

22nd August 2022

Australian Domestic Gas Security Mechanism Review
Department of Industry, Science and Resources

Securing Australia's domestic gas supply – options to improve the Australian Domestic Gas Security Mechanism - Chemistry Australia Submission

Preamble

1. Gas is a critical transition fuel while industry transitions. Unless natural gas is sustainably priced while transition is underway, Australia will be at risk of continuing to lose industrial scale and complexity in the decarbonised economy of the next decade.
2. Chemistry Australia welcomes the opportunity to provide this submission on options to improve the Australian Domestic Gas Security Mechanism (ADGSM) with the intent of securing Australia's domestic gas supply at a price level affordable to Australian domestic gas users. It will be important that a revised ADGSM is fit for purpose for current and future market demands and opportunities. This mechanism needs to be improved from its current limitations as a blunt instrument initially designed to be applied when market conditions and the Australian economy were facing much less sovereign risk and uncertainty.
3. Importantly, we welcome the Government's acknowledgement of the principle-based need for gas to be available at a price level affordable for domestic manufacturers reliant on gas as a non-substitutable feedstock, and other large industrial users requiring term contracts. Consistent with the findings of previous, and the most recent, ACCC Interim Gas Inquiry Reports, Chemistry Australia and its members remain extremely concerned about unsustainably high gas prices. Current east coast prices levels and trends will not be able to underpin the investments required to maintain sovereign manufacturing of key inputs into the economy, or to assist the transition required to low carbon and circular economies. It should not be lost on government, that higher input costs will compromise investment decisions on new, greener technologies and fast-track decision points on whether to close local plants and/or move to import business models. This will directly impact regional jobs and Australia's industrial depth and complexity.

Recommendations:

4. Chemistry Australia recommends that for the revised ADGSM to meet the needs of gas feedstock and other major industrial users it should:
 - a. Work with, and be complementary to, other market reforms including an appropriate Heads of Agreement and domestic gas reservation policies
 - b. Include suitable price – based activation
 - c. Be more response to ongoing market dynamics and market forces, including the use of shorter notice activation
 - d. Assist companies with immediate and urgent gas supply and price requirements
 - e. Include appropriate compliance components with a suitable enforcement regime where required
 - f. Help incentivise domestic supply
 - g. Include a suitable mechanism, or other arrangement, that matches supply with the known, cyclical feedstock demand required by plant re-investment cycles at demonstrably competitive prices, in

volumes and for periods suitable to buyer's needs, and with sufficient notice. Such a mechanism would meet all seven of the principles set out by the ADGSM review.

Body of submission

5. Chemistry Australia acknowledges the ACCC Gas Inquiry July 2022 Interim Report with its strong and consistent evidence base of ongoing market failures, the identified limitations of the ADGSM and their recommendations for its strengthening, to address the urgent need to protect east coast energy security. While the ACCC has highlighted 'unconscionable conduct' in past reviews, it should be noted that the Commission has now identified a distortion in market power. This can only be addressed by introducing a clear pricing mechanism within the ADGSM framework.
6. Chemistry Australia acknowledges the ADGSM review document 'Securing Australia's domestic gas supply', its views on the shortcomings of the instrument and the seven principles that provide a frame of reference for a balanced outcome to improve Australia's domestic gas security.
7. A properly functioning gas market should exhibit sufficient resource depth, with adequate levels of liquidity within a transparent operating environment. It should enable gas to be available at demonstrably competitive prices, in volumes and for periods suitable to buyer's needs, and with sufficient notice. This should be devoid of any barriers to balanced arbitrage created by the exercise of available market power, including where high levels of market concentration exist. Chemistry Australia continues to advocate for reforms that address the current concentration of market power with the LNG producers and that improve competition.
8. The widely acknowledged gas market dysfunction is such that increased supply does not enable affordability for industrial gas buyers. This has been the user experience for some time and remains the case today. However, with LNG producers no longer being net market contributors, an additional threshold has been crossed which further locks in constrained supply and its flow on implications for domestic affordability. The ACCC notes that "the outlook for the east coast gas market has significantly worsened¹"
9. The recent ACCC report further notes that a well-functioning Heads of Agreement "could ensure that LNG exporters make gas broadly and transparently available to all domestic users (including commercial and industrial users and gas-powered generators and retailers) at demonstrably competitive prices, in volumes and for periods suitable to buyers' needs, and with sufficient notice²". The report goes on to state concerns that "some LNG exporters are not engaging with the domestic market in the spirit of the Heads of Agreement signed in 2021...". It will be important that a well-designed and operated ADGSM aligns with, and supports, a well-designed and operated Heads of Agreement.
10. Reflecting on the most recent ACCC report, and past reports over several years, it is hard to understand why the Commission has not pursued investigations into individual suppliers in the market. It has consistently identified irregular behavior, artificial shortening of the domestic market and inflated prices.
11. On the basis of current domestic market conditions, a well-designed ADGSM would already have been triggered, given the ongoing domestic market shortfalls, rapid changes in market conditions faced by gas users, including being faced with unprecedented pricing levels.
12. Therefore, it is crucial that the ADGSM review ensures it delivers timely, meaningful and durable price-focused reforms, alongside supply improvements. This is urgently required so that feedstock and other major industrial users requiring term contracts can continue to play their role in ensuring Australia is a modern economy that value-adds to its abundant gas resources and is able to continue providing Australians with the highly skilled employment the economy requires.

