



25 January 2023

Submission: 2023-24 Federal Budget

The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure, connecting natural and renewable gas production to demand centres in cities and other locations across Australia. Offering a wide range of services to gas users, retailers and producers, APGA members ensure the safe and reliable delivery of 28 per cent of the end-use energy consumed in Australia and are at the forefront of Australia's renewable gas industry, helping achieve net-zero as quickly and affordably as possible.

APGA supports a net zero emission future for Australia by 2050¹. Renewable gases represent a real, technically viable approach to lowest-cost energy decarbonisation in Australia. APGA sees renewable gases such as hydrogen and biomethane playing a critical role in decarbonising gas use for both wholesale and retail customers.²

The green hydrogen and biomethane industries are gathering pace. State and Territory Governments are putting regulatory measures in place to support continued growth. However, development of a thriving renewable gases industry in Australia requires additional coordination and policy support at a national level.

In the 2023-24 Federal Budget, APGA proposes that the Federal Government make several key regulatory changes to support this transition, and also investigate ways to provide additional supply to the east coast gas market in the medium-term.

APGA would be pleased to provide additional detail on any of the enclosed proposals. To discuss any of the above feedback further, please contact National Policy Manager, Jordan McCollum, on +61 422 057 856 or jmccollum@apga.org.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Steve Davies", is written over a horizontal line.

STEVE DAVIES
Chief Executive Officer
Australian Pipelines and Gas Association

¹ APGA Climate Statement, available at <https://www.apga.org.au/apga-climate-statement>

² APGA, 2020, *Gas Vision 2050: Delivering a clean energy future*, available at https://www.apga.org.au/sites/default/files/uploaded-content/website-content/gasinnovation_04.pdf

Renewable gases can deliver a second renewable energy supply chain

The development of an Australian renewable gas supply chain, operating alongside Australia's renewable electricity supply chain, can help optimise Australia's renewable energy transition.

'Green' hydrogen and biomethane do not contribute carbon emissions when consumed. In the case of biomethane, no modifications of infrastructure or supply chains are required as it is chemically indistinguishable from natural gas; hydrogen behaves similarly, requiring some modification to supply chains and customer appliances.

Research on renewable gas supply chain components in Australia indicates that renewable gas supply chains are likely cost-competitive with renewable electricity supply chains in a net zero energy future. This possibility was first indicated in the 2018 Frontier Economics report *The benefits of gas infrastructure to decarbonise Australia*.³ A recent APGA study strengthens this indication for total customer cost of renewable gas use in the home, indicating cost competitiveness with renewable electricity for household decarbonisation⁴.

This is possible in part due to the fact that pipelines provide lower cost energy transport and storage in comparison to powerlines and other forms of electricity energy storage.⁵ Pipelines are considerably cheaper than powerlines to build, and existing pipelines can be repurposed to carry hydrogen or hydrogen blends (no modification is required for biomethane). This means that renewable gas supply chains could be more economically efficient than renewable electricity.^{6,7} Gas infrastructure already delivers more energy at lower cost, lower emissions intensity and greater reliability in Victoria than its electricity infrastructure.⁸

³ Frontier Economics, 2020, *The benefits of gas infrastructure to decarbonise Australia*, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/frontier-2020-decarbonise-australia_0.pdf

⁴ Australian Pipelines and Gas Association, 2022, *Supply chain analysis methodology for total customer cost – Summary*, <https://www.apga.org.au/sites/default/files/uploaded-content/website-content/supplychainv5.pdf>

Australian Pipelines and Gas Association, 2022, *Supply chain analysis methodology for total customer cost – Study*, https://www.apga.org.au/sites/default/files/uploaded-content/website-content/supply_chain_analysis_methodology_for_total_customer_cost_-_final.pdf

⁵ Australian Pipelines and Gas Association, 2022, *Pipelines vs Powerlines: A Summary*, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/pipelines_vs_powerlines_-_a_summary.pdf

GPA Engineering, 2022, *Pipelines vs Powerlines: A Technoeconomic Analysis in the Australian Context*, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/pipelines_vs_powerlines_-_a_technoeconomic_analysis_in_the_australian_context.pdf

