

# Gorgon

A benchmark for the successful coexistence of resource development and biodiversity protection.

## History of Environmental Excellence

Barrow Island has been a Class A Nature Reserve since 1910 and is an internationally important conservation estate.

The island supports 24 terrestrial species and subspecies not known to occur elsewhere and another five with restricted distribution. Four species of marine turtle nest on Barrow, with flatback and green turtles being the most common. There are also 378 species of native plants on the island.

Barrow Island has also been home to Australia's largest onshore operating oilfield for the past 50 years. The management of operations on Barrow Island is widely recognised as an industry benchmark for the successful coexistence of resource development and biodiversity protection.



The construction of the Gorgon Project has extended the long history of environmental stewardship of the island. In recognition of the sensitivity of the location the construction footprint, including pipelines, is limited to 332 hectares of uncleared land. This represents about 1.4 percent of the total land area.

## Award Winning Approach to Quarantine

Non-indigenous species represent the greatest threat to Barrow Island's native flora and fauna. Central to the Project's commitment to protect the conservation values of Barrow Island is the Quarantine Management System (QMS), the largest non-government quarantine initiative in the world.

The QMS includes hundreds of procedures, specifications, checklists and guidelines to protect the ecology of Barrow Island and its surrounding waters.

The Gorgon QMS has received a number of accolades, including recognition from the Australian Department of Agriculture and Water Resources, with an Australian Biosecurity Award. The QMS has also been acknowledged by the Western Australian Environmental Protection Authority as 'likely to be world's best practice'.

# Gorgon

has made a significant contribution to the Australian economy during its construction and will continue to do so during its 40+ years of operations.

Since construction activities commenced in 2009:



**A\$34b**  
Spent on Australian goods and services



**10,000+**  
Jobs created around Australia



**700+**  
Contracts awarded to Australian companies

From 2009 to 2040, the benefits of the Gorgon Project is estimated\* to result in:



**A\$440b**  
Added to Australia's Gross Domestic Product



**60,000+**  
Direct and indirect full-time equivalent jobs created in Australia



**A\$69b**  
Direct taxation revenues paid to the Federal Government

\*Economic forecasts are based on the period 2009 - 2040. Source: ACIL Allen Consulting independent research report October 2015.

# GORGON PROJECT

The largest single resource development in Australia's history and one of the world's largest natural gas projects



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Gorgon Project

Operated by Chevron Australia in joint venture with  
**ExonMobil**  
Osaka Gas | Tokyo Gas | Chubu Electric Power

Gorgon's gas processing facilities are located on Barrow Island, about 60 kilometres off the northwest coast of Western Australia.

### Subsea Innovation

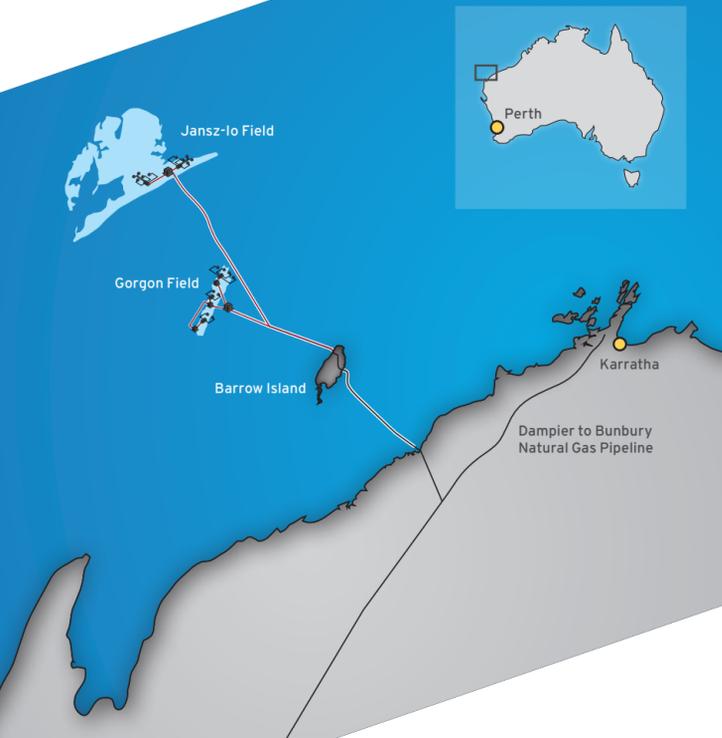
A subsea gas gathering system is located on the ocean floor at the Gorgon and Jansz-lo fields. The Jansz-lo Field is located approximately 130 kilometres northwest of Barrow Island in 1,350 metres of water and has been brought onstream first. The Gorgon Field is located approximately 65 kilometres to the west of Barrow Island in 200 metres of water.