¹ ACCC media release 1 August 2022 re its Gas Inquiry Interim Report, July 2022.

² *ibid*

13. Australia needs to urgently, efficiently and effectively ensure that Australian gas is made available first to domestic users to underpin its energy security, manufacturing, employment, carbon neutrality and circular economy objectives, whilst maintaining its role as a leading global energy contributor and a trusted trading partner. Fortunately, Australia has the gas reserves to enable a more balanced approach than is currently the case.
14. The \$38B³ chemistry industry plays a vital role in the Australian economy, underpinning more than 212,000 jobs and supplying products, technologies and innovations to 108 of Australia's 114 industry sectors. It is essential to healthcare, mining, agriculture, construction, infrastructure, transport and manufacturing. In addition, the products of the chemistry industry support urban and regional economies and communities, and the daily lives of all Australians, including providing clean and safe drinking water, keeping food fresh from farm to plate.
15. The chemistry sector represents approximately 10% of east coast domestic gas demand and a very small percentage of overall east coast production. Our members use gas (methane and ethane) as a non-substitutable feedstock for manufacturing a broad range of key products used throughout the economy for both domestic and export markets. Gas also provides process heat, steam and power for chemical and polymer-based manufacturing. Key products and markets include:
 - a. Methane feedstock into Ammonia: fertilisers for agriculture, explosives and reagents for mining and gold and other mineral processing; AdBlue and other products
 - b. Methane feedstocks into Hydrogen Peroxide: gold and other mineral processing; paper and pulp processing, personal care products
 - c. Methane into domestic Micro-LNG applications: for stationary and remote power generation
 - d. Ethane into Polyethylene: Food packaging; water storage; water and gas distribution for domestic; agriculture; commercial and industrial markets and other applications
 - e. Ethane into Ethylene Oxide: surfactants for agriculture; glycols for automotive and industrial applications
16. Chemistry Australia re-iterates the critical role that gas-based chemistry and manufacturing will provide in supplying the technologies, products and solutions that enable Australia to transition to carbon neutrality and leverage the benefits of a circular economy. For example:
 - a. Orica is one of the largest industrial users of natural gas in Australia, the vast majority used as feedstock to produce ammonia as a critical input to explosives used in mining. While greener alternatives to natural gas feedstock are being explored, such as Orica's joint feasibility study with Origin Energy on the commercial viability of green hydrogen production, Orica will need to procure affordable natural gas to maintain its manufacturing assets and secure supply chains for the domestic mining sector. It is expected that green ammonia may be viable sometime in the 2030s. In the meantime, if Australia is to transition its manufacturing base into the decarbonised economy, it will require a natural gas 'bridge'.
 - b. Qenos and a range of partner organisations are assisting the creation of a new Australian Plastics Circular Economy industry. This will utilise Qenos' existing Australian petrochemical processing plants using ethane feedstock (and using methane process gas) with the capability to also accept recovered plastic waste using new advanced recycling technology investments to manufacture polyethylene with recycled content. Life Cycle Assessments comparing polymers manufactured using advanced recycling indicate emission reductions in the order of 50% per tonne compared with virgin feedstock production. Improving circular plastic outcomes will support the reduction of plastic waste ending up as litter – a key objective of the National Plastics Plan and the United Nations Treaty to end plastic pollution.”

