

Just to cap it off

Submission to the 2019 Review of the Australian Domestic Gas Security Mechanism (ADGSM)

The ADGSM entrenches high domestic gas prices by enabling the LNG industry to supply just enough gas to avoid a “shortfall year”, but not so much that domestic prices reduce. The solution is to reduce Australia’s gas dependence through efficiency and fuel switching, combined with a cap on LNG exports.

Submission

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Summary

There is no gas shortage in Australia. Australia produces three times the amount of gas required to meet the demand of Australian customers. The only sense in which there is a potential gas shortage is to the extent that LNG producers and other large gas producers can choose to export gas to overseas customers instead of Australian customers. As well as exporting gas they have developed for export, they can (and do) export large quantities of gas from fields that were developed for the Australian market. No matter how much gas is produced in Australia, it can simply be exported.

The Australian Domestic Gas Security Mechanism (ADGSM) is effective in incentivising LNG producers to supply just enough gas to Australian customers to avoid a shortfall, but does so in such a way as to entrench high gas prices.

Because the design of the ADGDM allows LNG companies to avoid export controls being imposed by offering the minimum amount of gas required to avoid the determination of a “shortfall year” by the Minister, they are effectively constraining supply to maintain high domestic gas prices. There is no incentive to supply a quantity of gas that would reduce prices for Australian customers.

In a market-based economy, firms operate to maximise profits. Governments should not expect that gas producers will ever increase domestic supply to the point that it lowers price and their profits. If the objective of government policy is to reduce price, then further changes need to be made.

The first priority should be to reduce the exposure of Australian households and businesses to high gas prices. This can be achieved through fuel switching from gas to efficient electrical systems for space and hot water heating, which make up the vast bulk of residential and commercial gas use. Electric systems are already cheaper than using gas and will significantly reduce power bills for households and businesses.

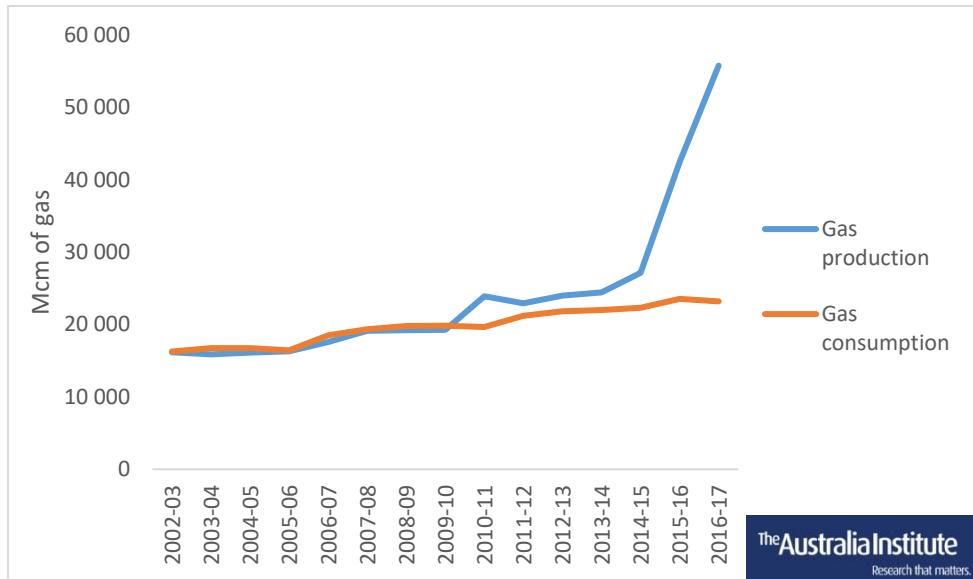
The Government should also encourage switching from gas to renewable energy for electricity generation. Electricity from renewable energy is already far lower cost than gas. Even with the cost of energy storage added, it remains competitive. These measures would also be consistent with Australia’s responsibilities to reduce greenhouse gas emissions to combat climate change.

These measures should be complemented by a cap on LNG exports to prevent gas saved through fuel switching simply being exported by LNG companies, and to increase the supply of gas to the domestic market enough to reduce prices.

