



1. Submission in response to the Future Gas Strategy consultation paper

Lighter Footprints welcomes the opportunity to make a submission on our future gas strategy to the Department of Industry and Science.

Who We Are

Lighter Footprints is a community-based group that lobbies Australian local, state and national decision makers to take the action necessary to halt global warming as a matter of urgency. For over a decade, we have educated, advocated and brought people together in Boroondara and surrounding suburbs to inform the community and promote a clean energy future. We have 3,500 people on our mailing list.

As an environmental group focused on tackling climate change, we are dismayed at the failure of successive governments to take decisive action. We understand the complex issues involved in developing a Future Gas strategy and we have made recommendations regarding how this task could be best completed. We are strongly opposed to the development of further gas facilities and believe that the Australian Government should endorse the Port Vila call for action¹.

We also ask the Federal, state and territory governments to note the recent UN 2023 Production Gap Report: "Phasing down or phasing up? Which states that top fossil fuel producers plan even more extraction despite climate promises". This is based on the finding that governments plan to produce around 110% more fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C, and 69% more than would be consistent with 2°C². Australia should not add to this irresponsible behaviour.

believe that there are a number of decisions that the government could take quickly to reduce the harm that we do to this planet. Many of these decisions would be economically positive for Australia and would support our Pacific neighbours. The resistance to decisive action appears to come from the influence of the fossil fuel lobby groups that outweigh the wishes of the people and the advice from scientific and economic experts.

Summary

- We recommend that our federal, state and territory work together and develop some policies that will lead to emissions reductions that will support the achievement of climate targets.
- We recommend that Australia stops approving any new coal or gas projects in line with the IPCC recommendation.

¹ <https://www.pcreee.org/article/pacific-ministers-energy-and-transport-adopt-port-vila-call-action-fossil-fuel-free-pacific>

² <https://www.unep.org/resources/production-gap-report-2023>

- We recommend that the Department of Industry and Science looks for better alternatives to replace additional gas supply:
 - Electrification, energy efficiency, improving the thermal efficiency of homes, gas storage and demand management.
- We recommend that the Department of Industry and Science works with the Department of Climate Change, Energy, the Environment and Water to develop a plan for Australia’s transition off gas. (This might be a plan for residential and commercial customers, a plan to develop a plan to build a stronger manufacturing industry based on renewables and plans addressing gas for industrial feedstocks and Gas-Fired Generation). It is important that these plans include the vulnerable sections of the community and include actions and target dates.
- We recommend that governments should maintain a close watch on Carbon Capture and Storage (CCS) effectiveness as it is yet unproven. We further recommend that if projects that depend on CCS are proposed and approved their production capacity will be tied to the demonstrated effectiveness of their CCS. We further recommend that if CCS is not effective, then production limits are enforced and financial penalties that cover both the sales realisations and then current real carbon pollution remediation cost of capturing CO2 from the atmosphere are imposed.

Detailed response

Our detailed response follows on pages 3 to 30. It is structured as follows:

Section 1	Summary of recommendations	Pages 4 to 5
Section 2	Our views	Pages 6 to 15
Section 3	Detailed responses to consultation paper questions	Pages 16 to 24

We agree to publication of this submission.
Future Gas Strategy – Parliament of Australia (aph.gov.au)

The closing date for the committee receiving submissions is 13 November 2023.

SUBMISSION BY:

Organisation name: Lighter Footprints Inc.
Organisation Position: Convenor – Energy Transition Group
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1. Summary of recommendation

In this section we bring together the recommendations from Sections 2 and 3.

Recommendation on the strategy's key objectives

We recommend that:

- the key objectives be amended to reflect the imperative that demand forecasts for both Australia and its trading partners must be in line with keeping global warming well below 2 degrees centigrade.
- The demand analysis supporting the future gas strategy should have two areas of focus:
 - Australia's use of gas
 - Australia's trade partners use of gas

Recommendation on policies and plans

We recommend that our federal, state and territory work together and develop some policies that will lead to emissions reductions that will support the achievement of climate targets.

Recommendations regarding Australia's future gas requirements

We recommend that the Department of Industry and Science works with their colleagues at DCCEEW and with state and territory governments to develop a realistic gas demand forecast based on current targets and current and planned electrification or manufacturing strategies.

We recommend the introduction of policies to promote comfort (and reduced bills) in all older properties (in particular, we need to address the issue with rental properties).

We recommend that the Australian federal government and the state and territory governments determine a policy that will address the transition away from natural gas use in Australia. This plan (or these plans) should include, at a minimum, the following steps:

- Residential and commercial customers on the gas networks
 - Announce a plan for the transition of residential and commercial customers off gas. The recommended steps are as follows:
 - Inform the public about the transition and explain the benefits noting that all-electric homes are cheaper to run than dual-fuel homes.
 - Explain the transition timeframe.
 - Set an end-date for the supply of gas to residential and commercial customers through the distribution networks (including stopping the replacement of gas pipes).
 - Set an end date for the sale of residential and gas appliances.
 - Provide support to assist customers to transition including a range of centres where customers can get assistance with particular focus on:
 - those needing support such as low-income earners.
 - high gas users.
 - Make changes to gas distribution regulations to avoid price shocks.
 - Tackle the issue of making rental properties fit for habitation by ensuring that the thermal efficiency is improved by using a combination of carrots and sticks.

