



Tasmanian Gas Pipeline (TGP) Pty Ltd Submission to “Tasmanian Future Gas Strategy” Discussion Paper

TGP would like to thank the Tasmanian Government for the opportunity to contribute to the development of the Future Gas Strategy for Tasmania via participation in the Gas Working Group and provision of a submission to the Tasmanian Future Gas Strategy - Discussion Paper released in November 2021.

TGP appreciates the Tasmanian Government’s willingness to engage with all stakeholders on the future role of gas in Tasmania. TGP recognises the vital role that natural gas plays in the Tasmanian economy but also the need to transition to a zero-carbon economy. This transition needs to be planned carefully to prevent disruption to vital Tasmanian businesses which provide a significant contribution to Tasmania’s economic output and employment.

About the Tasmanian Gas Pipeline

Fuelling Tasmanian jobs, energy security and growth

The Tasmanian Gas Pipeline’s (TGP) Vision is “*To be the enabler for Tasmanian industries and communities to thrive throughout the energy transition and beyond.*”

Commissioned in 2002, the TGP is the only pipeline supplying natural gas to Tasmania. It transports natural gas from Longford in Victoria, under Bass Strait, to Bell Bay in Tasmania. The TGP has the capacity to transport 129 TJ/day of natural gas to Tasmania. A total of 740km long, the TGP is a part of the national network of underground high-pressure gas pipes, which stretches over 20,000km and serves all of Australia’s states and territories except WA.

There have been no interruptions to the TGP’s ability to transport gas from Victoria to Tasmania in 20 years of operations. The pipeline is currently licensed to operate to 2042, however, based on its current excellent condition, it is expected to be able to operate to 2070 and beyond without major technical intervention or upgrades.

The TGP brings jobs and economic growth to the communities it passes through and provides the opportunity for more than 500,000 Tasmanians to take advantage of the many benefits of natural gas.

A 2020 Deloitte Access Economics analysis found the TGP:

- Directly supports 4,244 Tasmanian jobs (2% of state’s total)
- Supports 8,550 jobs in total (3.4 % of state’s total)
- Adds \$970m value (GSP) to the Tasmanian economy (three per cent of state’s total)
- Unlocks multiple potential investment opportunities to rebuild Tasmania’s economy post COVID-19



Importantly, the TGP supplies the majority of the state's major energy users and around 1,000 commercial customers and 12,500 residential customers via Tas Gas Retail, Aurora Energy and Weston Energy. It is also the only supplier of gas to the Tamar Valley Power Station, which is a crucial back-up power source for Tasmania and a critical asset for the state's energy security. Tamar Valley Power Station (TVPS) played a crucial role during the 2016 energy crisis, helping keep the lights on in Tasmania.

Our Ownership

TGP was purchased by investors managed by Palisade Investment Partners (Palisade) in July 2011. Palisade is an Australian specialist, independent infrastructure manager that focuses on Australian assets that are essential to the efficient functioning of the communities and economies they serve. Palisade manages funds primarily on behalf of Australian superannuation funds and as such, the vast majority of earnings from the TGP go to Australian mum's and dads to enable their retirement.

Palisade is a strong proponent in renewable energy investment. In December 2020, Palisade successfully completed the construction and final commissioning of Granville Harbour Wind Farm on the northwest coast of Tasmania. The clean power output from Granville Harbour Wind Farm has helped Tasmania achieve its goal to become 100% self-sufficient in renewable energy. Granville Harbour Wind Farm is one of the most productive and efficient wind farms in Australia – producing around 400 gigawatt hours of clean energy every year.

Our Approach to Sustainability

Palisade's philosophy is to deliver secure long-term returns, aligned with the interests of its investors and the community. Palisade recognises its duty to behave responsibly in its business activities and towards those whom its actions affect.

As an investment manager, Palisade believes that a high standard of business conduct as well as a responsible approach to social, environmental, and ethical issues makes good business sense and is more likely to create sustainable value over the long term. Conversely, poor management of those issues may pose a risk to the reputation and value of businesses.

Palisade has adopted the United Nations Principles for Responsible Investment (**PRI**), and has participated in the GRESB reporting process, representing a commitment to take ESG factors into account in our investment decision-making and management practices.

Palisade considers long term environmental, social and governance (**ESG**) factors in making investment decisions and in actively managing investments, encouraging better management of ESG factors and associated risks. Assets exhibiting strong ESG credentials are key to the alignment of the interests and objectives of investors with those of the communities served by the assets in which we invest.