Introduction

There is no shortage of gas in Australia. Australia produces vast amounts of gas. Since 2012, gas production on the east coast of Australia has tripled and is now approximately three times greater than domestic consumption, as shown in Figure 1 below.

Figure 1: Australian gas production domestic v export

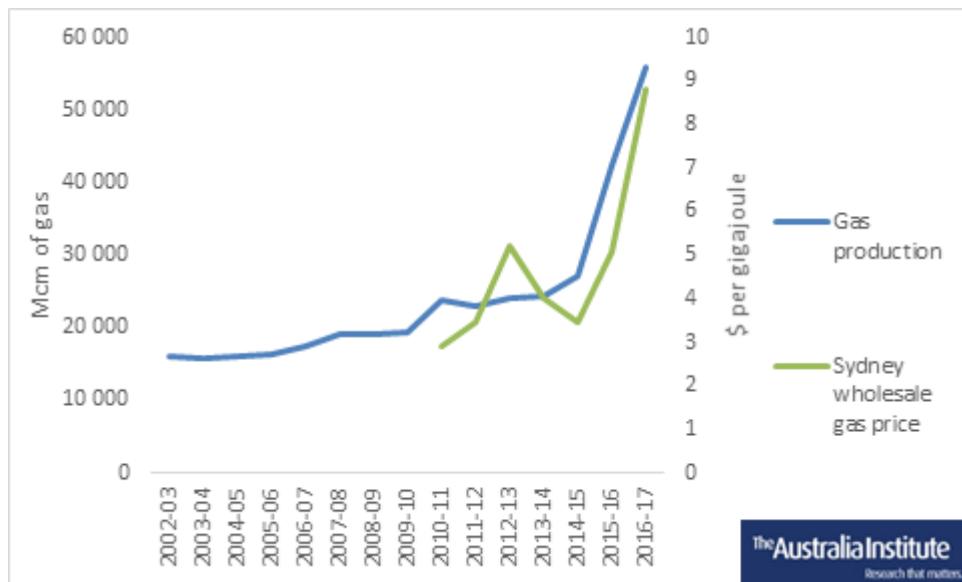


Source: Australia Institute calculations from Department of the Environment and Energy, Australian Energy Statistics, Table Q, August 2018

The increase shown in Figure 1 is one of the largest and fastest expansions of gas production anywhere in the world, ever. Over the same period, demand for gas within Australia has remained relatively flat.

The enormous and rapid increase in supply over the last 5 years has been accompanied by a corresponding increase in gas prices rather than a decrease. Further increasing the amount of gas produced in Australia will not bring down gas prices down because LNG companies can simply export any additional supply. This has been demonstrated beyond any in Figure 2 below:

Figure 1: Australian gas production v price



Source: Australia Institute calculations from Department of the Environment and Energy, Australian Energy Statistics, Table Q, August 2018

Prior to the commencement of LNG exports from Queensland in 2014, Australia enjoyed generally below-world market prices for gas. While many commentators, including The Australia Institute, foresaw that gas prices would triple to reach roughly export parity, few expected them to rise beyond that level. However, even when global prices have fallen, at times Australian consumers have had to pay more for Australian gas than overseas buyers.¹

The reason for this is the market power of gas suppliers in Australia. Buyers in Australia are faced with what is effectively a cartel of gas producers that keep Australian prices high. Buyers in Japan, by contrast, can purchase from any number of gas-exporting countries and companies. The evidence of this is in the various proposals to build gas import terminals in Australia, despite being a major gas exporting country.

The question of what should gas prices be in Australia is a difficult one. Methane is a potent greenhouse gas pre-combustion, and fugitive emissions are inadequately monitored and considered in Australian greenhouse gas inventories. Even when burned gas contributes substantially to climate change.

In this sense, Australians should not be subsidising their own fossil fuel use and contribution to climate change by demanding artificially cheap gas. However, substantial industries have been developed during the cheap gas era, such as manufacturing, transport and electricity. Many households have invested substantial amounts in gas heating. These industries and households need time to adjust to the new reality of higher gas prices.

