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Secretary to the Committee on the Northern Territory's Energy Future GPO Box 3721, DARWIN 0801

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# Response to Inquiry in to the Key Challenges and Opportunities by the Committee on the Northern Territory's Energy Future

#### Introduction

INPEX CORPORATION is Japan's national flag carrier in the global oil and gas exploration and production industry. It has some 79 operations in 28 countries and is ranked in the top 50 global energy companies. INPEX is listed on the Tokyo Stock Exchange and is part-owned by the Japanese Government through the Ministry of Economy, Trade and Industry (METI), which currently holds an 18.9 per cent share.

INPEX is engaged in the energy supply business on a global scale with operations including acquisition of license blocks for oil and gas fields, exploration, production and the sale of processed products. INPEX also operates a 1,400km natural gas pipeline network in Japan and is constructing an LNG receiving terminal on Japan's main island.

INPEX is progressing two world-class LNG projects as Operator, the Ichthys Project in Australia and the Abadi LNG Project in Indonesia.

INPEX has been involved in the Australian business community since 1986 and is now the largest Japanese investor in Australia. Since 1986, INPEX has invested in a number of projects in Australia and the Timor Sea. These include the world-scale Ichthys Project, the leading-edge Prelude FLNG Project, the Van Gogh, Ravensworth and Coniston oil projects off Western Australia, Darwin LNG and the Bayu Undan gas development and Kitan oil development in the Joint Petroleum Development

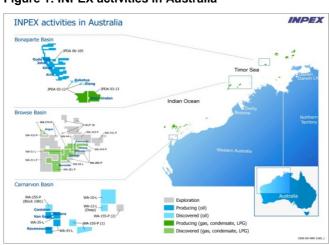


Figure 1: INPEX activities in Australia

Source: INPEX 2012

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# **INPEX CORPORATION – A Global Perspective**

The INPEX corporate objective is to contribute to the creation of prosperous communities by realising a stable and efficient supply of energy.

To achieve this objective, the company has set targets within three growth areas:

- 1. Continuous enhancement of exploration and production activities
- 2. Strengthening the gas supply chain
- 3. Reinforcing renewable energy initiatives.

In the year to 31 March 2013, INPEX's net sales were equivalent to A\$13 billion, and net income was equivalent to A\$2 billion. At that time INPEX's reported reserves were 2,188 million barrels of oil equivalent (boe) and net daily production was 408,000 boe. Annual production to 31 March was around 19 million tonnes of LNG which is equivalent to 22 per cent of Japan's LNG demand and about 8 per cent of the global LNG trade.

The Ichthys Project, off the north-west coast of Western Australia and the Abadi development in Indonesian waters are the 'pillars' in INPEX's plans to lift daily output from around 400,000 boe to 1,000,000 boe. Together Ichthys and Abadi are expected to contribute to INPEX producing around 700,000 boe a day by the early 2020s.

The US\$34 billion Ichthys Project is currently under construction, with production scheduled to begin in the final quarter of 2016.

The Abadi gas field is located in the Arafura Sea in Indonesian waters but only about 400 km north of Darwin. It is a large gas field with an area of more than 1,000 square kilometres. In December 2011, the Indonesian Government granted approval for Stage 1 of Abadi using a floating liquefied natural gas (FLNG) facility with a capacity of 2.5 million tonnes a year. In December last year INPEX invited Shell Development Australia on board as its strategic partner. Shell now holds a 30 per cent stake in the Abadi LNG Project.

In March 2013 INPEX announced it had agreed to acquire a 17.5 per cent participating interest in the Prelude FLNG Project from the Operator, Shell Development Australia. At the time INPEX said that participating in the Prelude FLNG Project would enhance INPEX's FLNG experience and would help in the timely delivery of the Abadi LNG Project.

The Prelude FLNG Project's Prelude and Concerto gas-condensate fields, estimated to contain about 3 trillion cubic feet of liquids-rich gas, will be developed utilising an FLNG facility. The facility has been designed to produce at least 3.6 million tonnes of LNG a year, along with 0.4 million tonnes of LPG and approximately 36 thousand barrels per day of condensate at peak. These discoveries are adjacent to but substantially smaller than the estimated resources of Ichthys.

Australia is increasingly becoming the focus of INPEX's exploration activities in the region – a direct result of the Company's overall exploration strategy – with the additional aim of finding more gas to feed a potential expansion of the Ichthys onshore processing plant.

INPEX is involved in six LNG plants or development concepts worldwide: the Ichthys Project and Abadi LNG as Operator; as an equity partner in the Mahakam fields feeding



the Bontang LNG facilities (Indonesia), Darwin LNG, Tangguh (Indonesia) and Prelude FLNG (Australia) and a prospective LNG Project in British Columbia (Canada).

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Figure 2: The INPEX global footprint

Source: 2012 INPEX Corporate Brochure

# The Ichthys Project

The Ichthys Project is operated by INPEX in Joint Venture with major participant TOTAL group companies and the Australian subsidiaries of Tokyo Gas, Osaka Gas, Chubu Electric Power and Toho Gas.