The tenets of Palisade's approach to ESG are:

- Focusing on ESG is the right thing to do
- ESG is key to long term sustainable value creation and risk management
- Palisade has the opportunity and responsibility to shape outcomes
- ESG is integrated into everything we do; it is not separate
- Our primary focus is on the practical application of our approach to ESG
- Seek opportunities to contribute positively to Environmental, Social and Governance outcomes
- We adopt a risk and impact-based approach. We aim to efficiently identify what matters and where we can make a difference

TGP ESG focus

Over the past few years TGP has contributed significantly to the Tasmanian community, providing over \$60k in community funding since 2019, supporting initiatives such as:

- In support of healthy living and recreation, TGP is proud to sponsor local junior soccer in Northern Tasmania through continuing partnerships with the Northern Tasmanian Junior Soccer Association and Devonport Junior Soccer.
- TGP also supports a range of other community and sporting initiatives including woman in business functions and support to local students and athletes, and local golf tournaments.
- TGP supports the Lobster Ponds in Flowerdale. This haven provides safe enclosures for the giant freshwater crayfish which is listed as vulnerable and found only in Northern Tasmania. Lobster Ponds are also preparing to receive the critically-endangered orange bellied parrot in a new purpose built facility with funding support from TGP

TGP is also currently working towards carbon neutral status certified by Climate Active. The focus is on reducing emissions as much as practical, prior to offsetting any emissions that cannot be eliminated.

Responses to prompts for discussion

Drivers influencing our gas industry

What factors do you think need to be considered in developing a strategy for the future of gas in Tasmania?

Natural gas helps to maintain and sustain Tasmania's manufacturing sector by providing a reliable and competitive source of energy. It also services residential customers and supports Tasmanian energy security by supplying the Tamar Valley power station.

Key factors that need to be considered in developing a strategy for the future of gas in Tasmania include:

1. **Stability for major users.** As outlined above, users of natural gas contribute significantly to jobs and the overall GSP of the state. These major employers need certainty and predictability about access to supply of natural gas until such a time as renewable alternatives become economically viable.
2. **Reliability and Energy Security.** With ever increasing climate extremes and uncertainty, it is critical Tasmania is not left to rely on a single piece of infrastructure to ensure energy supply security. The state needs the support of the reliable gas supply provided by the TGP to keep the lights on in the event of unplanned events such as a Basslink outage or climate change impacts such as low rainfall, or wind droughts.
3. **Affordability.** Natural Gas provides the cheapest and most efficient source of heat to Tasmanian Industry compared to diesel, fuel oil, LPG or coal, with low emissions. Other energy sources can sometimes be substituted for thermal purposes, but this often requires significant investment in capital expenditure, so the marginal cost must be meaningfully lower than natural gas to be viable.
4. **Efficiency and ease of use.** Natural gas instantly releases its energy making it the perfect energy source for continuous hot water, cooking and fast room heating. Because natural gas instantly releases its energy, it is highly controllable and efficient. Natural gas hot water systems only heat the water as it is used, and cooking uses only the amount of natural gas needed. In the case of room heating, there is no warming up of the appliance
5. **Clean energy and alternatives.** Natural gas is a clean source of energy in terms of carbon emissions when compared with other fossil fuels. About 117 tCO₂ are released per million British thermal units (MMBtu) of gas, compared with 200 tCO₂ per MMBtu of coal and 160 for diesel¹Natural gas consumption also avoids the particulate emissions associated with burning wood, which is still a common heating method in Tasmanian households. Maintaining and growing the natural gas industry in the medium term will also ensure suitable infrastructure is in place in the future when green gasses become a viable energy source, including the potential of exporting green gas manufactured in Tasmania to the mainland.

¹ US Energy Information Administration, "Natural Gas and the environment", December 8, 2021.
<https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>

What changes are you, or members of your industry, observing related to global and domestic market settings for fossil fuels that could potentially impact on the outlook for gas in Tasmania?

- ***Increasing sustainability awareness***

Businesses and individuals are becoming more empowered, demanding environmentally sustainable products and energy solutions.

Industrial natural gas users are seeking to decarbonise their operations over the next 10-15 years in line with their corporate decarbonisation commitments. All key industrial gas customers have varying levels of energy efficiency, energy intensity or carbon reduction corporate commitments. Whilst renewable energy applications exist for all current industrial uses of process heat to help industry decarbonise their activities, these are not anticipated to be economically viable until well beyond 2030, particularly for Tasmanian users that tend to operate at tighter margins due to their scale.