¹ Macrobusiness (September 2019), Gas prices collapse worldwide...except Australia, <https://www.macrobusiness.com.au/2019/09/gas-prices-collapse-worldwide-except-australia/>

While it is difficult to set a particular price that gas should trade at in Australia, the current situation is clearly unacceptable, with a small group of largely foreign companies imposing the highest price they can, often above world prices. The policy goals should be to reduce the power of these companies. There are two ways this can be achieved.

Firstly, governments need to assist industries and households reduce their reliance on gas by promoting energy efficiency, fuel switching to efficient electrical systems for space and hot water heating, electrification of transport and other sectors.

Secondly, the Australian Government should work to gain influence over gas market prices, rather than leaving market power in the hands of gas companies. This can be achieved by capping exports.

The Federal Government has two main initiatives to address gas price rises, the ACCC Gas Inquiry and the Australian Domestic Gas Security Mechanism (ADGSM). Despite these, gas prices for commercial and industrial customers in the East Coast Gas Market remain around \$10-12/GJ, four times pre-LNG export levels.²

The ACCC has undertaken over 2 years of inquiry into “supply of and demand for wholesale gas in Australia” releasing 7 interim reports and well over 1000 pages of analysis. The result to date was summed up by the Chairman of the ACCC Rod Simms admitting that he is none the wiser:

If you want to fix the gas market, you would not start where we are. Any other problem you want to talk about, I can give you a solution. The gas market is really tricky.³

While mustering the political will to regulate the gas industry may be tricky, the policy solution to the domestic gas situation is quite simple – a cap on exports. A cap would increase domestic supply, reducing domestic prices.

The Australian Domestic Gas Market Security Mechanism (ADGSM) was introduced in 2017 to “ensure there is a sufficient supply of natural gas to meet the forecast needs of energy users within Australia.” The mechanism enables the Minister to impose export controls on LNG exports if she or he determines that “LNG project’s use of domestic gas” will result in a shortfall in the domestic market.⁴

² ACCC (July 2019) *Gas Inquiry 2017-2022 Interim Report*,

<https://www.accc.gov.au/system/files/Gas%20inquiry%20July%202019%20interim%20report.pdf>

³ ABC 7.30 (August 2019) *Transcript: Australia has abundant natural gas, so why is it so expensive?*

<https://www.abc.net.au/7.30/australia-has-abundant-natural-gas,-so-why-is-it/11432978>

⁴ Department of Industry (2019) *Australian Domestic Gas Security Mechanism*,

<https://www.industry.gov.au/regulations-and-standards/australian-domestic-gas-security-mechanism>

The process of activating the ADGSM and imposing export controls requires the Minister to make an initial determination of a “shortfall year”. To do so, the Minister must issue a notification of their intention to consider making such a determination, and consult with relevant government agencies, other ministers and the LNG industry. At any stage, the LNG industry can offer to supply enough gas to avoid any potential shortfall and avoid triggering the mechanism. The Government describes this process as an “industry led solution”.⁵

If a shortfall year is determined, the Minister then determines the proportion of the shortfall that is attributable to LNG exports and imposes and export controls this amount of gas known as the Total Market Security Obligation (TMSO). The TMSO is then allocated to individual projects on a pro-rata basis depending on the “net-deficit” of the project, i.e. how much domestic gas they have exported. These obligations are known as Exporter Market Security Obligations (EMSO).

The ADGSM has never been used to impose export controls on the LNG industry. In September 2017 following the Minister notifying the LNG industry of his “intention to consider” declaring a gas shortfall year, the LNG industry avoided the ADGSM being activated by promising to supply the absolute minimum amount of gas required to avert a shortfall in the domestic market.