- Ensure that social housing is not left behind.
- Industrial customers on the gas networks
 - Determine the energy needs of industry.
 - Identify potential solutions:
 - Up-to-date information on the latest heat pumps.
 - Information regarding the availability of biomethane.
 - Help major industrial users identify potential solutions and help them to develop transition strategies.
 - Request transition plans from major industrial gas users.
 - Once proper investigations have taken place announce a transition plan for industry.
- Gas for feedstock
 - Investigate possible solutions for these gas users.
 - Assist these customers to transition over time.
- Gas fired generation
 - **Investigate alternatives.**

We recommend allowing AEMO to produce a new demand forecast for gas demand in Australia once governments have announced their policies.

Recommendations on gas exports

- We recommend that the Federal Government ceases to provide financial support to the Fossil Fuel industries and should review taxes and exemptions granted to exploration companies.
 - The review should cover the diesel subsidy (We are aware of the argument that this is not a subsidy. In that case can the Government make the non-subsidy available to the general public?).
 - The review should focus on actual tax paid and tax minimisation / avoidance activities.
 - As a start it should withdraw taxpayer financed support for the **Middle Arm Precinct** in Darwin.
- We recommend that the federal government puts in place a framework that ensures that all of Australia benefits from our abundant resources.
- We recommend that Australia ceases all gas exploration activities and does not approve any more gas developments.
- We further recommend that Australia put forward a glide path for reductions in exports in line with our commitments and IPCC recommendations to discuss with our trade partners. The glide patch would initially be based on orders but can then have a degree of flexibility allowing for our trade partners to transition to renewables.

Recommendation on carbon capture and storage (CCS)

- We recommend that governments should maintain a close watch on CCS effectiveness as it is yet unproven.
- We further recommend that if projects that depend on CCS are proposed and approved:
 - their production capacity will be tied to the demonstrated effectiveness of their CCS.
 - If CCS is not effective, then either production limits are enforced or financial penalties that cover both the sales realisations and then current real carbon pollution remediation cost of capturing CO₂ from the atmosphere are imposed.

2. Our views

Introduction

We have read the consultation paper provided by the Department of Industry and Science. We have a number of major issues that cannot be addressed through answers to the Department's specific questions. These major issues and discussions are included in Section 2 of this document (this section) "Our Views" before proceeding with our response to the specific questions in the consultation paper.

The strategy's key objectives

What the introduction says

The introduction states that the strategy's key objectives are to:

- support decarbonisation of the Australian economy.
- promote Australia's energy security and affordability.
- enhance Australia's reputation as an attractive trade and investment destination.
- help our trade partners on their own paths to net zero.

The introduction also states that Australia needs an evidence-based, long-term strategy to help the Australian Government, other governments, industries, communities and households make decisions. This strategy must support decarbonisation and maintain our international reputation as a trusted trade and investment partner.

Our views on the key objectives

It is our opinion that these objectives do not take into account the need for the world to rapidly decarbonise and that this is an important omission. Scientists around the world, and bodies such as the International Energy Agency and IPCC are saying that we need to accelerate our actions to reduce carbon emissions and that there should be no new fossil fuel projects. In addition, 151 countries, accounting for around 90% of global emissions, have committed to reach net zero.

It is also clear that we need to accelerate our decarbonisation if we are to keep global warming below 2 degrees (with an even faster acceleration if we are to hit the target of 1.5 degrees).

For that reason, we recommend that both Australia's decarbonisation and the decarbonisation of our trade partners must be in line with net zero by 2050 or earlier. There can be no excuses.

Different approaches needed.

Australia should be able to control its gas demand if it introduces sensible policies. For that reason, Australia needs to develop a set of policies that will ensure that we transition away from gas as soon as possible.

Our trade partners will also have their own decarbonisation paths that may be as ill-defined as Australia's path. We should work closely with these trade partners to arrive at a strategy that supports our trade partners while meeting emission reduction targets.

Recommendation

We recommend that:

- **the key objectives be amended to reflect the imperative that demand forecasts for both Australia and its trading partners must be in line with keeping global warming below 2 degrees.**
- **The demand analysis supporting the future gas strategy should have two areas of focus:**
 - **Australia's use of gas**
 - **Australia's trade partners use of gas**

The lack of key policies and plans

Australia and Australian states and territories have some targets for total emissions reductions and some targets for renewables in the grid, but we are short of policies in many areas. For example, we do not have:

- A long-term plan for the decarbonisation of the grid
 - Strategies for the management of a 100% renewable grid are still being developed although great progress is being made. The attached article shows how interconnectors, batteries and synchronous condensers can reduce the requirement for gas³ (new protocols have recently been introduced that allow synchronous condensers to provide the bulk of system strength).
- An EV strategy or even yet, fuel emission standards (FES).
- A strategy for replacing gas in residential and commercial premises
 - Introducing a national plan to transition households and commercial premises off gas would save customers money and reduce emissions.
- A strategy for transitioning industry off gas⁴

We acknowledge that the Victorian and ACT governments have introduced policies curtailing new gas connections and that the ACT has set an end date for gas. The Victorian Government also produced the Victorian Gas Substitution Roadmap in 2022⁵ and an update to this is expected later in 2023. The current roadmap is inadequate and would benefit from national co-ordination.

