

Future Gas Strategy

Submission to the Department of Industry, Science and Resources

November 2023

Introduction

The Australian Workers' Union (AWU) welcomes the opportunity to make a submission on the Future Gas Strategy Consultation Paper. The AWU represents around 73,000 members in a diverse range of industries, including the entire gas supply chain: from extraction both onshore and offshore, transport (from export facilities or through pipelines), household gas network infrastructure, through to end users such as manufacturing facilities (including steel, aluminium, plastic, concrete, food processing chemicals and glass) and metalliferous mining. Because of this, **the AWU's membership is the most exposed of any union to Australian and global gas markets**. Our members' needs consequently reflect not just the views of producers, exporters or users, but what is required to maintain Australia's industries, economy and standard of living.

The current environment for gas producers and users is highly uncertain. It is clear gas will continue to play a role in Australia's and our trade partners' energy mix over the medium to long-term. But the extent of its use across this time span is unclear.

Moreover, Australia's politics around gas have become increasingly hostile. Gas producers, exporters and users share a common interest in increasing supply, but have had acrimonious relations over government intervention in the domestic gas market. Meanwhile, activists have sought to make gas the new coal - targeting the industry at the local, state and federal levels while failing to demonstrate an understanding of Australia's need for gas well into the future.

We therefore welcome development of the Future Gas Strategy as an opportunity to lay out a plan for the sector. The aims of the strategy - to support decarbonisation both domestically and abroad, promote Australia's energy security and affordability, and maintain our reputation as a trusted supplier of LNG as we build our clean energy exports - are sound. The strategy provides an ideal opportunity for the Commonwealth to reaffirm its understanding of, and commitment to, the current and evolving role of gas in domestic and export markets. The AWU proposes that the path forward for gas be shaped around the following principles:

1. Meeting short, medium and long-term demand for Australian gas
2. Secure and affordable gas for Australian businesses with a stable market framework
3. Developing the future for Australian industries reliant on gas through hydrogen, electrification, carbon capture and storage (CCS) and other technologies
4. Helping our trade partners reach net zero with Australian gas
5. Collaboration between federal, state and local governments, industry, unions and local communities to increase gas supply to meet these goals

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Findings and recommendations

Finding 1: While future Australian and global gas demand is uncertain, multiple studies have found that gas will continue to be needed well into the future, and that some gas needs (such as electricity peaking) will grow as the energy transition proceeds.

Recommendation 1: The Mandatory Gas Code of Conduct provides a basis for ensuring the Australian gas market delivers affordable and reliable energy to industry and consumers. The Australian Government should commit to the code as long-term, market-setting policy and reject attempts to abolish it.

Recommendation 2: The government should review the function of the price cap in the Mandatory Gas Code of Conduct, with the goal of ensuring it effectively promotes supply at reasonable prices and on reasonable terms.

Recommendation 3: The government and ACCC should monitor gas supply commitments made by exporters closely, to ensure that sufficient volumes are provided to execute their obligations to Australian users under the Mandatory Gas Code of Conduct.

Recommendation 4: The Australian Government should make substantial investments, on a technology-neutral basis, in the range of technologies required to provide alternatives to industrial gas use - including green and blue hydrogen generation, carbon capture and storage and electrification.

Finding 2: Australian gas continues to play an important role in supplying trade partners who are substituting away from coal, contributing to the global move towards net zero emissions.

Recommendation 5: The Australian Government should work with state and territory governments to develop a national gas supply policy, encouraging onshore gas developments that meet industry-standard safety and environmental criteria.

1. Meeting short, medium and long-term demand for Australian gas

Many activists wish to accelerate Australia towards the end of our gas industry - and, in turn, the sectors that rely on it for reliable and affordable energy. Conversely, some elements of the petroleum industry have put their head in the sand and claimed that gas use will continue almost unchanged for decades. The reality lies somewhere in between.

Future gas demand is uncertain, both within Australia and internationally. Domestically, the Net Zero Australia study led by the University of Melbourne, University of Queensland and Princeton University projects that Australia's gas use may not peak until the mid-2030s. It also finds that a significant expansion of gas-fired firming power capacity will be required to provide reliability to a renewables-led electricity network.¹ Globally, a major International Energy Agency study in 2021 determined that to reach net zero by 2050, no new oil and gas fields were required.² By 2023, after the Russia-Ukraine war laid bare the consequences of gas supply shortages, the IEA revised this to suggest that "no new long lead time conventional oil and gas projects need to be approved for development".³

Fundamentally, demand for gas will depend upon:

- The availability of alternative fuels and technologies – most significantly, in the industry sector. These include hydrogen, electric technologies and carbon capture and storage (ccs).
- Global fossil fuel demand and the pace of international decarbonisation.