- ***Energy prices***

The LNG export facilities operating in Central Queensland have changed the east Australian gas markets in the past few years. The major impact of these investments has been the change in natural gas pricing structure in the Eastern Australia gas market, which is now linked to (oil-linked) LNG netback pricing.

With gas supply for the new LNG production facilities directly competing with domestic users, domestic gas customers have faced increased gas prices for domestic supply. The East Coast gas market is now permanently linked to export parity pricing (indexed as percentage of Brent crude oil) and will be priced accordingly.

- ***Trends in commodity outlooks***

The demand for Tasmania's commodities will impact on production levels and energy demand. As the prices of many commodities as set by global commodity markets, Tasmanian manufacturers need to keep their energy costs down to remain both nationally and internationally competitive.

Who uses gas and for what?

Tasmania is one of the few states that **AEMO is forecasting an upwards trend for gas demand**. Growth in the Tasmanian gas market demand outlook is driven by forecast new connections growths in households and commercial businesses.

Tasmanian gas market demand is dominated by large industrial customers, with smaller residential and commercial demand. The major industrial gas users are Grange Resources, Simplot Food Processing, Bell Bay Aluminium and Fonterra Dairy.

Natural gas is used by over 1,000 commercial customers and 12,500 residential customers.

It is estimated the 20 main gas users contribute more than \$970 million in gross state product to the Tasmanian economy each year, supporting 4,244 jobs directly and 8,550 jobs in total.

The main industrial users of natural gas in Tasmania

Customer	Description
Grange Resources	Major iron ore miner in the north-west
Simplot (Ulverstone and Devonport)	Vegetable processor with three factories
Bell Bay Smelter	Aluminum smelter near George Town in the north
BOC Westbury	LNG Plant in the northern part of the state
Fonterra (Spreyton, Wynyard and Tamar)	Dairy product processor with 3 major facilities
Tas Dairy Products	Dairy product processor with facility in Smithton
Tas Advanced Minerals	Produces silica flour for glass production
Cadbury	Chocolate factory outside of Hobart
Tas Alkaloids	Produces agricultural products such as opiates and cannabis
Nyrstar Hobart Pty Ltd	Zinc smelter in the south
Cascade Brewery	Brewery near Hobart that produces beer and soft drink
Lion Burnie (Lactose)	Manufactures specialty cheeses
J Boags and Son Brewing Ltd	Launceston Brewery
Temco	Manganese plant
JBS Abattoir	Multi-species meat processing facility
Impact Fertilisers	Fertiliser producer
Ecka Granules	Aluminum powder and granules producer
Top Centre Laundry	Commercial laundry provider
Austral Bricks	Brick producer
Venarchie Asphalt	Pavement and Asphalt manufacturer

Outlook for gas

What do you see as the key opportunities and concerns as a gas user in Tasmania?

The supply of gas to enable on-island manufacturing is critical to ensuring self-sufficiency in Tasmania. Natural gas is an important enabler of potential growth industries in Tasmania. There is capacity to significantly expand gas output to supply new customers and projects.

In addition to manufacturing, the Tasmanian Government's focus areas for the state's COVID-19 recovery include bringing forward infrastructure projects for construction, as well as agriculture, the visitor economy, aquaculture, renewable energy, skills and education, and trade. A study conducted by Deloitte identified several industries heavily reliant on gas offer significant opportunities for export growth in the coming years, many of which align with the Government's focus areas. This presents opportunities for the natural gas to further support economic recovery in the state, particularly with a focus on advanced manufacturing, mining, hydrogen opportunities and dairy export.

Advanced Manufacturing

The Tasmanian government has historically as well as recently identified advanced manufacturing as a focus area for the state. Many industries in this category are gas-intensive and represent an opportunity to support economic recovery post-COVID-19.

The massive disruptions caused by the pandemic to global and national supply chains have also led to many companies and organisations re-assessing supply chain risks. This opens increased opportunities for more 'on-shoring' of manufacturing activities.

Natural gas is commonly used in manufacturing for industrial process heating. This process is used in the manufacture of most goods and is particularly important to Tasmania for manufacturing including dairy, food processing, aluminum, zinc and fertiliser.