⁶ CSIRO, 2022, *GenCost 2021-22 Final Report* <https://publications.csiro.au/publications/publication/Plcsiro:EP2022-2576>

⁷ The Grattan Institute, 2021, *Go for Net Zero* <https://grattan.edu.au/wp-content/uploads/2021/04/Go-for-net-zero-Grattan-Report.pdf>

⁸ See Table 1 and 2, APGA 2021, *Submission to the Victorian Gas Substitution Roadmap*, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/210816_apga_submission_to_the_victorian_gas_substitution_roadmap_consultation_paper.pdf; also AER 2019 operational reports for electricity and gas and AEMO's various energy demand reports.

Particularly in the case of green hydrogen, Federal Government support is needed to help overcome some of the remaining barriers to market entry, including investment certainty and consumer confidence. To build upon existing Federal Government activities in renewable gases, APGA recommends the Federal Government support parallel renewable energy pathways in renewable electricity and renewable gases, and ensure existing emissions frameworks do not disincentivise the contribution of renewable gases. APGA proposes that the Federal Government has the opportunity to achieve this end through measures that:

- Support the uplift in renewable gas production,
- Support renewable gas infrastructure, and
- Provide equal support for high-efficiency hydrogen-ready gas appliances.

Support the uplift in renewable gas production

To support investment in renewable gas production, renewable gas customers need to be able to access the zero scope 1 emission value proposition of renewable gas consumption. Current federal policy and regulation impedes this. Funding for the following initiatives is proposed to enable renewable gas customers to access the zero scope 1 emission value proposition of renewable gas consumption.

- Commit \$10 million for a detailed study on implementing a national Renewable Gas Target, which replicates the functional features of the Renewable Energy Target
 - Base a national Renewable Gas Target upon a Renewable Gas Certification scheme, similar to the Large Generation Certification scheme on a per gigajoule of zero emissions gas basis.
- Commit \$5 million to reform the National Greenhouse Emissions Reduction Scheme (NGERS) to recognise certificates issued under federal schemes such as the Renewable Energy Target and a Renewable Gas Target in reporting zero emission energy use
- Commit sufficient funding towards enacting the recommendations of the Independent Review of Australian Carbon Credit Units

Support renewable gas infrastructure

The lowest possible cost of gas for renewable gas customers will be achieved through developing efficient, multi-user renewable gas pipeline infrastructure. However, neither CSIRO or AEMO have a gas system model at the level of fidelity as electricity modelling, and the National Gas Law disincentivises development of new common user infrastructure. Testing for which existing pipelines can be repurposed for hydrogen is also a costly task. Funding of the following initiatives is proposed to deliver a least cost renewable gas system for Australia.

- Commit \$2.5 million to reform the National Gas Law (NGL) to mandate approval of Greenfield Incentive plus Price Protection for all pipelines carrying 100% renewable gas commissioned before 2035
- Commit \$10 million to commission CSIRO to develop a gas model, complementing the existing electricity model, to consider future gas network economics with the introduction of renewable gases
- Commit \$25 million over five years to extend the funding of the Future Fuels CRC, with additional funding to go to implementation of research, and developing an ongoing

research and development entity to support conversion of existing gas assets and development of new assets

- Commit \$4.3 million to match funding currently under consideration by the NSW Government towards a gas asset testing facility

Provide equal support for high-efficiency hydrogen-ready gas appliances

In December 2022 the Federal Government passed the Competition and Consumer Amendment (Gas Prices) Bill 2022. As part of this, the Greens and the Federal Government agreed to develop the Household and Business Electrification Package, to be presented at the 2023-24 Federal Budget.

While we have not seen the details of this package, we understand it will include support that could be provided to households and businesses (particularly small businesses) to electrify their space heating, water heating, cooking and other appliances and equipment, and will focus on households that most need support, such as low-income households, renters, public and community housing residents and apartment dwellers.