Hydrocarbons from the two fields are transported to Barrow Island by subsea pipelines for processing.

### World-Class Facility

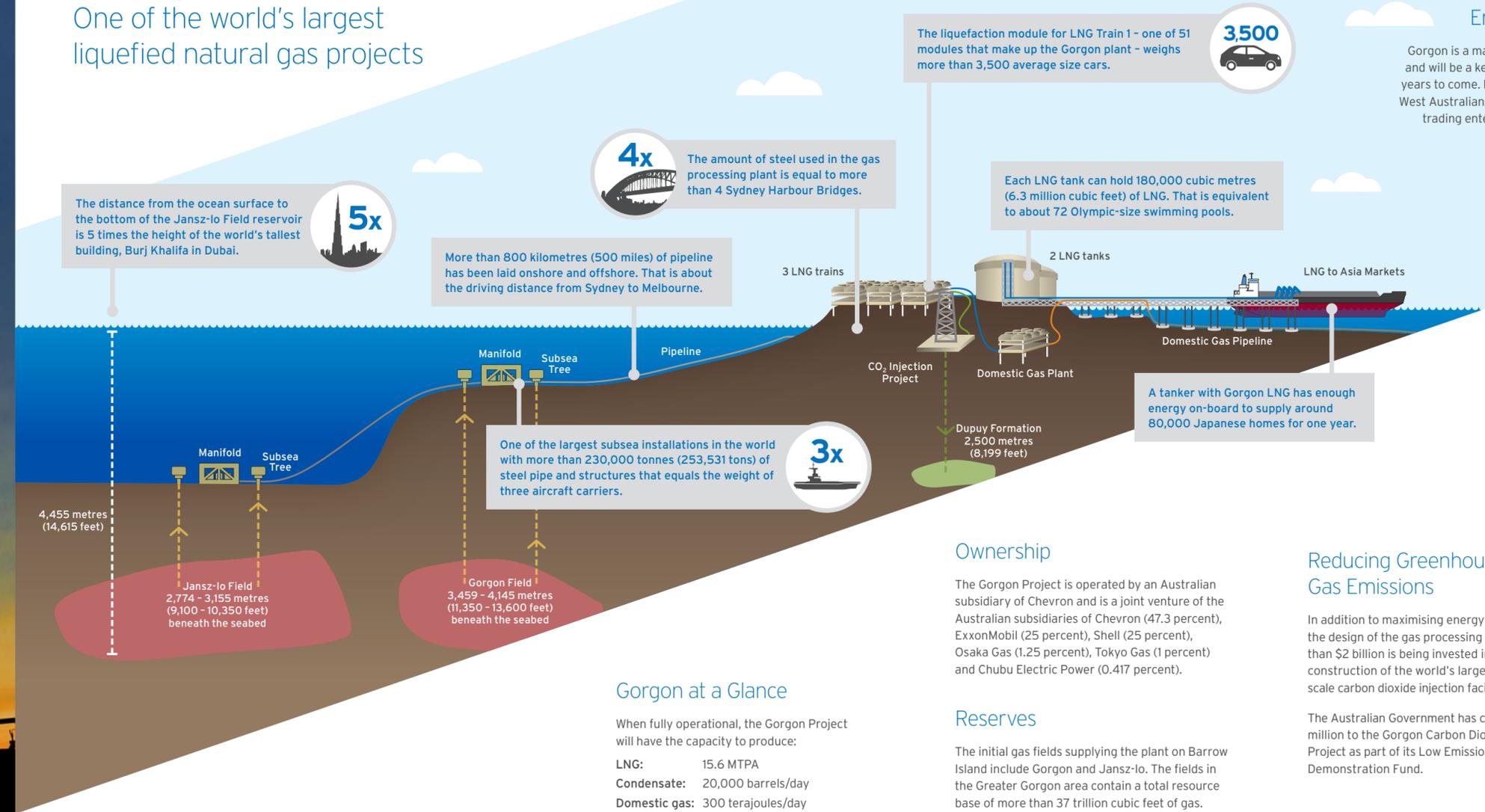
The Project's facilities on Barrow Island include:

- A three-train, 15.6 million tonnes per annum (MTPA) LNG processing plant
- LNG and condensate storage
- Marine facilities, including a 2.1 kilometre materials offloading facility and a 2.1 kilometre LNG jetty
- Domestic gas processing plant and 90 kilometre domestic gas pipeline that runs from Barrow Island to the mainland, where it ties-in to the existing Dampier to Bunbury Natural Gas pipeline
- Operations and maintenance buildings
- Butler Park workforce accommodation village
- Carbon dioxide removal and injection facilities



# Gorgon

One of the world's largest liquefied natural gas projects



**5x** The distance from the ocean surface to the bottom of the Jansz-lo Field reservoir is 5 times the height of the world's tallest building, Burj Khalifa in Dubai.