There is no single story for decarbonisation or the changing role of gas for industries and sectors where AWU members work. Many are already making significant advances towards reducing emissions – in some cases, aided by gas. But on the current view of technology and Australia's emissions reduction commitments, the overall need for gas in the Australian industry sector can be characterised as follows:

- Gas remains as necessary as it is now until 2030 while alternative technologies are piloted.
- From 2030 to 2040, alternative technologies are demonstrated and rolled out. Significant capital costs are incurred in this development, many of which will require significant government subsidy. This will not cause an immediate decline in gas use, but instead a steady and stepped replacement as facilities replace capital equipment with low- or zero-emissions alternatives.
- From 2030 onwards, the sector progresses towards a state of net zero maturity. Most current uses of gas (as feedstock or for direct energy generation) are replaced with alternative technologies. However, gas will likely remain an important part of electricity peaking and may play a role in the generation of hydrogen. In these cases, gas use will eventually be 100% offset.

¹ <https://www.netzeroaustralia.net.au/wp-content/uploads/2023/04/Net-Zero-Australia-final-results-full-results-pack-19-April-23.pdf>

² <https://www.iea.org/reports/net-zero-by-2050>

³ <https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach/a-renewed-pathway-to-net-zero-emissions>

With this broad outlook in mind, Australia will need to continue to extract and use gas at least until 2040, and most likely beyond that date, even as renewable electricity and other low and zero-emissions technologies are rolled out. We cannot ignore or deny the use of gas into the medium and long-term.

Finding 1: While future Australian and global gas demand is uncertain, multiple studies have found that gas will continue to be needed well into the future, and that some gas needs (such as electricity peaking) will grow as the energy transition proceeds.

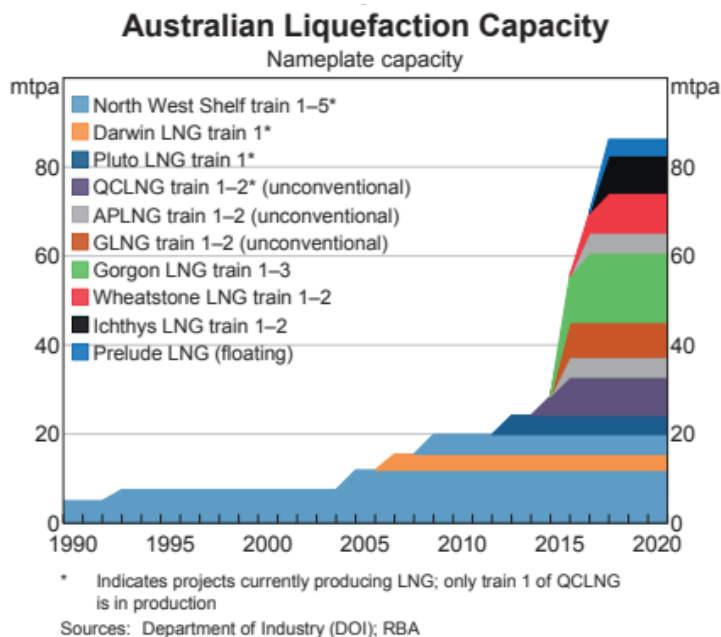
2. Secure and affordable gas for Australian businesses with a stable market framework

Despite Australia's status as the world's largest gas exporter, local businesses and households have paid sky-high prices for their own resource. During the peak of the Russia-Ukraine conflict's impact on gas prices in May 2022, the spot price for gas reached an eye-watering \$800 per gigajoule in Victoria before the Australian Energy Market Operator intervened with price caps. The institution of price caps saw prices fall to \$40 per gigajoule on the east coast – still more than four times higher than the average spot price over the previous five years. Through the second half of 2022, spot prices at the Wallumbilla Gas Supply Hub remain elevated at over \$30 per gigajoule.

