

A large LNG carrier ship is shown at night, illuminated by its own lights and the lights of a tugboat. The ship's two large spherical storage tanks are prominent. The tugboat, with 'TUG' written on its side, is positioned in front of the carrier. The scene is set in a body of water, likely a port or a narrow channel, with a dark sky and some distant lights visible in the background.

The next chapter: Building a stronger Northern Territory

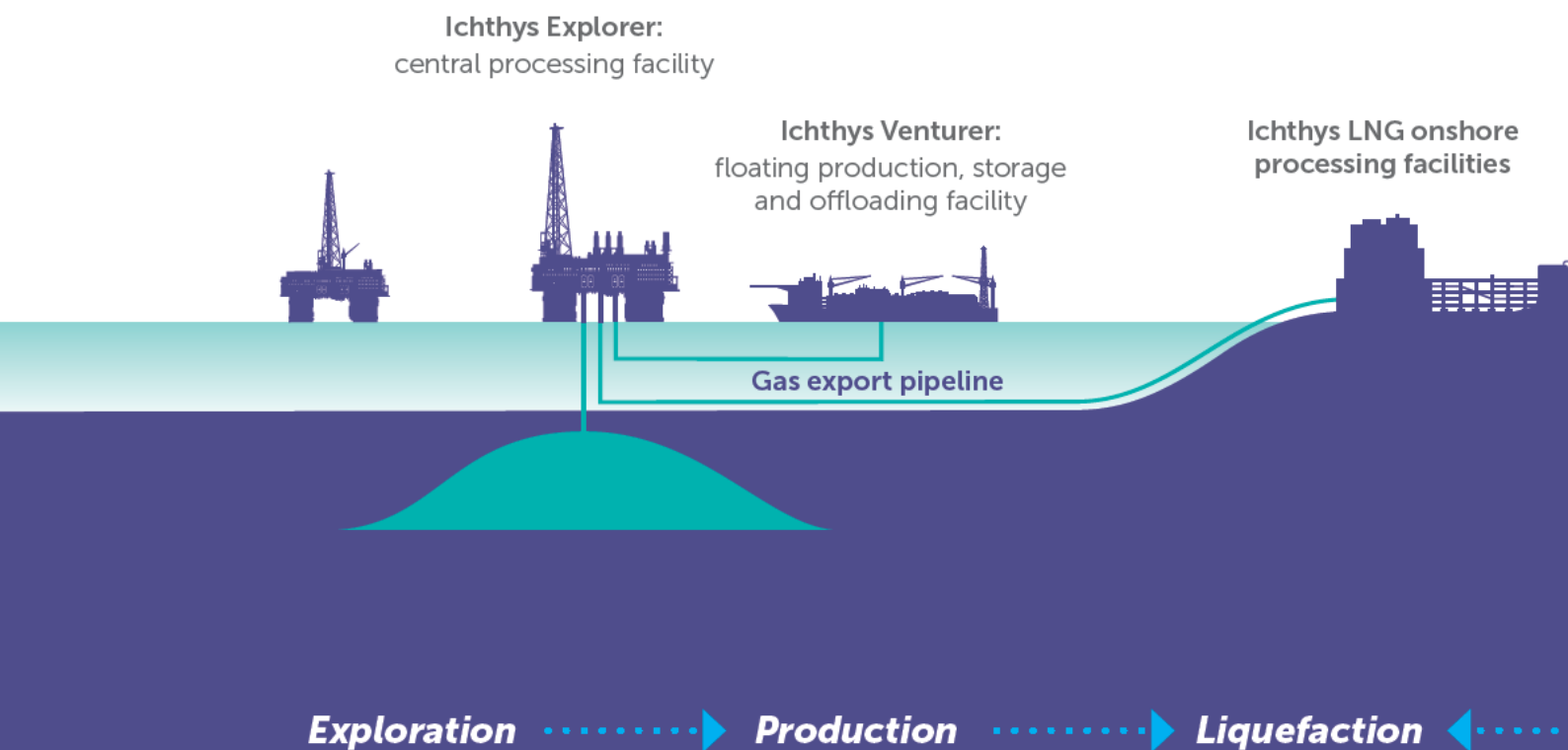
A social and economic impact assessment

Ichthys LNG 2020 - 2030

ACIL ALLEN

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About this report

INPEX, as operator of Ichthys LNG (the Project), commissioned ACIL Allen to provide an economic impact assessment of the Project's economic and social contribution to the Northern Territory (NT), from 2020 to 2030.