On that basis producing a realistic gas requirement for Australia over the period to 2050 is very difficult and is likely to change over time.

³ <https://reneweconomy.com.au/south-australia-grid-operates-at-99-8-per-cent-wind-and-solar-over-past-seven-days/>

⁴ In this submission, we have followed the convention used in the consultation paper. 'Gas' means natural gas, a fossil fuel consisting largely of methane and other hydrocarbons, occurring naturally underground.

⁵ <https://engage.vic.gov.au/help-us-build-victorias-gas-substitution-roadmap>

Recommendation

We recommend that our federal, state and territory work together and develop some policies that will lead to emissions reductions that will support achieving our climate targets.

Australia's future gas requirements

Gas forecasts

We are concerned that the DSI will find no gas demand forecast that reflects our likely future. The Federal Government and the states and territories have made commitments to reduce emissions that will rely on significant reductions in gas usage. However, the federal, state and territory policies are still under development and for that reason there can be no gas forecasts reflecting the changes going on, only forecasts reflecting either no action or what should be done.

We recognise that AEMO provides forecasts of gas demand. While AEMO forecasting is of a good quality it should be understood that four factors limit the accuracy of AEMO's forecasts.

1. AEMO only takes account of existing government policies in its forecasts. Therefore, any initiatives to electrify manufacturing and households has been ignored.
2. Reducing gas wastage in existing production facilities would increase supply. However, this is not a current requirement placed upon producers.
3. AEMO has to balance supply and demand. This introduces a natural bias to have a high demand forecast.
4. AEMO has repeatedly underestimated the power of the people – with rooftop solar being continually underestimated.

There are forecasts that reflect the desire of people for an accelerated transition off gas but these anticipate action by governments that is needed but may not be forthcoming. However, these forecasts may be realistic, or even understate the likely speed of the transition off gas as:

- Pressure for more rapid decarbonisation can be expected to grow as the impact of climate change becomes more noticeable.
- The response to the Russian invasion shows that it is possible to rapidly accelerate transition from gas. The Russian invasion has provoked a rapid development and roll-out of improved electric technologies which will be instrumental in reducing demand for LNG.
- All LNG consumers are under increasing pressures to decarbonise.

However, we must acknowledge that powerful forces still slow change where powerful lobby groups are distorting policy.

Recommendation

We recommend that the Department of Industry and Science works with their colleagues at DCCEE and with state and territory governments to develop a realistic gas demand forecast based on current targets and current and planned electrification or manufacturing strategies.

Gas use in Australia

When looking at future gas demand in Australia there are a number of issues to be looked at. These are:

- Projected annual demand for the various sectors. This is dealt with in the section below.
- Seasonal demand – where Winter demand may be higher than Summer demand and there may be surplus production in Summer and a shortfall in Winter. This can be addressed via storage.
- Short term spikes in maximum demand
 - This becomes an issue when there is high demand over a number of days. The gas pipes provide a degree of flexibility but cannot handle this on their own.
 - The major peak is in Victoria where winter gas demand peaks on cold days. This can be dealt with by:
 - Electrification – electric heating appliances are much more efficient than gas heating appliances (particularly gas ducted heating).
 - More efficient appliances.
 - Improving the thermal efficiency of new and existing homes.
 - Standards are being raised for new homes.
 - Funds are being made available for social housing.
 - Demand response.

Recommendation

We recommend the introduction of policies to promote comfort (and reduced bills) in all older properties (in particular we need to address the issue with rental properties).

A transition plan based on needs

Our comments on what steps are necessary to support the development of a plan are as follows:

- Residential and commercial customers on the gas networks
 - We believe that the required steps are understood and that electric appliances can replace all existing gas appliances. On that basis it should be possible to produce a plan quickly.
- Industrial customers on the gas networks
 - Research the requirements of our industrial customers. We need:
 - field monitoring,
 - information from major users regarding their requirements
 - analysis and understanding of the efficiency with which gas is used, and the process temperatures actually required.
 - Identify potential solutions such as heat pumps (noting that it is expected that heat pumps are expected to be able to heat up to 200 degrees centigrade by 2030), co-located bioenergy or hydrogen.
 - Match major industrial users with potential solutions and work with them to develop transition strategies.
 - Based on the information gathered develop a transition plan for industry.

Our understanding of industrial requirements is currently very poor. We need to plan for the transition of our network sector to electricity or to renewable sources of energy.

- Gas for Feedstock
 - Investigate alternatives to fossil⁶ gas.
 - Biomethane is a suitable alternative to fossil gas if demand can be co-located with supply. Unfortunately, there is insufficient information to comment on whether such biomethane supplies can be co-located with demand⁷.
 - Where biomethane sources cannot be co-located other solutions should be investigated.
- Gas fired generation (GFG)

The demand for GFG will be impacted by actions in the other sectors. Examples are:

- Flexible generation
 - We accept that gas has a role in the short to medium term to provide flexible generation to complement variable renewables. However, the amount of gas needed will decline over time until it becomes an occasional backup energy source.
 - In the future the gas used to supply flexible generation may be biomethane or green hydrogen.
- Firming
 - There will always be firming requirements with a renewable grid, but this will increasingly be filled by batteries, EVs, synchronous condensers, the management of hydro resources and other emerging technologies.