⁵ Australian Government, *Australian Domestic Gas Security Mechanism*

<https://www.industry.gov.au/regulations-and-standards/australian-domestic-gas-security-mechanism>

ADGSM entrenches high gas prices

As currently designed, the ADGSM entrenches high gas prices. It allows the LNG industry to increase supply by just enough to avoid a shortfall being perceived by the Minister. At every stage of the process, industry can calibrate the amount of gas released into the domestic market, ensuring supply remains just above the threshold of a “shortfall year”, but never diverting sufficient volumes to significantly reduce prices.

As described in the previous section, the ADGSM can only be triggered if the Minister determines there is likely to be a “shortfall year” based on the advice of the Australian Energy Market Operator (AEMO), the ACCC, the LNG industry and other government agencies.⁶

The initial requirement for the Minister to make a determination of a shortfall year requires the Minister to issue a “notification of intent to consider whether to determine a shortfall year”.

At this point the Minister must seek the LNG industry’s views about proposed LNG exports and the Australian gas market. Once the Minister makes a decision on whether export controls will apply, she or he must then make the decision public and again seek feedback from the LNG industry.

At any point of this process, the LNG industry can decide to supply just enough gas avoid the ADGSM being triggered.

This arrangement guarantees both that the ADGSM cannot be triggered (and export controls imposed) unless the LNG companies choose not to supply the amount of gas necessary to avoid a shortfall.

How this works in practice is clearly illustrated by the example of the only time the Government seriously considered triggering the ADGSM. In September 2017 following an AEMO projection of a potential shortfall of between 54 and 107 PJ in 2018, and 48 to 102 PJ in 2019,⁷ the Government announced its intention to consider activating the ADGSM.

Following the notification, the Government negotiated a deal with the three largest LNG companies on the east coast (Origin, Shell and Santos) to supply additional gas and therefore avoid a shortfall. It has been reported that in the agreement the companies

⁶ Australian Government (2017) *Customs (Prohibited Exports) (Operation of the Australian Domestic Gas Security Mechanism) Guidelines* 2017, <https://www.legislation.gov.au/Details/F2017N00050>

⁷ AEMO (2017) *Update to Gas Statement of Opportunities*, https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GSOO/2017/2017-Gas-Statement-of-Opportunities---Update.pdf

agreed to sell a minimum of 54 PJ into the east coast domestic gas market (equivalent to the lower limit of the forecast shortfall) and keep more on standby in case the eventual shortfall turned out to be bigger.⁸

In other words, the companies agreed to supply the absolute minimum required to avoid the “shortfall year” trigger that would allow the ADGSM to be activated. This enabled them to retain the maximum possible constraint on supply and therefore the maximum possible domestic price, short of allowing an actual shortfall.

The ADGSM is not designed to reduce gas prices but to avoid a domestic gas shortfall. For example, if the high gas prices forced domestic gas reliant industries to leave the country and hence reduce domestic demand for gas, this would not ‘free up’ gas for other domestic consumers and put downward pressure on prices. Rather the amount of gas required to avoid a shortfall would be reduced and the gas industry would direct more gas for export. If the Government or parliament wants to reduce gas prices it will need to implement further mechanisms, beyond the ADGSM, to achieve this.

It is important to note that the potential shortfall identified by AEMO was not due to an actual shortage of gas produced for the domestic market. It was the result of LNG companies underestimating the productivity of their Queensland CSG tenements. Their underestimation meant they were forced to buy or redirect gas from fields that have traditionally supplied the domestic market and use this gas to meet export contracts. Credit Suisse estimates that the Santos-led GLNG project purchased 160PJ out of the domestic market to export as LNG in 2016, equivalent to 27% of domestic consumption.⁹

⁸ Hepburn (October 2017) *The government’s new gas deal will ease the squeeze, but dodges the price issue*, <http://theconversation.com/the-governments-new-gas-deal-will-ease-the-squeeze-but-dodges-the-price-issue-85175>

⁹ Robertson (2019), *Towards a Domestic Gas Reservation in Australia*, http://iefa.org/wp-content/uploads/2019/07/Towards-a-Domestic-Gas-Reserve_9-July-2019.pdf, Samter et al (2017) *Australian East Coast Gas: The Ass, the Cock and the Lion*, https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=csplusresearchcp&document_id=1071888041&serialid=eEJviFWICRzuHdkLE27aurRlpz4UiGfPB0ewbZzvGQI%3d

The solution: Reducing gas dependency and a cap on gas exports

REDUCING GAS DEPENDENCY THOUGH FUEL SWITCHING AND EFFICIENCY

The best way to reduce the negative impacts of high gas prices is to reduce Australia's gas dependency by efficiency and fuel switching measures.