Resources/mining

In addition to ongoing competitive gas supply keeping existing resource and mining projects viable, several development opportunities which will require significant future energy use in the sector have the potential to be supported by natural gas. These include:

- Alcore aluminium fluoride plant
- Heemskirk tin mine
- Rogetta iron ore project
- Mount Lindsay tin/tungsten mine
- Renison expansion project
- Dolphin tungsten mine

Dairy export

Tasmania has a strong reputation and comparative advantage in producing high quality dairy products, with gas the primary energy source used for processing. There is growing demand for the export of these products, particularly in Asian markets. While COVID-19 has impacted short-term demand, the forecast for Australian dairy exports was strong at the start of 2020, representing an opportunity for



Tasmania to ramp up future production to capitalise on increased long-term international demand and the state's comparative advantage.

What is your view on the outlook for the pricing of gas in Tasmania?

The TGP provides transportation services for natural gas, not the gas itself, however, the location of the TGP inlet in Victoria is in prime position to take advantage of new developments including LNG imports, Golden Beach, and other new Bass Strait developments as well as supplies from the Victorian Declared Wholesale Gas Market and the Eastern Gas Pipeline. This will provide the best opportunity for end users to access from multiple sources of supply at competitive prices.

Given the forecast supply shortfalls and reliance on importing gas, do you think there is any risk of supply of gas from mainland Australia?

The East Australian gas market is on the cusp of transformation, with changes in consumption pattern forecasts, and alternate supply sources (including LNG imports) being actively developed. AEMO is currently forecasting an improved gas supply outlook largely due to Australian Industrial Energy (AIE's) commitment to the Port Kembla Gas Terminal (PKGT) in NSW, estimated to inject up to 500 TJ/day.

Warnings of east coast gas supply shortfalls have been raised by AEMO for the past 5 years but have been repeatedly deferred. AEMO's latest prediction now defers shortfall concerns to at least 2026.

To stem the east coast gas shortfall, several LNG import terminals across the East coast have been proposed. Economics are based on LNG imports from both domestic and international markets, plus shipping and regasification costs being competitive against LNG export parity pricing and gas pipeline charges.

Australian Industrial Energy has committed to the Port Kembla Gas Terminal (PKGT), with current commissioning timing estimated for early 2023.

- PKGT will have an annual production capacity of approximately 130 PJ/year, and a discharge capacity of 500 TJ/day.
- Eastern Gas Pipeline (EGP) will be upgraded to become bidirectional, with Jemena committing to the upgrade to allow 200 TJ/day in reverse flows south to Victoria.

New LNG import terminal projects in Victoria have also been proposed including one at Viva Energy's Geelong oil refinery, and Vopak proposing an open access LNG FSRU anchored 19km offshore in Port Phillip Bay, adjacent to existing shipping anchorage sites, and will connect to shore in North Avalon.

In addition to LNG imports, the Victorian Government has lifted the moratorium on onshore conventional gas exploration; this potentially unlocks up to 830 PJ of gas reserves.

For gas storage and transport, the Federal Government's National Gas Infrastructure Plan (NGIP) Interim report identified Golden Beach (GB) storage project in Gippsland, expansion of Iona and Southwest pipeline as priorities.

These projects provide greater assurance over gas supply security and potential for increased supply options. This also creates additional gas supply options for TGP customers if both Victorian LNG import supply projects are developed.

Decarbonisation pathway

Should Tasmania be transitioning to a decarbonised gas network?

Over the medium to longer term, the acceleration of renewable energy investments and decarbonisation will likely impact on natural gas demand, whilst creating investment opportunities in renewable gases. The Tasmanian Government is focussed on Marinus Link development as the key to unlocking pumped hydro and renewable energy investment in Tasmania. Tasmania's high quality renewable energy resources make it an ideal location for developing emerging renewable hydrogen and synthetic natural gas and chemicals markets.

Infrastructure assets have an impact on the physical environments in which they are located. As a custodian of infrastructure assets, Palisade believes it has an obligation to minimise negative environmental impacts and strive to contribute positively where possible.

Palisade has accepted the goal of working to reduce greenhouse gas emissions to limit global warming to less than 2°C. This implies a reduction in emissions to close to net zero by around 2050.

If Tasmania is to transition to a decarbonised gas network what should the transition pathway look like?

Decarbonising Tasmania's gas network could potentially be achieved using bio-methane, (green or blue) hydrogen or renewable synthetic methane. As a renewable energy investor, Palisade would also actively consider investing in renewable gas infrastructure opportunities that meet investor return expectations.