The Ichthys field, in permit area WA-285-P, covers about 800 square kilometres in the Browse Basin at a sea bed depth averaging approximately 250 metres. It consists of two reservoirs – one in the Brewster Member and a lower reservoir in the Plover Formation which is the major petroleum system to Australia's north<sup>i</sup>.

The Ichthys field is estimated to contain, on a proved and probable (2P) basis, around 12 trillion cubic feet of gas and some 500 million barrels of condensate or light oil. This makes it the largest liquids discovery in Australian waters since Kingfish-1 in Bass Strait in the 1960s.

Front End Engineering and Design (FEED) works began in 2009. INPEX obtained the necessary government approvals and concluded LNG Sales and Purchase Agreements with the gas buyers before INPEX and Total announced the Final Investment Decision (FID) in January 2012.

The Ichthys Project adopts proven technology. The Project involves construction of key facilities including:

- The world's largest semi-submersible platform on which a world-scale central processing facility (CPF) will be built
- A 1.2 million barrel-capacity floating production, storage and offloading (FPSO) facility permanently moored adjacent to the CPF



- An 889-kilometre, 42 inch diameter gas export pipeline (GEP) linking the offshore facilities to Darwin
- An onshore gas processing plant at Blaydin Point on Middle Arm Peninsula, Darwin, designed to produce 8.4 million tonnes of LNG a year from two production trains and 1.6 million tonnes a year of LPG.

Gas for the Ichthys Project is liquids-rich which will result in about 100,000 barrels a day of condensate being produced at peak. The majority of the condensate will be processed through the FPSO from which it will be shipped directly to global markets.

The CPF and the FPSO are designed to be permanently moored on location and the estimated lifespan of the Project is 40 years.

Detailed Engineering, Procurement and Construction (EPC) of the Project is ongoing and production will start by the end of 2016.

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Aberdeen \_ 19
Contractor - 12
Employee - 13
Employee - 15
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Figure 3: Global locations currently supporting the ICHTHYS LNG Project

Source: INPEX 2013

# The Global LNG Industry – an Australian perspective

By definition, LNG is a global industry, with gas liquefied so that it can be transported to markets by sea.

Successive Australian Governments have encouraged the development of an LNG industry in Australia, with the current public policy aim of developing an industry that will export some 80 million tonnes of LNG a year, making Australia the world's largest supplier.

There are currently 31 producing LNG liquefaction plants in the world. Three of these are in Australia: the North West Shelf Project, Darwin LNG and Pluto LNG. Of the 13 LNG plants under construction around the world, seven are located in Australia, with total investment estimated at A\$200 million.

Australia's Bureau of Resources and Energy Economics estimates that export earnings from Australian LNG developments will increase from A\$12 billion in 2011 to around



A\$61 billion in 2017 - the year in which Ichthys is scheduled to begin deliveries to its customers in North Asia.

The oil and gas industry is a major contributor to the Australian economy.

Japan has been the mainstay of the development of an LNG industry in Australia and Japan's imports of LNG from Australia are expected to increase to around 40 million tonnes by 2035ii.

Each of the three producing LNG production plants in Australia is underpinned by long-term sales contracts with Japan. LNG exports were 19 million tonnes in 2011-12 on the cusp of an expected 26 per cent increase, driven by Pluto LNG, to 24 million in 2012-13<sup>iii</sup>. Most of those exports were to Japan.

Virtually all of the conventional LNG projects currently under construction in Australia or planned are focussed on the premium Japan market ahead of other markets such as China, Korea, Taiwan and India<sup>iv</sup>.

# **Ichthys LNG Project and the Northern Territory**

INPEX is committed to contributing to the responsible and sustainable development of the communities in which it operates, improving social and economic wellbeing while minimising impact on the environment.

INPEX seeks to ensure Darwin and the broader Northern Territory community benefit from the Ichthys LNG Project through opportunities for local business, investment in education and training, extensive community investment programs and community engagement.

#### Benefits to local business

Local businesses, including Aboriginal and Torres Strait Islander (ATSI) businesses, are already reaping significant benefits from the Project.

Benefits to local business include:

- High levels of NT business engagement on the Project. The Project has committed to an Industry Participation Plan (IPP), which outlines obligations contractors and subcontractors are required to meet
- NT businesses are provided the opportunity to participate in the Project through the Industry Capability Network Northern Territory (ICNNT) Project Gateway service. As at 31 August 2013, there have been 10,996 referrals of NT-based businesses for packages of work through Project Gateway
- Award of contracts to local businesses. As at 30 June 2013, over 170 subcontracts or supplier purchase orders have been awarded to 137 NT-based companies by JKC and its major Tier 1 contractors; this includes 22 ATSI businesses that have been awarded a total of 35 subcontracts
- Support of ATSI businesses and training, providing greater employment, earnings and skills opportunities



- Local employment. Direct employment through JKC subcontracts has reached over 3400, with some 2300 being Territorians (including 23 apprentices and 157 identifying as ATSI).
- To date, we expect almost A\$5.1 billion to be spent through NT-based businesses during the construction phase of the Project.