This report provides a contemporary view of the Project's contribution in the NT as an extension and update to ACIL Allen's 2016 report *The Economic Impact of the Ichthys LNG Project*. A social impact assessment was also undertaken to better understand the positive impacts made on the community that are not typically observed through economic impact studies.

Since commencing production in 2018, Ichthys LNG has made significant contributions through direct and indirect employment, government taxation payments, social investments and capital and operational expenditure resulting in local contract work.

The established and growing presence of Ichthys LNG in the NT is critical to the long-term growth and development plans of the Northern Territory Government. The importance of the gas industry to the Territory economy has been highlighted in numerous strategy and policy publications including the NT Gas Strategy, and in the final report by the Territory Economic Reconstruction Commission.

In this report, ACIL Allen has also completed a case study on the Centre for National Resilience in Howard Springs, which has played a significant role in supporting the Northern Territory and Commonwealth Governments' health response to COVID-19.

This assessment demonstrates ways in which Ichthys LNG contributes to the Territory now and into the future.

Ichthys LNG is a joint venture between INPEX group companies (the Operator), major partner TotalEnergies, and the Australian subsidiaries of CPC Corporation Taiwan, Tokyo Gas, Osaka Gas, Kansai Electric Power, JERA and Toho Gas.



Transportation Regasification End user

INPEX, operator of Ichthys LNG

INPEX, operator of Ichthys LNG, is Japan's leading energy company and is listed on the Tokyo Stock Exchange. Its primary business includes research, exploration, development, production and sales of oil, natural gas, other mineral resources and renewable energy. INPEX is currently engaged in projects in approximately 20 countries worldwide and employs more than 3,000 people on a consolidated basis. The company's Australian portfolio includes Ichthys LNG, plus participating interests in Van Gogh and Coniston, Ravensworth, Prelude FLNG and Bayu-Undan/Darwin LNG.

Ichthys LNG at a glance

- First Japanese-operated liquefied natural gas (LNG) project in the world
- Three mega-projects in one - offshore facilities, gas export pipeline and onshore LNG processing facilities
- World's largest semi-submersible platform
- Ichthys Field confirmed as Australia's largest liquid hydrocarbon discovery in more than 50 years
- 890 kilometre gas export pipeline - longest subsea pipeline in the southern hemisphere
- Operational life of 40 years
- 8.9 million tonnes per annum (mtpa) of LNG
- 1.65 mtpa of liquefied petroleum gas (LPG)
- 100,000 barrels of condensate per day at peak

Ichthys LNG in the Territory

INPEX-operated Ichthys LNG has had a transformational impact in the NT and has helped anchor the region as an emerging gas province, which is now on the pathway to becoming a world-class gas production, manufacturing and services hub.

Ichthys LNG has offered significant service and supply opportunities for local businesses, which are expected to continue for decades through ongoing operations, maintenance and expansion activity on the Project.

The onshore processing facilities are located at Bladin Point, Darwin, NT. These include two liquefied natural gas (LNG) processing trains to produce LNG, liquefied petroleum gas and condensate processing facilities, storage tanks, a combined cycle power plant, administrative facilities, utilities and product load out jetties.

The size and scale of Ichthys LNG has had a disproportionate impact on the growth and development of the NT economy

over the past decade. While the transition of the Project from construction to operations has had temporary side effects, over the longer term Ichthys LNG will support the growth and development of the NT and help reduce the Territory's reliance on federal government funded sectors to drive economic opportunities for businesses and individuals.