Major gas suppliers were forced to stop trading as they faced difficulty securing affordable gas in the wholesale market. Their customers, including gas-dependent businesses in the industry sector, were forced onto steep default plans with retailers of last resorts. Being among the largest gas users in the country, many facilities where AWU members work are on fixed-price contracts for all or part of their gas supply. As the crisis dragged on, they faced gas prices that would all but render them uncompetitive – leaving them to seriously consider ceasing operations.

However, this crisis did not begin in 2022. Its origins lie with the failure of Australian governments to take the reins on the massive growth of the country's export gas industry over the last two decades. While our LNG export capacity began to rise in the mid-2000s, it truly exploded with the expansion of Queensland onshore gas in the mid-2010s (see chart below).⁴

⁴ <https://www.rba.gov.au/publications/bulletin/2015/mar/pdf/bu-0315-4.pdf>



By contrast, when Western Australia’s export gas industry built scale off the back of projects on the North West Shelf in 2006, the WA Government insisted on a gas reservation policy. Exxon Mobil and other investors claimed this would kill their projects; the WA Government called their bluff. Today, the state benefits from a world-leading gas export industry and cheap local gas. While customers in the eastern states were paying \$40 per gigajoule or more at the height of the energy crisis, their Western Australian counterparts were paying less than \$6.⁵

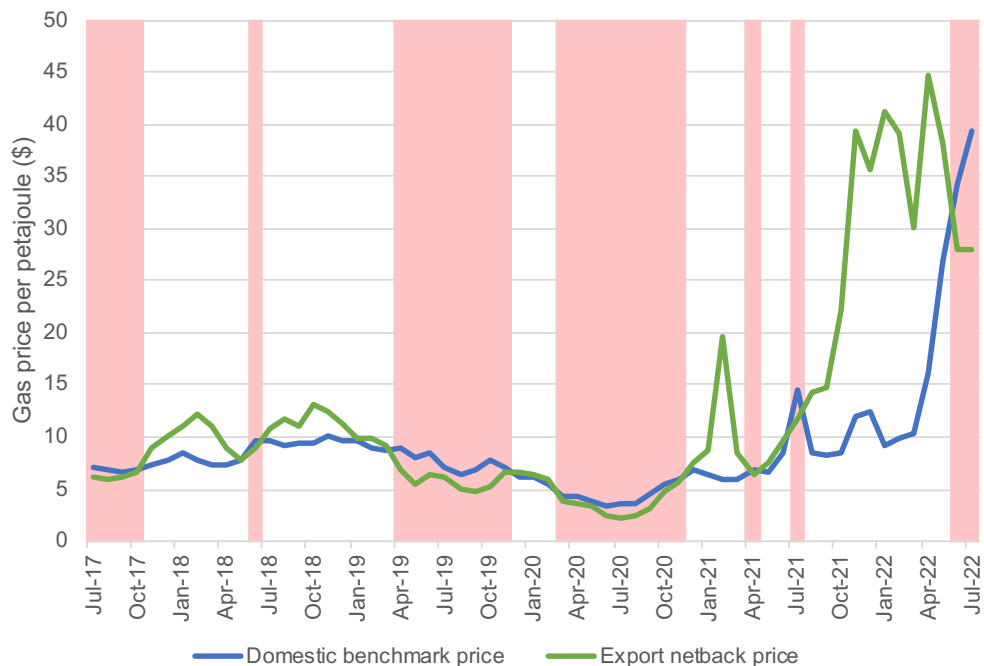
As a result of the failure to act on the LNG export boom at the national level, Australia has faced the absurd position of suffering a domestic gas shortage while being the world’s biggest gas exporter. In early August 2022, the ACCC predicted a 10% shortfall of over 50,000 terajoules⁶ – while, at the same time, we export three-quarters of our gas production via LNG facilities.

With even large domestic manufacturers having small purchases in comparison to Australia’s export partners, market conditions have forced local companies to buy gas for the same price, or even more, than manufacturers in Beijing, Seoul or Tokyo. The chart below illustrates that for extended periods over the five years to July 2022, prices in the domestic gas market exceeded the estimated price paid by Australia’s export customers.⁷

⁵ <https://www.gastrading.com.au/spot-market/historical-prices-and-volume/daily-price-history>

⁶ <https://www.accc.gov.au/media-release/lng-exporters-must-divert-gas-to-the-domestic-market-to-avoid-shortfalls>

⁷ AWU calculations from Wallumbilla Gas Supply Hub; Historical data published by AEMO and ACCC netback price series