It should be noted that:

- The various transition plans together with improving the thermal efficiency of the housing stock should reduce the need for GFG.
- New technology is reducing the need for and may completely eliminate the need for gas fired generation.
- Once these plans have been introduced it should be possible to produce a gas demand forecast that represents where we should be going and not our current direction.
- An additional benefit from reducing or eliminating GFG is that gas-fired generation prices will no longer drive NEM prices.

We recommend that federal, state and territory governments look at South Australia to see how forecasts for gas demand can change and to see how new solutions are already eroding the need for gas.

⁶ In this section we have moved away from the convention used in the consultation paper of referring to fossil gas as gas because we are discussion moving away from fossil gas to other gases.

⁷ As noted in response to Victorian Renewable gas consultation.

There needs to be a needs-based transition plan for all of these uses. However, we have poor knowledge regarding the issues faced in transitioning different sectors of the economy. Research is required in some sectors before a plan can be finalised.

Recommendations

We recommend that the Australian federal government and the state and territory governments determine a policy that will address the transition away from natural gas use in Australia. This plan (or these plans) should include, at a minimum, the following steps:

- **Residential and commercial customers on the gas networks**
 - **Announce a plan for the transition of residential and commercial customers off gas. The recommended steps are as follows:**
 - **Inform the public about the transition and explain the benefits noting that all-electric homes are cheaper to run than dual-fuel homes.**
 - **Explain the transition timeframe.**
 - **Set an end-date for the supply of gas to residential and commercial customers through the distribution networks (including stopping the replacement of gas pipes).**
 - **Set an end date for the sale of residential and gas appliances.**
 - **Provide support to assist customers to transition including a range of centres where customers can get assistance with particular focus on:**
 - **those needing support such as low-income earners.**
 - **high gas users.**
 - **Make changes to gas distribution regulations to avoid price shocks.**
 - **Tackle the issue of making rental properties fit for habitation by ensuring that the thermal efficiency is improved by using a combination of carrots and sticks.**
 - **Ensure that social housing is not left behind.**
- **Industrial customers on the gas networks**
 - **Determine the energy needs of industry.**
 - **Identify potential solutions:**
 - **Up-to-date information on the latest heat pumps.**
 - **Information regarding the availability of biomethane.**
 - **Help major industrial users identify potential solutions and help them to develop transition strategies.**
 - **Request transition plans from major industrial gas users.**
 - **Once proper investigations have taken place announce a transition plan for industry.**
- **Gas for feedstock**
 - **Investigate possible solutions for these gas users.**
 - **Assist these customers to transition over time.**
- **Gas fired generation**
 - **Investigate alternatives.**

We recommend allowing AEMO to produce a new demand forecast for gas demand in Australia once governments have announced their policies.

Exports and the gas requirements of our trade partners

We regard this as a significant issue. Australia's standing as a global citizen depends on its actions – words are not enough. This means that Australia needs to:

- Honour its commitments.
- Balance carefully the often-competing requirements of its trading partners.
- Attempt to work with other countries to our mutual benefits.
- Be willing to stand up for what is right.
- Be a good global citizen.

This is no easy task.

The consultation paper makes references to and focuses on specific trading partners (our major gas customers) while ignoring the wider issue of worldwide trading partners and our responsibilities regarding climate change. We understand that many countries will be using gas as an enabler in their decarbonisation efforts and that we should work with them and support their trajectory to net zero.

However, we should not consider this request in isolation. Other factors to consider before we decide to continue to supply gas to these trading partners are:

- What level of supply is being requested over time by each trading partner and does this clearly demonstrate a transition to net zero?
- What would be the impact of providing the gas requested by our trading partners?
 - What impact will it have on Australia meeting its emission reduction targets? (This assessment should ignore CCS as an unproved technology and should include Scope 3 emissions.)
 - The increase in jobs would be minimal. The gas industry is a small employer.
 - However, those jobs may go to skilled workers who are required in supporting the development of renewables (critical minerals, mining etc)
 - Australia would receive little financial benefit. The projects would just line the pockets of the fossil fuel companies.
 - What would it require for Australia to meet these requests? Would it require new gas production?
 - New gas production facilities would be against the advice of the IPCC and the IEA and would jeopardise the chance of the world hitting its emissions reduction targets.
 - What impact would new gas developments have on our international partners?
 - The European Union may place tariffs on our exports if we do not price in the cost of carbon⁸. Removing carbon emissions from our manufacturing base and stopping new gas developments would help.
 - Other countries are likely to take similar action.
 - Our role in the Pacific would be diminished. Further gas developments would be a slap in the face for Pacific Islanders whose Ministers of Energy

⁸ note the European Carbon Border Adjustment Mechanism (https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en)