³ *Chemistry Industry Economic Contribution Analysis*, Acil Allen, 2019

- c. Solvay, the only hydrogen peroxide manufacturer in Australia, is also a significant user of natural gas as a non-substitutable raw material that is used to produce hydrogen, and hydrogen peroxide as a critical product for mining, paper bleaching and food packaging sterilisation. Solvay has a strategy to convert to green energy for raw material and energy usage, and as such, it will require affordable and secure natural gas contracts for the future years to maintain its competitiveness against overseas imports and to provide investment into greener alternatives for its Australian manufacturing facility.
17. However, company's capacity to lead and support these necessary and ambitious investments rely on their underlying viability, including their ability to attract global capital for new plant and turnaround investments. This requires them to operate within a properly functioning marketing and conducive policy environment. Access to globally competitive gas within a properly functioning market is vital to ensuring long-term viability and competitiveness. Some companies within the sector have, unfortunately, already made the decision to exit the Australian market as a result of gas input costs. Similar decisions have been made by companies within the broader manufacturing sector needing reliable supplies of affordable gas, and being unable to secure either.
18. The value-adding of gas via chemistry, as part of Australia's broader domestic manufacturing capability, is well known following the publication by Acil Allen of their "Chemical sector economic analysis, 2019". Acil Allen report that for every PJ of gas processed by the chemical industry, significant value is delivered throughout the Australian economy. Chemistry Australia recognises the balance required to ensure Australia can continue to receive the contributions available from all domestic and export uses of Australian gas – consistent with the seven principles set out in the ADGSM review consultation paper.

| Industry | Gas consumption (PJ) | GDP contribution per PJ (A\$ million) | FTE jobs contribution per PJ |
|----------------------------------|----------------------|---------------------------------------|------------------------------|
| Total chemistry industry | 132 | 286 | 1,606 |
| LNG industry for export | 3,390 | 8.7 | 20 |
| Gas fired electricity generation | 568 | 4.2 | 14 |

19. Fortunately, the market demand requirements of feedstock gas users are structured, cyclical and predictable. There are a known number of companies operating plants in Australia using gas as a feedstock, as well the energy gas to drive the chemistry processes.
20. Chemical feedstock plants typically require regular 'turnarounds' of some 5-7 years (with some up to 10 years). Planning for plant turnarounds is part of normal, long term investment cycles which chemical companies commence planning for at least 2 years out for existing plant. Planning for new plant construction requires decision at least 5 years ahead. This provides a highly predictable operating environment for contract gas contracts to be developed. To attract the ~\$ 50M capital required for the existing plant turnarounds, gas contracts need to be secured for the same period. With feedstock gas comprising 50-60 % of input costs, this results in gas feedstock contracts making up the largest domestic gas contracts in the economy. However, currently these contracts cannot be secured under the current market conditions.
- 21. Chemistry Australia is therefore recommending the Government engage with feedstock gas users to design a suitable mechanism or other arrangement that matches the known, cyclical feedstock demand required by plant re-investment cycles at demonstrably competitive prices, in volumes and for periods suitable to buyer's needs, and with sufficient notice. Such a mechanism would meet all seven of the principles set out by the ADGSM review.**
22. The mechanism would cater for industry buyer's standard needs that exist across chemistry and process

technology types, which are already well understood over many years by market participants, including:

- a. Volumes
- b. Durations
- c. Terms
- d. Delivery destinations
- e. Seasonal variations
- f. Capital and investment considerations

23. The mechanism would be a simple process and able to be facilitated by Governments, or other trusted intermediaries, and would not need to be onerous given the number of contracts in any given year would be low.

24. The mechanism could consider the following stages:

- a. Feedstock contracts predictions per annum (2-5 years ahead of turnaround dates for existing plants and minimum 5 years for new plant)
- b. The use of the ADGSM, Heads of Agreement and / or other mechanisms to match gas availability and pricing within a band that buyers and producers / sellers could then negotiate. This could include arrangements for sharing risks associated with global and domestic pricing factors.
- c. Monitoring of the gas contracts would then revert to the ACCC and other regulatory bodies.

Response to ADGSM review questions:

| Section / Consultation question | Chemistry Australia response |
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| Short notice activation | |
| 1. Would a short-term activation power effectively address sudden shocks of shortfall risks | Yes, if well calibrated against market supply and demand dynamics. Also requires adequate liquidity (i.e. saleable volume made available for domestic users) to ensure price signal is competitive. |
| 2. What timeframes and limitations should apply to shorter term activation powers? | <p>A quarterly review process would be appropriate given the current global and domestic dynamics. This is evidenced by the rapid market changes observed by the recent ACCC Interim Report.</p> <p>A five-year horizon timeframe would be a suitable minimum period for a new ADGSM, given investment certainty needs of feedstock and other major industrial users.</p> <p>Gas feedstock users require a longer-term view of gas supply surety with competitive pricing. Longer term (5 to 7 years plus) gas supply contracts are typically considered at least 2 years ahead of turnarounds for existing plants. For new plant construction gas supply contracts are considered at least 5 years ahead.</p> |
| 3. How should short-term activation interact with other energy security measures, like the Gas Supply Guarantee? | <p>Gas producers not linked to export markets will often price domestic gas linked to LNG export pricing models – including the capital and operating costs of liquefaction which are not relevant for them.</p> <p>This requires correction alongside ADGSM reforms.</p> |
| 4. What should be the threshold for a short-term activation mechanism? | A band of supply and competitive pricing, gas feedstock contract investment needs over the term of contracts. |