This issue could have been avoided if the Australian Government had heeded the AWU’s calls to develop a prospective gas reservation before the massive expansion of Australia’s LNG export industry. But because of the failure to do so, urgent and substantial intervention was required last year. The AWU campaigned heavily for an emergency price cap of \$12 per gigajoule in 2022, which blunted the worst impacts of the global gas price spike. We worked closely and constructively with the Commonwealth in the following months to secure a workable approach to the new mandatory gas code of conduct. In short, the code aims to ensure adequate domestic supply at reasonable prices and on reasonable terms. It retains the \$12 per gigajoule price cap but provides exemptions for sources of new supply and small domestically oriented suppliers - creating an incentive for local supply commitments. It effectively separates the domestic and export gas markets. This represents a significant step forward from years of inadequate interventions that kept local prices pegged to international markets (Box 1, below). The code is the most workable policy applied to the gas market thus far.

Box 1: Failed gas policies

Through multiple leaders over many years, the previous Coalition Government failed to heed the warnings and take meaningful action on gas supply for Australian manufacturers. Despite many attempts, Australia missed its opportunity to avoid exposure to price volatility in the international market.

In July 2017, the Turnbull Government announced the Australian Domestic Gas Security Mechanism (ADGSM) – a ‘last resort’ measure to manage exports in the event of a domestic shortage. Then-Minister for Resources Matt Canavan said of the initiative: “securing our domestic gas supply should also put downward pressure on the price paid by Australians”.⁸ Gas companies claimed the measure would adversely affect confidence in the sector and discourage new market entrants. But the Government’s own review in 2020 conceded it was impossible to attribute any moderation in gas prices to the measure – and that it had not once been used.⁹ As outlined in the AWU’s submission to that review, the design of the mechanism prevents it from being useful during a crisis (such as the present one) and fails to consider price.¹⁰

By September 2018, the Turnbull Government had announced the Australian East Coast Domestic Gas Supply Commitment – the first iteration of a ‘heads of agreement’ with big east coast gas suppliers. The government said it wanted a gas market that benefitted all Australians, strengthened our economy through LNG exports and delivered competitive gas prices domestically. Yet local gas spot prices still regularly exceeded export prices.¹¹ The ‘commitment’ was ultimately hollow: It relied solely on the word of gas exporters as opposed to regulation.

In September 2020, the Morrison Government announced a new suite of measures including new gas supply targets, enforcing ‘use it or lose it’ provisions and an industry-led code of conduct. No action was ultimately taken on either supply targets or enforcing use-it-or-lose-it provisions. The ‘industry-led’ code also faced extensive criticism. Other proposed measures, like the national gas infrastructure plan and pipeline reform, were not completed until the dying days of the Morrison Government – and ultimately only tinkered at the edges of regulatory change, with no impact on market outcomes. Consideration of a national power to reserve gas for domestic use died with an issues paper published in 2020, with no government response.¹²

However, while it undoubtedly represents a substantial and important step forward, pricing provisions in the code may not be functioning as intended. The AWU is concerned by industry feedback that the code may be serving to promote \$12 as a default price rather than the cap it is intended to be.

The code’s price ceiling must not be allowed to become the floor. While safeguarding the market against extreme events such as those of 2022, \$12 per gigajoule remains substantially higher than the average price paid across the

⁸ <https://www.energymagazine.com.au/gas-security-mechanism-to-keep-gas-in-australia/>

⁹ <https://www.industry.gov.au/sites/default/files/2020-01/review-of-the-australian-domestic-gas-security-mechanism-2019.pdf>

¹⁰ <https://consult.industry.gov.au/securing-australias-domestic-gas-supply/submission/view/16>

¹¹ <https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/lng-netback-price-series>

¹² <https://consult.industry.gov.au/options-for-a-prospective-national-gas-reservation-scheme-issues-paper>

market for most of the previous decade.¹³ A \$12 default price will ultimately see industrial facilities reliant on gas continue to strain under existential pressure. It also sees industry squeezed from both ends – paying high gas prices while investing in the transition to net zero emissions (see Section 3, below). While manufacturing facilities continue to struggle, volatility in gas markets has not affected production costs. In the basins supplying eastern Australia, these sit at around \$4.75 to \$8 per gigajoule¹⁴ - affording ample profit margin if producers do supply at below \$12.