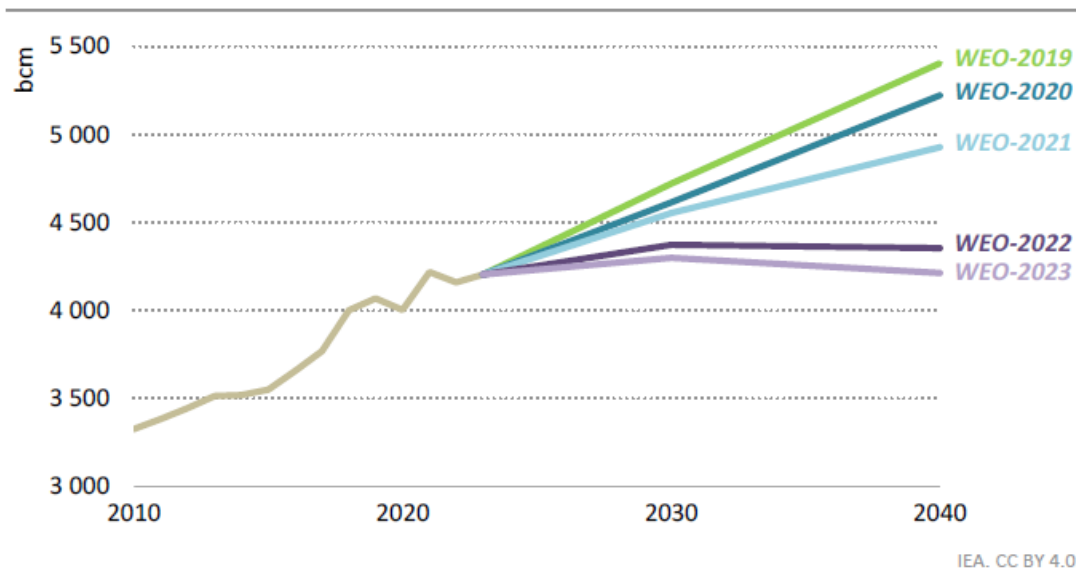
and Transport have adopted the “Port Vila Call to Action” which asks for a fossil fuel free Pacific which would pave the way for a regional ocean energy program.

- Reputational risk. Many countries around the world are finally understanding the likely impacts of climate change and will be looking for Australia to play its part.

When all is considered, we do have to respect our trading partners, but they should also respect us. Any country that expects us to continue the supply of gas in the long term is not respecting us. We can offer our trading partners alternative renewable fuels to replace gas. This is the way of the future.

Australia should also consider the IEA’s latest gas demand predictions.

Figure 1.35 ▶ **Natural gas demand projections in the STEPS to 2040 in five editions of the World Energy Outlook**



Upward revisions to renewables have chipped away at long-term natural gas projections, but the sharpest reduction came in 2022 following the global energy crisis

Note: WEO-2019 data is for the New Policies Scenario, the closest equivalent to the Stated Policies Scenario (STEPS).

If the trend of reducing forecasts continues it is probable that gas demand from our trading partners will also fall and any new gas developments will not only be environmentally catastrophic but also economically catastrophic.

Australia spends a lot of time trying to portray itself as a good corporate citizen that is reducing emissions. The reality is that, to-date, Australian governments have focussed on fossil fuel exports. The story is wearing thin, and it is likely that reality will become clear in the next few years.

If Australia really wants to become an energy superpower it has to make a choice.

We have been an energy superpower for many years, but we failed to benefit from this fact. Norway, faced with offshore oil, has a sovereign wealth fund whereas we have rich fossil fuel companies and a massive fossil fuel lobby group. It is not too late to correct the status quo and to put a framework in place to ensure that all of Australia benefits from our abundant resources.

However, countries that are decarbonising will want to trade with other countries that are also decarbonising. It is our view that Australia will have to decide whether to remain a fossil fuel energy superpower or transition to being a renewable superpower (stick in the past or more into the future). In many ways this decision will define whether Australia is really committed to addressing climate change or just saying what is expected while maintaining the fossil export status quo.

Recommendations

- **We recommend that the Federal Government ceases to provide financial support to the Fossil Fuel industries and should review taxes and exemptions granted to exploration companies.**
 - **As a start it should withdraw support for the Middle Arm Precinct in Darwin.**
- **We recommend that the federal government puts in place a framework that ensures that all of Australia benefits from our abundant resources.**
- **We recommend that Australia ceases all gas exploration activities and does not approve any more gas developments.**
- **We further recommend that Australia put forward a glide path for reductions in exports in line with our commitments and IPCC recommendations to discuss with our trade partners. The glide patch would initially be based on orders but can then have a degree of flexibility allowing for our trade partners to transition to renewables⁹.**

Carbon capture and storage

We believe that CCS is a necessary part of our transition to net zero and that we should encourage the development of CCS technologies. However, this does not mean using a promise of CCS as a way past appropriate approvals.

There are already a number of projects where CCS is being tested and, as yet, none have been successful. We believe that ARENA could have a continuing role in the development of CCS technologies. However, funding for these should be concentrated on existing projects or new projects applied to existing gas emissions.