Employment opportunities are the critical prerequisite to sustaining and growing the population in regional economies. Ichthys LNG provides the economic base to support a range of other industry sectors, thereby creating employment opportunities and supporting population growth in the Territory.

Since 2012, Ichthys LNG has contributed millions of dollars to community programs as part of the Project's commitment to supporting the community.



Economic and social benefits to the Territory (2020-2030) highlights

The economic impact of Ichthys LNG is assessed in terms of its contribution to Gross Territory Product, wages and salaries paid to NT workers, full time jobs created, and in terms of the estimated taxation payments to the Commonwealth and Northern Territory Governments in the most recently completed calendar year 2020, and over the remainder of the decade to 2030.

ACIL Allen also undertook a social impact analysis to estimate the impact Ichthys LNG is having in the Territory through the growth in population, use of key social services, and the impact of volunteering hours in the community.



**\$2.8
billion**

income impact
to 2030

\$251 million

average per
annum



**\$87.1
billion**

Gross Territory
Product impact
to 2030

\$7.9 billion

average per
annum



**\$7.1
billion**

total tax revenue
paid to 2030

\$649 million

average per
annum (to
Commonwealth
and Northern
Territory
Governments)



**\$450
million**

in quantifiable
economic,
health and
employment
benefits to
Australians from
the Centre for
National
Resilience in
Howard Springs
since its opening



50,862

volunteer hours
on community
activities
provided by the
Ichthys LNG
workforce in
2020



2,056

Full Time
Equivalent (FTE)
jobs supported
each year.
For every one
job created in
Darwin, another
2.2 jobs are
generated
across the local
economy over
the study period



Major economic benefits across the Territory

Building the economy - The economic output generated by Ichthys LNG was equivalent to one quarter of the NT economy in 2019-2020.

Across the different sectors of the NT economy, the largest benefits are expected to accrue to the transport, postal and warehousing (\$48.8 million per annum between 2020 and 2030), professional, scientific and technical services (\$46.2 million per annum) and rental, hiring and real estate services (\$43 million per annum) sectors.

Income boost - The real income boost in the NT is equivalent to the income benefit from an additional \$2,500 per annum for every full-time worker in the Territory.

Over the study period, it is estimated that incomes earned directly and indirectly as a result of Ichthys LNG will total \$2.8 billion, for an average of \$251 million per annum. Of this amount, it is estimated Ichthys LNG will directly pay \$132 million per annum to workers, with a further \$118 million in wages and salaries earned by other workers whose roles are created or supported as a result of the activity generated by the Project in the NT economy.

Employment multiplier - For every full-time worker employed by Ichthys LNG in the NT, a further 2.2 new full-time jobs are created across other sectors of the economy on average over the study period.

It is estimated Ichthys LNG directly employed 550 FTE jobs in 2020 – either as INPEX employees or contractors. This level of employment and the associated income and expenditure in turn supported a further 1,418 FTE jobs indirectly across other industry sectors in the NT in 2020.

Taxation - The estimated average taxation payable to the NT Government is worth \$34.1 million per annum. This level of taxation payments is enough to fund the development of two new primary schools every year over the 10-year study period.

For the NT, it is estimated payroll tax payments will total \$89.9 million between 2020 and 2030, averaging \$8.2 million per annum. Other tax payments generated from Ichthys LNG include GST (\$5.3 million between 2020 and 2030, for an average of \$0.5 million per annum) and other taxes (including the NT Government stamp duty payment, onshore insurance stamp duty payment and council rates and other NT Government spend), totalling \$219.8 million between 2020 and 2030, for an average of \$20 million per annum.

Ichthys LNG is expected to pay \$5.8 billion in company tax, accounting for 81 per cent of taxes paid to the Commonwealth and NT Governments by the Project, over the study period.