It appears open to question whether the cap is optimally designed to meet the goal of promoting supply at reasonable prices and on reasonable terms. De facto imposition of a \$12 default price may also defy the code's provisions requiring parties to negotiate in good faith. The government should give prompt consideration to these concerns, and assess all options to amend the code to ensure it meets its objectives. Any near-term review would not defy the intent of the Code as regulated, which explicitly supports the Ministers responsible to initiate a review "at any time".

In addition, the government and ACCC should monitor supply commitments made by exporters closely, to ensure that sufficient volumes are provided to execute their obligations to Australian gas users.

Despite concerns and tensions around elements of the code, the policy remains accepted by stakeholders. While making prompt effort to consider its provisions in light of its goals, the Commonwealth should reaffirm the code as the primary market-setting policy. Disappointingly, the Greens have threatened to disallow the code after supporting the urgent passage of its enabling legislation in 2022. This betrays their intention to ultimately sabotage the gas industry, manufacturers relying upon gas and thousands of related jobs. Despite important opportunities to build on the code, it would be an unequivocally retrograde step to abolish it altogether.

Recommendation 1: The Mandatory Gas Code of Conduct provides a basis for ensuring the Australian gas market delivers affordable and reliable energy to industry and consumers. The Australian Government should commit to the code as long-term, market-setting policy and reject attempts to abolish it.

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¹³ <https://www.aer.gov.au/industry/registers/charts/gas-market-prices>

¹⁴ https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/gsoo/2023/2023-gsoo-gas-statement-of-opportunities-supply-data.zip?la=en, 'Reserves costs assumptions'

3. Developing the future for Australian industries reliant on gas

Australia's abundant gas reserves have underpinned key industries like manufacturing, electricity generation and mining for decades. However, as the world moves towards net zero emissions, industries reliant on gas face a major transition. Alternatives like green hydrogen and electrification powered by renewables will need to progressively displace gas use. However, net zero emissions cannot mean zero industry. This is nothing less than an economic, strategic and social imperative. The breadth of products – from heavy industry to consumer goods – underpinned by gas-dependent technologies, and the scale of employment these activities support, is difficult to overstate. Giving in to calls from some activists to 'switch off gas' would see industries collapse, essential goods become scarce and our quality of life plummet.

The transition of gas-reliant industries to net zero requires a calibrated, strategic approach and ongoing private and public investment to avoid economic shocks. With thoughtful planning and a technology-neutral approach to support and investment, these industries can chart a smooth course to a low-emissions future.

Hydrogen presents an opportunity to reduce emissions associated with gas use in several ways. There are many options for low emissions clean hydrogen generation. Australia can leverage its vast renewable energy resources and clean technology capabilities to produce clean hydrogen for domestic industry. The two principal hydrogen production options under consideration in Australia are 'green' hydrogen - produced through electrolysis of water powered by renewable electricity, and 'blue' hydrogen - produced from fossil fuels such as gas, coupled with CCS to minimise emissions.

Both green and blue hydrogen can displace traditional uses of natural gas. Mixing hydrogen into existing gas networks - a process called hydrogen blending - is one pathway to reducing the carbon intensity of gas use. However, blending is limited to around a 20% hydrogen mix due to difficulties in both transmission and end user equipment compatibility. Green and blue hydrogen can also be used as an industrial feedstock. High-temperature heating in industries such as steel and cement manufacturing, as well as other processes such as fertiliser production, currently rely on fossil fuel inputs. Swapping out coal and gas for hydrogen in these processes could significantly decrease their emissions footprints, though this remains a nascent technology area.

Electrification - replacing technologies powered by gas combustion with ones powered by electricity - will also be a major pathway for emissions reductions. Widespread electrification paired with renewable generation could eliminate the need for gas in many applications. For instance, heat pumps that use electricity to provide heating and cooling could be deployed in place of industrial processes currently reliant on gas heating and steam. Heat pumps are also three to five times more energy efficient than traditional gas furnaces and boilers.