Recommendation

- **We recommend that governments should maintain a close watch on CCS effectiveness as it is yet unproven.**
- **We further recommend that if projects that depend on CCS are proposed and approved:**
 - **their production capacity will be tied to the demonstrated effectiveness of their CCS.**

⁹ This would not be new practice - note the European Carbon Border Adjustment Mechanism (https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en)

- **If CCS is not effective, then either production limits are enforced or financial penalties that cover both the sales realisations and then current real carbon pollution remediation cost of capturing CO2 from the atmosphere are imposed.**

3. Responses to questions in the consultation paper

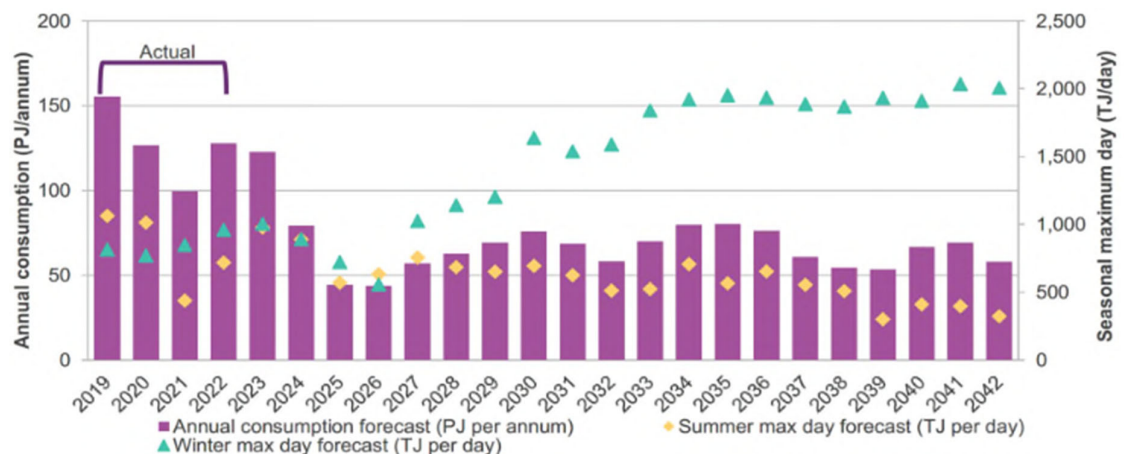
Consumers (domestic)

1. Do you use any international and/or domestic forecasts to inform your outlook of the gas market? We want your views on which scenarios best reflect the demand outlook. Are there any limitations or additional factors impacting the demand outlook you would like to note?

We do not believe that there exists a realistic domestic forecast and there will not be until federal, state and territory governments produce plans to meet their emissions reduction targets.

2. What role do you see gas-fired generators playing in supporting Australia's 82% renewable energy targets and beyond?
 - We see gas-fired generators having a role in the transition of the grid to 82% renewables.
 - We expect this will result in a short-term increase due to the unreliability of coal generators followed by a longer-term decline as new technologies replace gas.
 - The current forecast for NEM gas generation is shown in the table below. We believe that gas for gas generation may decline more in later years as new technologies make the use of gas redundant.

Figure 3. Actual and forecast NEM gas generation annual consumption (petajoules/year) and seasonal daily demand (terajoule/day), orchestrated step change (1.8 °C) scenario, 2019-42⁹



3. How will the expected trends in demand from gas-fired generators impact other gas users?

We do not expect the demand to have much impact in the short term. The short-term trend can be managed if:

- a. action is taken to manage winter gas demand with electrification, energy efficiency and improving the thermal efficiency of homes having a great impact, particularly in Victoria.
- b. Adequate storage facilities are operational.
- c. Demand management measures are introduced.

4. What should government do to consider managing these impacts and to mitigate energy peaks caused by regional or seasonal variations?