Personal income taxes paid as a result of employment generated by Ichthys LNG forms the next largest source of taxation from the Project and is expected to deliver \$1.04 billion to the Commonwealth Government between 2020 and 2030, averaging \$94.7 million per annum.



Social impacts and benefits to the Territory

The social impact analysis demonstrates that the contribution of Ichthys LNG extends beyond jobs and tax revenue. The Ichthys LNG workforce makes a material and measurable contribution to the social fabric of the NT. Since 2012, INPEX and the Ichthys joint venture have contributed more than \$7 million to community programs in Australia. In addition, Ichthys LNG has contributed an additional \$9 million to construct training and education infrastructure in Darwin, such as the NT School of Distance Education. In 2020 alone, almost \$2 million was invested in a range of social programs, events and charitable appeals.

A total of 1,832 Territorians are either employed through Ichthys LNG or an immediate family member of a staff member. The breakdown includes 550 employees and contractors, 678 dependent children and 604 partners or older dependents. This level of population in turn supports a wide range of additional services in the community from childcare, primary and secondary schools, health services and provides additional volunteering hours.

Contribution to social services



92

childcare places

ACIL Allen estimates 92 childcare places were used by the families of INPEX direct and indirect personnel based on Australian Bureau of Statistics estimates of population shares at an NT-wide level. This is equivalent to two large daycare centres, or up to 20 family daycare centres, worth of demand.



11,395

primary health enrolments

Using age-standardised rates of GP presentations for the NT, ACIL Allen estimates INPEX direct and indirect personnel generated just under one per cent of total GP presentations in 2020. This makes a contribution to the provision of health services by increasing the base of demand, allowing more providers to establish in the NT.



318

primary school enrolments

ACIL Allen estimates the primary school enrolment associated with INPEX direct and indirect personnel is equivalent to 1.3 per cent of total primary school enrolments. Put another way, the additional primary school enrolments by Ichthys LNG families accounts for the equivalent of one and a half average-sized primary schools.



1,006

new Territorians

Up to an estimated 1,006 individuals moved to the Territory due to job opportunities at Ichthys LNG since first gas.

Ichthys LNG has provided the economic opportunities in the Territory to support a growing population.

Increased population in turn generates additional demand for social services that benefit all Territorians.



183

secondary school enrolments

ACIL Allen estimates the secondary school enrolment associated with INPEX direct and indirect personnel accounts for 1.1 per cent of total secondary school enrolments. This is equivalent to the high school student enrolment of a small standalone high school, or around two thirds of the high school cohort at a combined primary/secondary school.

Volunteering contribution to the Territory

In 2020, INPEX and its associated contracting companies contributed an estimated **50,862 volunteer hours**, valued at approximately \$1 million, to various community causes and organisations. A recent workforce survey highlighted that employees and their families contribute to a range of activities including:

- participation on non-profit organisation boards (including sports clubs)
- volunteering at schools to support early learning
- working with charities and church groups to provide support to vulnerable people
- volunteering at community festivals.



Ichthys LNG's infrastructure legacy

This report has helped to quantify the significant economic and social contribution Ichthys LNG has made to the Northern Territory since INPEX commenced construction of the facilities on Bladin Point nearly a decade ago. Beyond the numbers quantified through ACIL Allen's economic and social impact models, there are a range of other ways in which Ichthys LNG positively impacts on the Northern Territory economy and community.

These impacts can be demonstrated through the range of one-off and ongoing programs and events that are funded by INPEX and/or Ichthys LNG, as well as infrastructure that has been built to support Ichthys LNG, but which also benefit the wider community.

Jenkins Road

Ichthys LNG contributed \$8.4 million to the upgrade of Jenkins Road. This investment helped deliver a high-grade road to the local community and alleviated pressure on roads in the Palmerston area during construction of the onshore processing facility at Bladin Point. The project was completed in 2012, with the contracts for the two-stage upgrade awarded to local civil contractors.