This is important firstly to reduce the exposure of Australian households and businesses to high gas prices. Secondly, gas that is saved in the residential and gas powered generation sectors can be made available to industrial users where reducing gas use is more challenging.

It is already far cheaper (including the cost of installation and energy use over 10 years) for new houses to install new efficient electrical systems to provide heating, cooling, hot water and cooking than connecting to the gas network.¹⁰

It is also cheaper in all locations in Australia for existing houses to replace hot water systems or gas heaters at the end of their life with new efficient electrical systems than gas.¹¹

In Victoria, gas use is dominated by residential and commercial use making up 122 PJ in 2018, over 20% of Australia's entire domestic gas consumption. This is predominantly space and water heating.¹²

This provides enormous opportunities to reduce the exposure of Australian households and businesses to volatile gas prices, but also to save gas from the residential sector and commercial sectors to redirect to industrial uses where efficiency and fuel switching are more difficult and expensive.

¹⁰ ATA (2018), *Australian Domestic Gas Security Mechanism*, https://renew.org.au/wp-content/uploads/2018/08/Household_fuel_choice_in_the_NEM_Revised_June_2018.pdf

¹¹ ATA (2018) Ibid.

¹² AEMO (2019) *GSOO 2019*, https://www.aemo.com.au-/media/Files/Gas/National_Planning_and_Forecasting/GSOO/2019/2019-GSOO-report.pdf

Similarly, solar and wind are now considerably cheaper than gas for electricity generation, and competitive even when the cost of firming power is added.¹³ Again, switching to renewable energy and storage reduces electricity prices and can potentially save significant amounts of gas for industrial uses.

EXPORT CAP

While reducing gas dependence is an essential first step towards solving the problem of a high energy prices, a cap on exports is also necessary, otherwise gas that is saved through fuel switching and energy efficiency can be exported by LNG companies rather than kept in the domestic market.

A simple cap on LNG exports would ensure sufficient supply and bring down prices to Australian customers. It would eliminate the opportunities for the LNG industry to constrain domestic supply and drive up prices.

Given some LNG projects underestimated their productivity and have exported large quantities of gas that were developed for the domestic market, particularly from Bass Strait and the Cooper/Eromanga Basin, the cap could reflect this deficit and provide additional gas for the domestic market.

The volume of the cap could be determined with regard to the domestic gas price that the Government determines is appropriate. Once the price is determined, the volume of the cap can be set to allow sufficient supply to achieve the target price. The cap could be periodically reviewed and adjusted if it does not achieve the target price.

In determining the appropriate domestic gas target price, the Government should take environmental considerations into account. As noted above, Australians should not be subsidising their own fossil fuel use and contribution to climate change by demanding artificially cheap gas. However, combined with the measures outlined above to reduce gas use, a cap recognises that substantial industries have been developed during the cheap gas era, such as manufacturing, transport and electricity. Many households have invested substantial amounts in gas heating. These industries and households need time to adjust to the new reality of higher gas prices.

The LNG industry often argues that any assertion of control over our natural resources undermines further investment by the industry.

Australia has a record of allowing global oil and gas companies to exploit and export our natural resources without sufficient attention to impacts on other sectors of the Australian economy. Approving effectively unlimited export capacity from Gladstone for instance

¹³ CSIRO/AEMO (2018), *GenCost 2018*, <https://www.csiro.au/en/News/News-releases/2018/Annual-update-finds-renewables-are-cheapest-new-build-power>

resulted in an entirely foreseeable (and foreseen) increase in gas prices though linkage to global prices. It has been estimated that this decision created a windfall gain of \$81 billion for the gas industry at the expense of a \$114 billion impact to the Australian manufacturing industry.¹⁴

An export cap is an entirely reasonable assertion of Australia's sovereignty over our natural resources. As noted above, countries such as Norway, Saudi Arabia and Malaysia derive far greater revenues and generally enjoy lower domestic prices than Australia, yet they have no problem attracting investment in their oil and gas industries.