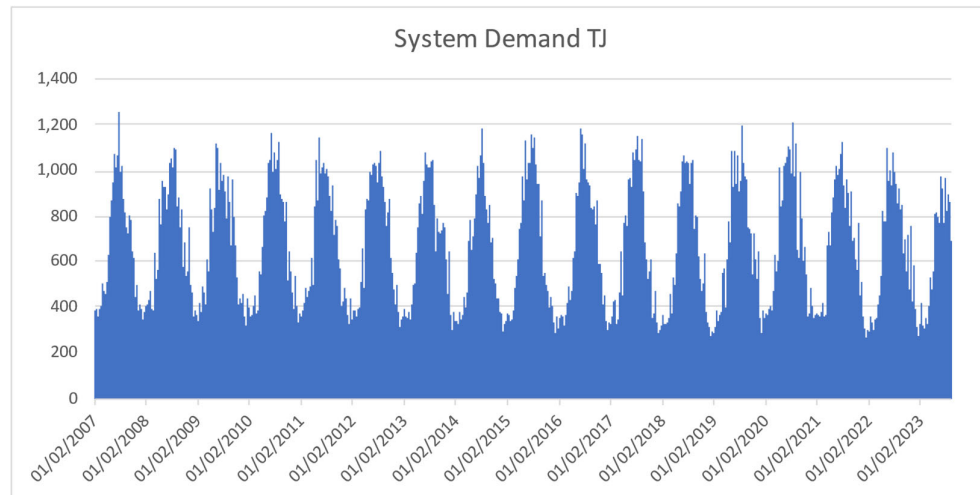


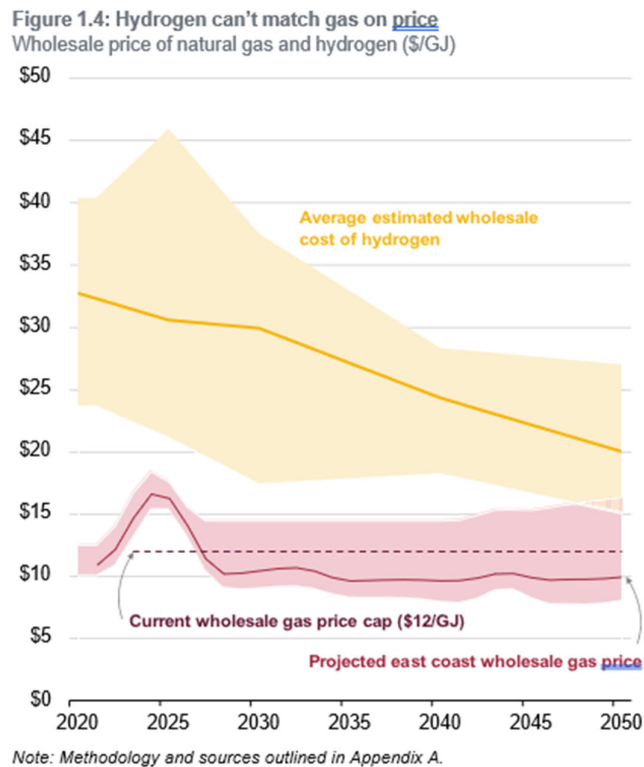
Figure 1 – Victorian daily system demand 2007 to 2023

- The table above shows Victorian system demand daily. This is used to explain the issue in Victoria (which has the largest residential gas demand). This profile shows short-term peaks in demand each year driven by the use of inefficient gas heaters during cold spells.
 - Governments should take action to manage winter gas demand using electrification, energy efficiency and improving the thermal efficiency of homes having a great impact. Solutions are understood and it is to be hoped that the updated Victorian Gas Substitution Roadmap will introduce supporting policies.
5. How feasible, and at what scale, are alternatives to natural gas for the electricity sector? You may wish to consider renewable gas alternatives for peaking generation, for example, biomethane and low-emissions hydrogen and other forms of grid-firming technologies like batteries and pumped hydroelectricity. What barriers exist to using these alternatives?

While we believe that biomethane can provide energy to specific customers (ideally where co-location exists) we do not believe that biomethane can be considered as a renewable gas alternative for peaking generation.

Further we do not believe that hydrogen makes sense. Forecasts of the long-term price of hydrogen compared to forecast gas prices are shown in the table below:

It is worth looking to South Australia to see the current alternatives and the future direction for gas firming. Synchronous condensers and batteries are having a huge impact on gas consumed for generation and further innovation can be expected.



In 2022, gas generators set the wholesale electricity price around 12% of the time in the NEM and were instrumental in increasing the wholesale cost of electricity. Replacing coal with hydrogen would result in higher prices.

6. How much longer will you continue using gas as a fuel source or feedstock for your business? Do you think your consumption of gas will decline over time, and if yes, at what rate?

N/A

7. Are there alternatives that your business can use instead of gas (for example electrification, hydrogen, biomethane or circular economy inputs)? What barriers exist to using these alternatives? How can the substitution of gas be accelerated?

N/A

8. What factor/s influence your willingness to adopt electric appliances or processes? How could governments support small businesses to decrease gas consumption?

N/A

9. What role might carbon capture, utilisation and storage (CCUS) and negative emissions technologies (NETs) (for example direct air capture and CO₂ removal) play in decarbonising industrial processes that are hard to abate in your business or industry?

N/A

Community

10. If your home or small business gas appliances (stove, heating, or hot water system) stop working, would you prefer to keep using gas or switch to an electric appliance? If you are unsure, what would help you decide? What factors influence your willingness to switch to electric appliances?

Our group advocates switching to electric appliances when gas appliances fail.

11. How can governments, industry and households work together to manage impacts for homes?
- Communication and dissemination of information.
 - Many people do not understand the options available and / or the trusted equipment and equipment installers.
 - Ensuring enough trained resources are available.
 - Subsidies where necessary.
 - Manage distribution charges.

Producers

12. What do you see as the role of gas in Australia's net-zero transformation?

While we are not producers we see that gas has a supporting role in the transformation.

13. What action is your industry or company taking to reduce greenhouse gas emissions and does gas use have a role to play?

Producers can help reduce greenhouse gas emissions by improving their existing production facilities and by reducing gas production.

14. How can Australian LNG accelerate global decarbonisation without compromising energy security or affordability?

N/A

15. What measures will increase the transparency of LNG supply chains, including their environmental, social and governance impacts?

Effective consultation
Strict accurate reporting
Large penalties for poor environmental or social impacts

16. Does current gas transport and storage infrastructure support the changing role of gas in the residential and commercial sector? If inadequate, what is needed and who should provide the change?

N/A

Consumers (international)

17. What role will LNG – and Australian LNG in particular – play in your economy’s energy transition?

This question is not addressed to us but we believe that the question should be more specific.

Recommendation

We should also be asking:

- a. Does your country have an energy transition plan that shows the role of LNG?
- b. If so, what range of uncertainty is there in your future demand, given factors such as climate change, gas prices, technology development etc?

18. What is your economy’s current LNG demand and how do you predict this will change through to 2035 and beyond to 2050?

This question is not addressed to us but we believe that the question should be more specific.