Royal Darwin Hospital helipad

Ichthys LNG contributed \$500,000 to the upgrade of the Royal Darwin Hospital (RDH) helipad. The project was completed in 2014, with the contract for the upgrade awarded to a local civil contractor. The upgrade included improved lighting and a doubling in size of the helipad. The investment provided a significant boost to RDH's ability to support critical care in emergency response situations, including accommodating larger helicopters and landings 24-hours per day due to the night lighting improvements.

Darwin Harbour dredging

A large dredging program costing approximately \$1 billion was required to provide a safe shipping channel through Darwin Harbour to Bladin Point to enable shipments from Ichthys LNG. Many small packages of work were awarded to local sub-contractors. The project was completed with minimal impact to the local environment and community, underpinned by a comprehensive environmental management plan and regular community and stakeholder engagement. One of Australia's most extensive marine heritage surveys was completed over the dredge footprint, resulting in the identification of over 6,000 individual heritage objects including many World War II artefacts.

The Centre for National Resilience in Howard Springs

The Centre for National Resilience in Howard Springs, formerly known as Manigurr-ma Village, was originally a 3,500 bed facility specially constructed to house some of the Ichthys LNG onshore construction workforce. It was built at a cost of \$600 million and officially opened in 2013. On completion of the Project's construction, the village was handed over to the NT Government.

In 2020, as part of the national health response to the COVID-19 pandemic, the Federal and Northern Territory Governments re-purposed the former accommodation village to create the Centre for National Resilience – a national quarantine facility which has successfully supported the quarantine of thousands of interstate and international arrivals.

The most valuable aspect of the facility is the open-air separation from room to room. This eliminates concerns about inadequate ventilation and room air pressure which have contributed to a number of hotel quarantine outbreaks over the past 12 months across Australia.

ACIL Allen has estimated the net economic and social benefit of this facility to Australia through a benefits assessment. It is estimated the Centre for National Resilience in Howard Springs has created up to 400 jobs and generated \$450 million in benefits.



Voluntary offset programs

The Ichthys joint venture supports a range of voluntary offset programs facilitating research that aims to improve environment and conservation outcomes in the Northern Territory. Overall investment in the voluntary offset programs has been valued at \$91 million and includes some of the following projects:

- Conservation management of dugongs, cetaceans and threatened marine matters of national environmental significance in the NT
- Darwin Harbour integrated marine monitoring and research program
- Savanna fire management programs in the NT
- Support for Australian Research Council Linkage Projects

Larrakia Ichthys LNG Foundation Trust

The Ichthys joint venture established a \$24 million Larrakia Ichthys LNG Foundation Trust (LIFT) to provide economic and social benefits for the Larrakia People over the life of the project. LIFT has already started to make a significant contribution to the advancement of the Larrakia through:

- tertiary scholarships and school participation program
- a funeral fund
- bus services to enable Larrakia Elders to access Country
- an upskilling program



Key assumptions

In undertaking this assessment, the following assumptions have been made:

- The economic impact assessment results are based on the production and expenditure of the Ichthys LNG Project.
- The social impact assessment is based on the operations of INPEX in the Northern Territory.
- The study period is from 2020 to 2030.
- All values are expressed in real dollar terms with a base year of 2020, unless otherwise stated.
- All values are expressed in Australian Dollars (\$), as measured against AUD/USD exchange.
- Capital and operational expenditure forecasts have been based on estimates provided by INPEX.
- Production forecasts are based on estimates provided by INPEX.
- Price forecasts have been benchmarked to Brent crude oil forecasts provided by INPEX, with an assumed exchange rate of US\$0.70.
- Taxation estimates are based on the taxation laws at the time the study was undertaken.
- Company tax estimates reflect the overall economics of Ichthys LNG over the 10 year study period. They do not take into account the specific funding arrangements for each joint venture partner to the Project or other projects and sole activities they may be a party to. These factors may reduce the gross company tax payments from Ichthys LNG estimated by ACIL Allen.

Reliance and disclaimer

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