Synthetic natural gas

The production of renewable synthetic methane / natural gas, which consists of hydrogen produced from electrolysis combined with CO/CO₂ emissions produced by industrial facilities offers another viable hydrogen opportunity for Tasmania. This synthetic natural gas could be readily transported to Tasmanian users by the TGP. This enables continued use of all existing gas infrastructure and end user appliances and burners and mitigates a number of safety risks which are inherent with hydrogen.

Hydrogen-blending

In March 2020, the Tasmanian Government announced its renewable hydrogen action plan outlining their vision for having a renewable hydrogen generation facility operational by 2024 and commercially viable by 2030. Locations in close proximity to large users of the TGP, such as Burnie and Bell Bay, have been earmarked as potential hydrogen industry hubs, meaning that these hubs could be directly integrated with the TGP.

There are significant opportunities for the TGP to facilitate this hydrogen vision, either by blending with natural gas and transporting to the Tasmanian distribution network, through export of high-hydrogen blend gas to the mainland via backhaul services on the TGP or through the supply of gas to produce a blue hydrogen blend via steam reformation. If coupled with carbon capture and storage, carbon neutral "blue" hydrogen could be produced in Victoria, with carbon capture in depleted Bass Strait oil fields and delivered to Tasmania via TGP.

What risks do you see with decarbonising the Tasmanian gas network (technical, economic, social)?

Technical. *Hydrogen embrittlement.*

As identified in the National Hydrogen Strategy, hydrogen can be blended with natural gas to supply lower emissions fuel source for heating and cooking. However, further research and reforms are still needed before widespread hydrogen blending into gas distribution infrastructure can be considered. The report “*Hydrogen in the Gas Distribution Networks and Hydrogen impacts on downstream installations and appliances*” by GPA Engineering conducted as part of the National Hydrogen Strategy found that the addition of 10% hydrogen (by volume) to a typical natural gas blend has no significant impacts or implications in gas distribution networks.

Trials are currently progressing in Australian low-pressure distribution networks and are considered low risk in these low-pressure pipelines. However, in high pressure ring mains and transmission pipelines, this requires further research and development due to the risk of hydrogen embrittlement. Hydrogen embrittlement can reduce material toughness, and result in pipeline cracks and rupture over time. The Future Fuels CRC is currently undertaking important research into understanding how material toughness and fatigue life is reduced in higher pressure transmission lines (such as TGP) if converted to hydrogen gas service.

Economic. *Tasmanian Industry competitiveness*

Natural gas is currently an efficient and economic energy source for Tasmanian industrial customers. If the cost of decarbonising Tasmania’s natural gas network is imposed on current industrial customers suddenly or inconsistently with other state regulatory models, this could negatively impact on the viability of manufacturing in Tasmania relative to their mainland or international competitors.

Social. *Economic hardship*

For residential customers, any additional decarbonisation cost imposts may negatively impact on lower income customers who can least afford it, nor have the capacity to upgrade appliances or switch to alternatives.

If you are a commercial gas user in Tasmania that would not be able to switch to renewable alternatives, what are the key barriers?

The ARENA study “*Renewable Energy Options for Industrial Process Heat*” report published in November 2019 identified that there are currently renewable energy technologies available for every application of process heat.

However, the report identified that not all of these options are commercially proven and require industrial users to take both technical and commercial risks to switch. These risks can impact on product quality, supply continuity, and industry competitiveness. Other barriers, such as limited skills or economies of scale, resulting in low levels of industry experience and barriers to uptake challenge. In addition, many companies require short payback times for their energy investments. These challenges all present material hurdles for commercial and industrial gas users to switch to renewable alternatives.



What is the role for the Tasmanian Government in a decarbonisation transition for the gas sector? What should the Government's priority measures be?

To advance the decarbonisation transition, it is suggested that the Tasmanian government continue to work in partnership with industry, investors and the community to build trust, confidence and meet community expectations. A decarbonisation transition for this sector needs to be achieved without compromising safety, cost of living, water availability or environmental sustainability.

There is no single technology solution available today that can immediately substitute natural gas with no economic, social or technological impact on the end users and industry investors. A successful transition will require a clear but flexible transition strategy with government policy that is adaptable to potential new technology developments, maximises Tasmanian energy security, protects Tasmanian industries' commercial viability, provides investors with certainty, and supports vulnerable Tasmanian households.

From a regulatory perspective, it would be beneficial for the Tasmanian Government to work together with other Australian state governments and regulatory bodies to develop nationally consistent natural gas regulatory framework amendments for renewable gas blends. The initial focus should target gases and blends that can be used in existing natural gas appliances.