Recommendation

We should also be asking:

- a. Can you demonstrate that your future demand forecast will result in your meeting net zero.
- b. Have you considered replacing fossil gas with renewable gases in the future?

19. What options should the Australian Government consider to ensure international investment in Australian LNG projects remains competitive?

While this question is for international consumers we comment as follows:

- a. Both producers and international customers have benefited from our lax tax laws that allow producers to pay little or no tax.
- b. We should introduce additional taxes and requirements for producers such as:
 - i. Realistic penalties – unlike minimal applied to Chevron
- c. We should insist that investors in existing developments
 - i. Investigate carbon capture and storage (CCS)³⁴
 - ii. Commit to a substantial reduction in leaks, venting, flaring and fuel gas use.

We would have liked to see the Australian public being asked whether the current level of subsidies granted to international investors and the low tax paid by these international investors is fair to the people of Australia.

20. What value do you place on low or net zero emissions LNG production?

I think that we should be asking whether these is such a thing as on low or net zero emissions LNG production.

Producers

Answers provided in this section reflect the views of Lighter footprints.

21. What is the role of offshore acreage releases in the context of consumer demand and emissions targets? What factors should the Australian Government consider when releasing acreage?

The Australian government should not be releasing further acreage.

22. How could the offshore petroleum regime be improved to meet the objectives of the strategy?

The offshore petroleum regime should start acting responsibly:

- Reducing emissions from existing facilities
- Developing working CCS facilities
- Decommissioning wells properly.

23. What are the major barriers and opportunities for new supply? How can the Australian Government prioritise, mitigate or manage these?

N/A

24. What are some of the opportunities for gas production in Australia in the medium (to 2035) and long term (to 2050)? How could these necessary developments support decarbonisation consistent with achieving emissions reductions goals?

N/A

Community

25. How can the Australian Government better communicate and provide more transparency to local communities regarding gas projects?

The question also provides the answer. It refers to providing information to local communities. Communication also requires listening and accepting advice, especially from First Nations peoples.

26. What opportunities exist to improve engagement and consultation processes with industry?

We assume that this question refers to our manufacturing industry. Huge opportunities. We need to understand the energy needs of industry and to provide them with information on up-to-date technologies.

27. How can all levels of governments better support the industry to engage with First Nations people and community groups?

We assume that “the industry” here refers to the Fossil fuel industry. If so, they do not need support they need control.

Producers

28. How can Australia support the potential for cost-effective, safe and verifiable CCS projects, including for the gas sector, other industries and our region?

Australia should continue to fund genuine research.

Community

29. How can the Australian Government better communicate and provide more transparency to local communities regarding CCS projects?

Listen and be honest.

Distributors and LNG import terminal project proponents

30. How fit for purpose is Australia's gas transmission and distribution network?

It is currently fit for purpose, but it cannot and should not be used to distribute hydrogen.

31. What changes should be made to the transmission and distribution network to prepare for the changing profile of gas demand in Australia? What risks and opportunities would this entail?

No significant changes. Hydrogen should only be considered if production is co-located with demand.

32. Could the construction of LNG import terminals contribute to improving energy security in Australia?

The construction of LNG import terminals would be a costly and inefficient way of improving energy security. Electrification, energy efficiency, improving household thermal efficiency and demand management are better solutions.

33. Under what conditions would LNG import terminals be commercially viable in Australia?

None that we can think of.

Producers and LNG facilities

34. Are you able to attract and retain the workforce and skills you need? How will these shift as we transition to net zero emissions?

N/A

35. What are your long-term business and investment plans beyond 2035? How might these affect local economies, employment and communities?

N/A

36. Describe the projects or best practice examples of industry engagement with the local community, as well as the benefits these projects bring to the people and regional economy.

N/A

Community

37. How has the oil and gas industry impacted the local economy and employment opportunities in your region?

N/A

38. What actions will assist workforce retention, upskilling and mobility in your community as the economy transitions to net zero emissions?

Support for electrification, energy efficiency and home insulation will create work in the community.

Consumers (domestic)

39. What are the risks to Australia's domestic gas security in the medium (to 2035) to long term (to 2050) for your industry and how can these be addressed?

Electrification, energy efficiency, improving household thermal efficiency and demand management will address energy security.

40. What do you see as the biggest risk to the ongoing affordability of Australia's domestic gas supply? For example, what are risks to affordability in the wholesale or retail market?

The biggest risk is reliance on new expensive production.

41. What reforms can be made at a Commonwealth, state, territory, or industry level to allow gas supply to be more responsive to domestic demand signals?

Break the link between domestic prices and international prices.

42. What actions are available to lower gas costs, including substitution and new supply, to provide certainty to consumers? How would these actions further the Australian Government's decarbonisation goals?

Electrification, energy efficiency and improving household thermal efficiency will reduce consumer costs without impacting gas costs.

43. What opportunities exist in your industry to decarbonise supply chains?

N/A

44. Do you use any forecasts of gas supply to inform your outlook of the gas market? If so, what are they? You may also wish to consider whether these forecast scenarios consider the technical and commercial uncertainties associated with gas reserves and resources. Which scenarios do you consider best reflect the supply outlook?

N/A

45. Are there any limitations or caveats associated with these scenarios? How do you address these limitations?

N/A