ▶ Simple process – less equipment items required per train compared to alternative processes, resulting in low capital and low operating/maintenance costs
- ▶ High train availability – parallel compressors (MR and ammonia) used compared to compressors in series for alternative processes
- ▶ Fast start-up time – only 24 hours compared to up to 72 hours for alternative processes
- ▶ Modular construction technique - minimises site construction/commissioning work, improves quality and reduces costs
- ▶ LNG storage tanks – membrane tanks and concrete slip form construction technique to minimise construction time (critical path) and reduce costs

**GLADSTONE LNG PROJECT  
FISHERMAN'S LANDING**



**“Gladstone LNG Project & OSMR®”  
Shared Vision**

by

**CNPC, HQCEC and LNG Limited**





**Our Logo:**

We chose the red ant as our logo because it is distinctive and bold and represents strength, energy, hard work and perseverance – characteristics we aim to make trademarks of our corporate culture.

# Disclaimer

The information in this presentation is not an offer or recommendation to purchase or subscribe for securities in Liquefied Natural Gas Limited (ASX:LNG) or to retain any securities currently being held. This presentation does not take into account the potential and current individual investment objectives or the financial situation of investors.

This presentation was prepared with due care and attention and the information contained herein is current at the date of the presentation.

This presentation contains forward looking statements that are subject to risk factors associated with the gas and energy industry. The expectations reflected in these statements are reasonable, but they may be affected by a range of variables that could cause actual results or trends to differ materially, including but not limited to: price and currency fluctuations, geotechnical factors, drilling and production results, development progress, operating results, reserve estimates, legislative, fiscal and regulatory developments, economic and financial markets conditions in various countries, approvals and cost estimates.

All references to dollars, cents or \$ in this document is a reference to US Dollars, unless otherwise stated.