However, large-scale electrification will place immense strain on electricity networks – both in relation to the capacity and the reliable, continuous supply that industry requires. This will necessitate a concerted, long-term effort to build out renewable electricity technologies and transmission at unprecedented scale. Australia's energy accounts offer a basic overview of the scale of this challenge. Every year, the manufacturing sector consumes about 50% more energy through gas combustion than that produced by all wind, solar and hydroelectric generation in Australia. When other

fossil fuels such as metallurgical coal are included, that figure rises to well over double all renewable output.¹⁵ Electrification is not like-for-like energy substitution; it will also bring efficiency improvements. But the need for a precipitous rise in deployment of new renewables is clear. In this light, reports of a major slowdown in renewables investment this year are concerning,¹⁶ despite consistent growth in wind and large-scale solar output from 2017 to 2022.¹⁷ To ensure renewables can support reliable and continuous supply, a substantial investment in storage technologies, alongside gas peaking plants, is required.¹⁸ The generally superior reliability of offshore wind relative to other renewables, and favourable generation conditions in many Australian waters, represent another important opportunity.¹⁹ Proposed offshore wind developments must be expedited – most importantly near existing industrial centres requiring large-scale baseload power.

Given increasing supply chain pressures for critical renewable energy and transmission technologies, increased support for local manufacturing of these products will be vital. Domestic manufacturing is also a key facet of a transition that sees Australian industry not only survive but thrive.

Further, the scale of the domestic electrification challenge pales in comparison to the rollout required to realise the 'renewable energy superpower' ambition. Australia's exports of LNG and other fossil fuels are valued at nearly 10% of GDP,²⁰ with an energy value nearly five times greater than all electricity and fuels consumed domestically.²¹ Low emissions fuels and products such as hydrogen and aluminium should be supported to eventually match these incumbents in size - further supporting an industry-positive energy transition. But to have any chance of doing so, a much greater deployment of new generation will be essential.

An historic renewables rollout, together with technical improvements, will help address some of the limitations of electrification. But regardless of scale and innovation, it will not represent a panacea. Some heavy industries such as steel require extremely high temperature heat. This is currently very challenging to produce using electricity; Decarbonising industry and other hard-to-abate sectors will also require energy-dense fuels. Both gas and emerging fuels such as hydrogen must be part of the mix in navigating these complex transformations.

In addition, for some industrial processes, the availability of effective CCS will be non-negotiable in reaching net zero emissions. For instance, the manufacture of cement produces carbon as a byproduct of the chemical process (rather than burning fuel for electricity or heat). Further innovation in CCS is required to meet the ultimately targeted carbon capture rates to support green cement production and other industrial uses - as well as at-scale production of blue hydrogen to support deep emissions cuts relative to unabated gas use.

¹⁵ https://www.abs.gov.au/statistics/industry/energy/energy-account-australia/2020-21/46040DO0003_2020-21.xlsx, Table 3.1

¹⁶ <https://assets.cleanenergycouncil.org.au/documents/Renewable-Projects-Quarterly-Report-Q2-2023.pdf>

¹⁷ https://www.energy.gov.au/sites/default/files/2023-08/Australian%20Energy%20Statistics%202023%20Table%200_0.xlsx, Table O1.1

¹⁸ <https://iopscience.iop.org/article/10.1088/2515-7620/ac5677/pdf>

¹⁹ <https://www.sciencedirect.com/science/article/pii/S136403212300730X>; https://blueeconomyrcr.com.au/wp-content/uploads/2022/07/BECRC_OWE-in-Aus-Project-Report_P.3.20.007_V2_e190721.pdf

²⁰ <https://www.dfat.gov.au/sites/default/files/australias-goods-and-services-by-top-25-exports-2022.pdf>; <https://www.ceicdata.com/en/australia/sna08-gross-domestic-product-by-expenditure-current-price/gdp>

²¹ <https://www.abs.gov.au/statistics/industry/energy/energy-account-australia/latest-release>

Given this complex technology landscape and the many challenges of transitioning gas-reliant industries, an effective policy must be technology-neutral and assess all options to reduce emissions in accordance with Australia's medium and long-term targets. With multiple bodies and programs now established to support funding for the country's net zero future, the Government should support industrial users seeking to find, pilot and deploy alternatives to gas use.

Recommendation 4: The Australian Government should make substantial investments, on a technology-neutral basis, in the range of technologies required to provide alternatives to industrial gas use - including green and blue hydrogen generation, electrification and carbon capture and storage.

4. Helping our trade partners reach net zero with Australian gas

While the AWU retains concerns about gas exporters ignoring their obligations to domestic consumers, we remain supportive of Australia's role in exporting gas to the world. Without Australian gas, our partners in the Indo-Pacific and beyond would face acute and lasting uncertainty, and the world would face substantial further challenges in reaching net zero emissions.