Other expected economic benefits of the Project to local business include:

- Workforce personal spending with local businesses, including tourism activities, groceries and entertainment
- Development of local business capability, partnering and joint venture opportunities
- Direct subcontracting construction opportunities, leading to greater employment for local people
- Flow-on spending by contractors and subcontractors to local service industries including training, transport, tourism and hospitality.

# Employment and training

The Ichthys Project offers significant employment and training opportunities, expecting to directly employ a peak construction workforce of more than 4,000 in 2014-2015.

The Project works closely with the Northern Territory Government, industry, training and other groups and follows the Project Industry Participation Plan (IPP) to coordinate, monitor and improve employment and training opportunities.

The Project's IPP includes particular strategies to increase work and training options for ATSI peoples, including the appointment of specialist employment advisers to work with subcontractors to increase the number of ATSI employment candidates, trainees and apprentices.

JKC has established a Construction Employment Mobilisation Centre (CEMC) on Mitchell Street in Darwin so that people interested in employment are able to register their interest.

The Project has also helped to fund training in the NT with an A\$3 million investment for the construction of the Larakia Trade Training Centre. A further A\$3 million was donated to establish the North Australian Centre for Oil and Gas at Charles Darwin University (CDU).

JKC has established its School Based Apprenticeship Program with the sponsorship of 25 school-based apprentices into the Darwin business community. The intention is to have subcontractors engage the apprentices on the Project in 2014.

Project contractors have developed a range of training initiatives that will support ATSI peoples, including:

 A JKC pre-employment course for ATSI trainees with 30 graduating in April 2013 (15 steel fixers and 15 general construction)



- A JKC school-to-work transition program for school-based apprenticeships with trainee boilermakers, carpenters, electricians, plumbers and commercial cooks
- A Macmahon construction pre-employment training course for ATSI trainees.

## Infrastructure investment

The Darwin community will also benefit from the Project's investment in improvements to local infrastructure and roads.

To date, the Project has invested more than A\$22.5 million in road upgrade programs including:

- Safety and capacity improvements at the Wickham Point Road / Ichthys Project LNG Plant site intersection
- Stuart Highway / Jenkins Road intersection upgrade
- Arnhem Highway / Stuart Highway intersection upgrade
- Bike path safety improvements
- Thorngate Road surface repair and speed limit sign improvement
- Howard Springs Road / Stuart Highway intersection
- Chung Wah Terrace / Elrundie Avenue intersection upgrade
- Intersection improvement at the DAC Howard West Quarry access road and Thorngate Road including adding a turning lane into Robertson Barracks
- Jenkins Road construction from Finn Road to Channel Island Road (upgrading also the level crossing and a new Jenkins Road / Channel Island Road intersection
- Minor road works, improved safety and speed limit signage and road marking.

## Community engagement

Regular and open community engagement is important to the Project's success. Community is kept informed of Project activities through regular advertising, bulletins, newsletters, fact sheets, the Project website, email, formal and informal meetings, information sessions, posters and displays.

#### Community investment

INPEX seeks to identify and support suitable community investment initiatives with direct benefits for Darwin and the broader NT. Community investment activities and sponsorship focus on key areas such as education and training, the environment, ATSI initiatives and community events and aims to strengthen social infrastructure in partnership with local communities.

In recent years, INPEX has invested the following:



- A\$3 million to fund construction of Larrakia Trade Training Centre
- A\$3 million toward the North Australian Centre for Oil and Gas at Charles Darwin University
- A\$3 million toward a new building for the NT Open Education Centre
- Almost A\$1 million in additional community investment and sponsorships in the Territory since 2009 including:
  - o major sponsorship of the NT Training Awards
  - sponsorship of the NT Thunder since 2009
  - o ongoing sponsorship of regular community events including the Palmerston Festival and Royal Darwin Show.

# Conclusion

With an expected lifespan of at least 40 years, the US\$34 billion Ichthys Project represents a significant opportunity for the Northern Territory. It forms a key part of the Northern Territory Government's plans to establish the Territory as the *Gateway to Asia*, and is expected to deliver considerable benefits including new business opportunities, major new and improved infrastructure and expanded economic, employment and training outcomes.

The Project will be instrumental in the development of the LNG industry in Australia, helping the Australian Government achieve its goal of making Australia a leading oil and gas player in the global market and the world's largest supplier of LNG.

<sup>&</sup>lt;sup>i</sup> Geoscience Australia: Petroleum Systems of the Bonaparte Basin

ii Advancing Australia – Harnessing our comparative energy advantage, Deloitte Access Economics (for APPEA), June

Resources and Energy Quarterly June Quarter 2013 – Bureau of Resources and Energy Economics

iv US EIA International Energy Statistics