This package appears to conclude that electrification of gas demand is the only option for households and small businesses. However new research is starting to indicate that renewable gases could be cost competitive with renewable electricity when decarbonising gas use in the home.⁹ APGA and its members believe that all avenues to decarbonisation should be explored and supported equally; pursuing electrification in all instances, as this mooted package appears, is a missed opportunity to take advantage of the significant opportunities of renewable gas.

Instead of one package focused on electrification as the singular pathway to decarbonisation, APGA proposes that the package be expanded to a Business and Household **Decarbonisation** Package, which is agnostic to the specific technologies and will support residential and commercial gas consumers who do not wish to or are unable to electrify. This package could be used to incentivise investment in developing high-efficiency, hydrogen-ready gas appliances, and would dovetail with existing efforts to support the emerging commercial-scale renewable hydrogen and renewable methane industries.

- Introduce a Business and Household Decarbonisation Package
- \$2 million to reform gas appliance regulation, including a step change to mandate all gas appliances sold in Australia meet a 5 Star energy rating and are hydrogen-ready by 2026

⁹ Australian Pipelines and Gas Association, 2022, *Supply chain analysis methodology for total customer cost – Summary*, <https://www.apga.org.au/sites/default/files/uploaded-content/website-content/supplychainv5.pdf>

Australian Pipelines and Gas Association, 2022, *Supply chain analysis methodology for total customer cost – Study*, https://www.apga.org.au/sites/default/files/uploaded-content/website-content/supply_chain_analysis_methodology_for_total_customer_cost_-_final.pdf

Investigate a medium-term solution to high east coast gas prices

When Liquefied Natural Gas (LNG) terminals in Queensland became operational in the middle of last decade, the east coast gas market went from being “long” in supply (where the domestic production capacity was greater than the domestic demand capacity) to being “short” in supply (where the domestic production capacity was less than the domestic and export demand capacity). As a result of this, the east coast gas market became more sensitive to high gas price shocks while also becoming exposed to international LNG export prices.

In long supply markets, customers set prices relative to producer costs, while in short supply markets, the producers set prices relative to the highest-paying customer. This has contributed to the significant rises in prices experienced by consumers in the east coast gas market. Across the past decade, APGA has warned of the risk posed to customers by a short supply gas market, forewarning exposure to price shocks should international energy prices rise.

The Reserve Bank of Australia concluded in early 2021 that without additional supply, “contracted gas prices on the east coast are likely to remain structurally higher than their pre-2015 levels over the coming decade, reflecting higher marginal costs of domestic production.”¹⁰ In 2022 the Federal Department of Industry, Science and Resources noted that the tightening supply-demand balance has left the east coast gas market increasingly sensitive to external shocks like Russia’s unjust war in Ukraine; the associated supply-constrained international market has led to large increases in domestic spot gas prices.¹¹

Energy Ministers have decided to temporarily cap gas prices and provide the Australian Energy Market Operator additional powers in order to address the current natural gas price issues in the short-term. However, a medium-term solution is also required which returns the east coast gas market to being long in supply in order to protect energy customers from a repeat of the current scenario. Investment is required to deliver the additional supply necessary to exceed demand and decouple the east coast gas market from international prices.

APGA believes there is opportunity for renewable gas production to be a significant part of this supply uplift. A proposed new CSIRO gas model in the previous section would also contribute to this work.

- Commit \$5 million to undertake a study to investigate ways to ensure the east coast gas market returns to being long in supply, including facilitation of increased renewable gas production.

¹⁰ Reserve Bank of Australia, 2021, Understanding the east coast gas market, *Bulletin*, March 2021 <https://www.rba.gov.au/publications/bulletin/2021/mar/understanding-the-east-coast-gas-market.html>

¹¹ DISR, 2022, Securing Australia’s domestic gas supply issues paper, https://storage.googleapis.com/converlens-au-industry/industry/p/prj20b92342026da4123c0ec/public_assets/ADGSM-Issues-Paper-august-2022.pdf

Fuel cell electric vehicles (FCEVs) refuelling infrastructure uplift

The decarbonisation of Australia's private and commercial vehicle fleet is an important part of reducing overall transport sector emissions. While electrification is well underway, the opportunity for hydrogen to provide a complementary supply chain has yet to be fully explored. APGA believes hydrogen electric vehicles can play a valuable role in the future of long-distance haulage and private vehicles in rural areas.¹² Hydrogen electric vehicles have considerable use cases, as they are lighter in weight, have greater range and faster refuelling capabilities than equivalent battery electric vehicles.