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| Price-based activation | |
| 5. What factors should a reference price take into account? How should each factor be measured or monitored? | <p>A domestic reference price should consider market depth and liquidity, global competitiveness and terms offered.</p> <p>In the past Chemistry Australia has proposed Henry Hub as a relevant price marker, given its actual market linkages and other factors that make it the most suitable.</p> <p>Chemistry Australia remains open minded about how parties negotiate to agree on the most suitable arrangements for their investment needs. This includes the ability for parties to share risks appropriately given their requirements and prevailing market dynamics, rises and falls etc.</p> <p>However, as a minimum standard and on principle, domestic pricing should not include the capital and operating costs of the LNG process for export. LNG is not available to domestic users. They are only able to purchase gaseous gas. Domestic gas buyers not should be charged for a service they do not have access to.</p> <p>Gas which is not able to be exported, should be de-coupled from global pricing factors and priced under domestic only factors.</p> |
| 6. Which entity is best placed to determine the price, and what that process include? | <p>The Australian Competition and Consumer Commission / Australian Energy Regulator would be best placed to assist in price determination. The entities have suitable powers under Competition and Consumer Law to be provided with accurate information by stakeholders, including to work through identified barriers of market concentration impacting supply, price and terms.</p> <p>Importantly, the ADGSM should include a suitable level of monitoring and compliance that is enforceable as required.</p> |
| 7. What implications or unintended consequences could price-based activation have, including on new supply and the competitive functioning of the market? | None. |
| Incentivized domestic supply | |
| 8. How could the ADGSM be amended so that during a shortfall year, stronger incentives exist for LNG exporters to increase domestic supply? | <p>The net domestic contribution factor should be a threshold consideration. Australian gas should reasonably be made available to domestic buyers at demonstrably competitive prices, in volumes and for periods suitable to buyer's needs, and with sufficient notice.</p> <p>Depth and liquidity of domestic supply should be sufficient to enable arbitrage and determine a price that suits the needs of domestic users.</p> |
| Improve administration of export permits | |
| 9. How could the TMSO be improved? | More market transparency on TMSO assessments and determination outcomes for each LNG producer. |

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| <p>10. What features would effective LNG permits have?</p> | <p>LNG permits should include a commitment to sell uncontracted gas domestically first, otherwise export is unable to occur. A sufficient amount of gas should be made available at price levels considered affordable for domestic manufacturers. This includes at least being priced without the capital and operating costs of the LNG facilities – essentially charging for a service which is not available to domestic buyers.</p> <p>LNG permits need to rectify the current imbalance of market power, whereby LNG producers with global supply options can hold back on their domestic gas production to reduce amount of gas made available for domestic market.</p> |
| <p>11. Should contracted gas be exempt from the ADGSM? If so, how could this exemption be designed to ensure the objectives of the mechanism are met?</p> | <p>Certainly, new contracts should be considered for ADGSM inclusion. This assumes sufficient excess gas is available to meet domestic needs (unlike the untenable situation now whereby it is just being exported).</p> |
| <p>Increase State and Territory supply</p> | |
| <p>12. How can the Commonwealth support the States and Territories to ensure their gas needs are met during the energy transition?</p> | <p>Previous work to better align terminology regarding resources has been welcomed. Improved coordination and communication of Federal and State/ Territory jurisdictional responsibilities would be welcome, including where gas will increasingly need to be transported across State / Territory borders.</p> <p>A shared and supportive view across jurisdictions of the role of gas as a key transition fuel to help usher in a carbon neutral and circular economy would also help improve industry’s investment and operating environment.</p> <p>Better coordination of State-based policy levers such as domestic reservation options should be aligned with the ADGSM and Heads of Agreement.</p> |

Chemistry Australia would welcome further engagement with the review team, including the opportunity to meet and discuss how the ADGSM can be further strengthened.

Yours sincerely,



Peter Bury

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