¹⁴ Deloitte Access Economics (2014), *Gas market transformations—Economic consequences for the manufacturing sector*, Table i, P.3

<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/finance/deloitte-au-fas-gas-market-transformations-july-2014-240914.pdf>

Response to Terms of Reference

1. The effectiveness and efficiency of the ADGSM in ensuring a sufficient supply of natural gas for Australian consumers with minimum disruption to Australia's liquefied natural gas export industry;

Response: Because the ADGSM allows gas companies to calibrate the supply of gas to the minimum amount to avoid the trigger of a "shortfall year", it ensures supply will remain as constrained as possible, short of causing an actual shortfall, and therefore keeping prices to Australian consumers as high as possible. The only effect it could have on LNG exports is to marginally reduce the export of gas developed for the domestic market from Bass Strait and the Cooper Eromanga basin. The ADGSM is not designed to reduce gas prices in any material way and it is not having this effect

2. The impact of the ADGSM on the competitiveness of Australia's liquefied natural gas export industry, Australia's investment reputation and Australia's international reputation for quality and reliability;

Response: The ADGSM is so favourable to LNG exporters that it has no almost no impact on their operations. Countries such as Norway, Saudi Arabia and Malaysia derive far greater tax revenues and generally enjoy lower domestic prices than Australia, yet they have no problem maintaining the 'competitiveness' of their oil and gas industries.

3. The impact of the ADGSM on the Australian domestic gas market, including the development of new and additional gas resources and market functions;

Response: The main impact of the ADGSM on the domestic gas market is to entrench high gas prices. It does this by enabling LNG exporters to calibrate supply to the minimum amount required to avoid an actual domestic shortage, thus maintaining the greatest possible upward pressure on domestic prices.

Increasing the amount of gas produced in Australia would have no effect on domestic prices as demonstrated by the tripling of domestic gas prices to date over the same period of a tripling of production (see Figure 2 above). Any amount of additional gas produced can simply be exported. Only an export cap can solve this problem.

4. Whether improvements can be made to the operation of the ADGSM and whether there are appropriate alternative mechanisms to achieve the objectives of the ADGSM;

Recommendation: As outlined above, the best way to reduce the negative impacts of high gas prices is to reduce the exposure of Australian households and businesses to the gas

market. Promoting energy efficiency and fuel switching measures could substantially reduce this exposure. As discussed above, there are already many lower cost alternatives to gas.

Reducing gas use is also consistent with Australia's responsibility to reduce greenhouse gases in line with our international commitments.

These measures should be complemented by a cap on LNG exports to ensure that gas saved through efficiency and fuel-switching measures is not simply exported by LNG companies, and that the overall supply of gas to domestic customers is increased putting downward pressure on prices.

5. Whether the ADGSM should be amended or repealed before 1 January 2023 and the timing of any such amendment or repeal; and

Recommendation: The ADGSM should be repealed as soon as an export cap is in place.

Conclusion

The ADGSM is effective in compelling LNG exporters to supply just enough gas to avoid an actual shortage, however it also effectively entrenches high gas prices for Australian customers.

Its “industry led solution” design allows LNG exporters to supply to a minimum amount of gas to avoid a shortage, but little enough to ensure prices remain high.

The only real solution to the problem of high gas prices is to reduce the dependency on gas of Australian households through fuel switching and energy efficiency. There are huge opportunities to achieve this because for many uses, particularly space and hot water heating, and gas-powered generation there are already cheaper electrical and renewable alternatives.

This should be complemented by a cap on exports which is a direct, simple and effective way ensure supply and bring down prices to a level the government considers acceptable. It could also ensure that gas saved through efficiency and fuel switching in the domestic market remains in the domestic market, rather than being exported by LNG companies.