Both electricity transmission and hydrogen pipeline infrastructure can be used to support development of battery EVs and FCEV refuelling. Optimised refuelling infrastructure will support least cost vehicle decarbonisation for Australia but will require guidance to enable common user infrastructure.

- Commit \$2 million to undertake a detailed study of optimised energy transport and storage infrastructure solutions for battery recharging and hydrogen refuelling stations along Australia's network of major highways.

¹² Australian Pipelines and Gas Association, 2022, *APGA Submission: National Electric Vehicle Strategy Consultation*, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/221031_apga_submission_to_national_electric_vehicle_strategy_consultation.pdf

Budget impact

	2023-24 (\$m)	2024-25 (\$m)	Total (\$m)
Support the uplift in renewable gas production			
Renewable Gas Target study	5.0	5.0	10.0
NGERS reform	2.5	2.5	5.0
Enact ACCU review recommendations	*	*	*
Support renewable gas infrastructure			
National Gas Law reform	2.5		2.5
CSIRO gas model	5.0	5.0	10.0
Future Fuels CRC funding extension	5.0	5.0	25.0**
Gas asset testing facility – matched funding with NSW	4.3		
Support for high-efficiency hydrogen-ready appliances			
Business and Household Decarbonisation Package	*	*	*
Gas appliance regulation reform	2.0		2.0
Medium-term solution to high east coast gas prices			
Study on increasing gas production	5.0		5.0
FCEVs refuelling infrastructure uplift			
Vehicle refuelling infrastructure study	2.0		2.0
Total	33.3	17.5	

** over 5 years to 2027-28

Costings

Project costs are estimated from the following:

- Federal Government “Enabling a Low Emissions Future and Supporting Green Energy” - \$9.7 million for development of the Australian Hydrogen Guarantee of Origin scheme – see <https://www.dcceew.gov.au/about/news/trials-start-for-hydrogen-guarantee-of-origin-scheme>
- Federal Government 2021-22 Federal Budget BP2; \$5.6 million over two years to develop the 2022 National Gas Infrastructure Plan.
- ACCC gas market monitoring funding approx. \$2 million per annum and ACCC Retail Electricity Price Inquiry - \$7.8 million (2017-18 Federal Budget BP2)

Table 2: Expense measures since the 2016-17 MYEFO^(a) (continued)

Page		2016-17 \$m	2017-18 \$m	2018-19 \$m	2019-20 \$m	2020-21 \$m
	TREASURY (continued)					
72	Broadband Performance Monitoring and Reporting Program — establishment Energy for the Future	-	2.0	1.7	1.6	1.7
165	– Australian Competition and Consumer Commission — gas market monitoring	-	2.2	2.3	2.1	-
166	– Australian Competition and Consumer Commission — retail electricity prices inquiry	-	7.9	-	-	-

- Victorian Government “Regulating Victorian gas resources” - \$5.2 million over 2 years (2020-21 Victorian Budget BP3)

Table 1.7: Output initiatives – Regional and Rural Victoria (\$ million)

	2020-21	2021-22	2022-23	2023-24
Regulating Victoria’s conventional gas resources	3.0	2.1

- Victorian Gas Substitution Roadmap (VGSR) – this initiative is within the \$49.6 million “Clean energy transition initiatives” budget item (2020-21 Victorian Budget BP3). The sub-specifics of the VGSR are not given, but communication with DELWP officials gives an estimated figure of \$1 million over 2 years for the development of the VGSR.

Table 1.11: Output initiatives – Department of Environment, Land, Water and Planning (\$ million)

	2020-21	2021-22	2022-23	2023-24
Energy and Solar Homes				
Clean energy transition initiatives	15.8	21.7	5.8	6.3