**4x** The amount of steel used in the gas processing plant is equal to more than 4 Sydney Harbour Bridges.

More than 800 kilometres (500 miles) of pipeline has been laid onshore and offshore. That is about the driving distance from Sydney to Melbourne.

The liquefaction module for LNG Train 1 - one of 51 modules that make up the Gorgon plant - weighs more than 3,500 average size cars.

Each LNG tank can hold 180,000 cubic metres (6.3 million cubic feet) of LNG. That is equivalent to about 72 Olympic-size swimming pools.

One of the largest subsea installations in the world with more than 230,000 tonnes (253,531 tons) of steel pipe and structures that equals the weight of three aircraft carriers.

A tanker with Gorgon LNG has enough energy on-board to supply around 80,000 Japanese homes for one year.

### Ownership

The Gorgon Project is operated by an Australian subsidiary of Chevron and is a joint venture of the Australian subsidiaries of Chevron (47.3 percent), ExxonMobil (25 percent), Shell (25 percent), Osaka Gas (1.25 percent), Tokyo Gas (1 percent) and Chubu Electric Power (0.417 percent).

### Reducing Greenhouse Gas Emissions

In addition to maximising energy efficiency in the design of the gas processing plant, more than \$2 billion is being invested in the design and construction of the world's largest commercial-scale carbon dioxide injection facility.

The Australian Government has committed \$60 million to the Gorgon Carbon Dioxide Injection Project as part of its Low Emissions Technology Demonstration Fund.

### Gorgon at a Glance

When fully operational, the Gorgon Project will have the capacity to produce:

- LNG:** 15.6 MTPA
- Condensate:** 20,000 barrels/day
- Domestic gas:** 300 terajoules/day

### Reserves

The initial gas fields supplying the plant on Barrow Island include Gorgon and Jansz-lo. The fields in the Greater Gorgon area contain a total resource base of more than 37 trillion cubic feet of gas.

### Meeting Regional Energy Demand

The Gorgon Project is playing a key role in helping meet the demand for natural gas in the Asia-Pacific region. The Gorgon Joint Venture participants are individually marketing their equity share of gas and have signed a number of sales agreements with customers in the region.

### Energy for the Local Market

Gorgon is a major new source of gas to Western Australia and will be a key supplier of energy for the State for many years to come. Long term contracts have been signed with West Australian customers (both industry and government trading enterprises) for volumes from the first tranche (~150 terajoules per day).

### Gorgon Project Timeline

Gorgon is a story of energy, the environment as well as technology and expertise.

- 1980** The Gorgon-1 well spudded by West Australian Petroleum Pty Ltd (WAPET).
- 1999** Chevron announces its upstream operating subsidiary, Chevron Australia Pty Ltd, will take over operatorship of oil and gas exploration and producing assets previously managed by WAPET.
- 2003** The Western Australian Government provides in-principle approval for Gorgon's onshore gas plant to be based at Barrow Island. The *Barrow Island Act 2003* with the Gorgon Gas Processing and Infrastructure Project Agreement is passed by the Western Australia Parliament.
- 2005** The Gorgon Joint Venture participants agreed to align their equity interests in individual licences in the Greater Gorgon area. The agreement provides the basis for the combined development of gas at Jansz-lo, Gorgon and nearby gas fields as one world-scale project.
- 2007** The Western Australian and Australian Governments grant environmental approval for a 10 MTPA LNG plant and domestic gas plant on Barrow Island.
- 2008** Chevron announces it is working with Government to secure approval for a revised and expanded 15 MTPA LNG plant.
- 2009** The Western Australian Government and the Australian Commonwealth Government granted all approvals for the expanded project.
- 2009** The Gorgon Joint Venture participants announce a Final Investment Decision. The start of construction is commemorated with a ground-breaking ceremony on Barrow Island.
- 2016** First LNG cargo departs Barrow Island.