Multiple activist organisations have called for Australia to cease natural gas exports. However, these groups fail to recognise that Australian natural gas has a key role to play in the world's transition to lower emissions. While Australia has the benefit of abundant land for solar and wind electricity generation, many other countries do not. This prominently includes key partners and major LNG customers such as Japan. Transitioning from coal to gas power can provide these countries with a pathway to rapid emissions abatement – reducing emissions by about two-thirds for each unit of electricity generated. Gas turbines produce around a third of the equivalent emissions of subcritical brown coal generation.²² The International Energy Agency reports that between 2010 and 2018, over 500Mt of CO₂ was abated from coal-to-gas substitution – “an effect equivalent to putting an extra 200 million EVs running on zero-carbon electricity on the road over the same period”.²³

Outside of power generation, alternative technologies for manufacturing essential products like steel, aluminium, cement, plastic and fertiliser are yet to reach commercial availability. Without Australian gas, our trade partners' living standards would fall as suppliers of these essential products struggled to access energy. Until hydrogen and other options discussed earlier are available and deployed at scale, Australian gas will remain necessary – likely for years to come.

Finding 2: Australian gas continues to play an important role in supplying trade partners who are substituting away from coal, contributing to the global move towards net zero emissions.

²² <https://theconversation.com/farewell-to-brown-coal-without-tears-how-to-shut-high-emitting-power-stations-50904>

²³ <https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions>

5. Collaboration to increase gas supply

Beyond the immediate need for intervention on prices, Australia needs a sensible national gas supply policy - making genuine efforts to bring more gas online in consultation with state and territory governments (who undertake the primary approvals for gas projects). This is so irrespective of the final trajectory of the transition to net zero emissions. As this submission explores, many domestic industries reliant on gas will only begin to shift to new technologies in the 2030s, and gas will likely serve as an important peaking fuel for an electricity network centered on renewables. Australia's international gas customers are similarly unable to affect a move away from gas in the short to medium-term. Ensuring sufficient supply to meet demand across the energy transition therefore requires continued investment in gas developments.

There is wide variation in the amount of available gas between states, and in the regulations applying to new gas projects, particularly onshore gas. In 2020, WA was the largest gas producer in absolute terms (see table below²⁴), though it is not connected to the east coast domestic gas market. Queensland was by far the biggest producer of gas in the east coast domestic gas market, owing to its significant extraction of coal seam gas. It was followed by the Northern Territory (the regulatory jurisdiction of operation of the INPEX offshore gas project), Victoria (which has some remaining offshore gas), and South Australia (where onshore gas development takes place in the Cooper Basin, in the state's north-west).

Production of natural gas by state/territory (billion cubic feet)

	Conventional gas production		Coal seam gas		LNG exports	
	2019	2020	2019	2020	2019	2020
New South Wales	–	–	4.5	4.1	–	–
Northern Territory	450.7	494.1	–	–	393.7	448.8
Queensland	3.9	8.2	1,398.2	1,419.1	1,166.0	1,179.4
South Australia	97.7	110.1	–	–	–	–
Tasmania	10.7	10.5	–	–	–	–
Victoria	307.4	283.1	–	–	–	–
Western Australia	2,726.8	2,692.5	–	–	2,333.9	2,304.2
Total	3,597.1	3,598.5	1,402.7	1,423.3	3,893.5	3,932.5

SOURCE: ENERGYQUEST. Note: includes production from Commonwealth waters adjacent to each state or territory and excludes production from the JPDA.

Victoria, regrettably, has imposed a complete ban on onshore gas development and has placed a moratorium on fracking in its state constitution. New South Wales, meanwhile, has limited the area available for gas exploration to Santos' Narrabri Gas Project – currently awaiting approvals for the necessary pipeline.

Every state and territory that has conducted a public scientific inquiry into the safety of onshore gas has found that it can be conducted in a safe and risk-managed way. The reliance of states on moratoriums or bans, based on the precautionary principle rather than sensible regulation, denies them the opportunity to benefit from gas extraction.

²⁴ https://www.appea.com.au/wp-content/uploads/2021/06/2021-APPEA_Key-Statistics-1.pdf, p. 5

The Australian Workers' Union

The AWU recommends that the Australian Government work with state and territory governments to develop a national gas supply policy, encouraging onshore gas developments that meet industry-standard safety and environmental criteria.

Recommendation 5: The Australian Government should work with state and territory governments to develop a national gas supply policy, encouraging onshore gas developments that meet industry-standard safety and environmental criteria.