

ELECTION BRIEFING PAPER

Why more Victorian gas won't lower prices

Gas prices in Victoria are likely to remain high for the foreseeable future, so the smart solution is switching households to efficient electric appliances



Energy prices and household budgets are a significant issue in the leadup to the 2022 Victorian election. This briefing paper provides some facts and analysis regarding known gas reserves in Victoria, gas prices, and the benefits of household electrification as an alternative to new gas supply projects.

WHAT DRIVES GAS PRICES IN VICTORIA?

Gas prices in Victoria are likely to remain high for the foreseeable future due to four factors:

1. Victoria has very little new sources of conventional gas within its jurisdiction, with small chances of increasing supply
2. There is a lack of retail market competition
3. Eastern Australia's gas price is linked to high global prices
4. Import terminals would import expensive gas

These issues are explored in turn. Finally the briefing paper puts forward an argument for sufficient renewables with storage as a cheaper and more resilient alternative to new onshore conventional gas development.

1. VERY LITTLE ONSHORE GAS SUPPLY

The recently completed [Victorian Gas Program](#) (VGP) undertook an extensive geological search for new onshore gas deposits and [estimated](#) a 90% or better probability that Victoria has as little as 128 petajoules (PJ) of onshore gas resources and only about a 10% chance of having as much as 830PJ.

Even in the best-case scenario of finding and then recovering all 830PJ, this is a small amount compared to current gas production and consumption in Victoria. For example, Victorian households and small businesses combined used about [125PJ of gas in 2021](#) while total consumption of gas in Victoria was about [205PJ](#). This is also much smaller than past offshore gas fields,¹ which have produced nearly [14,000PJ](#) over their lifetime to the end of 2020.

This small amount of potentially economically recoverable onshore gas bodes poorly for influencing prices. The VGP commissioned Ernst & Young (EY) to assess “the risks, benefits and impacts” of development scenarios, which spanned from minimal recoverable gas of about 128PJ² up to the full 830PJ. The [summary of findings](#) states: “The expected amount of new gas would not be a large enough volume to impact gas prices or gas demand in the state.”

2. A LACK OF RETAIL MARKET COMPETITION

Prices for Victorians are currently set by major factors that affect the entire Eastern Gas Market. One reason prices remain high for households and small businesses is price gouging by gas retailers. These customers can only access the market through retailers while the retailers hold “incumbent oligopoly or monopoly” status in the market. More retail competition or/and fit-for-purpose regulation would provide relief from high prices for households and small businesses. Environment Victoria is aware of the [Energy Ministers’ work programs](#) intended to improve functioning of gas markets in the interests of consumers, but those have yet to address the issues of retailers’ market power to inflate retail gas prices.

3. EASTERN AUSTRALIA’S GAS PRICE IS LINKED TO HIGH GLOBAL PRICES

Australia’s eastern gas market remains linked to global markets, and their prices, as a matter of policy choice. Queensland’s three LNG export terminals began operation in 2015. Figures 1 and 2 from the Reserve Bank of Australia demonstrate clearly the impact this had on production and prices in the eastern gas market.

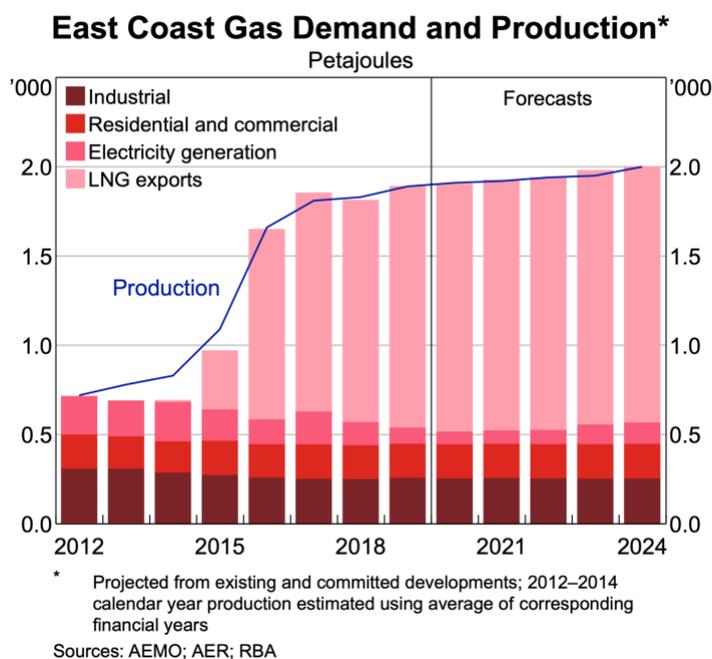


Figure 1: Impact of LNG export market to the world on natural gas demand and production. **Source:** <https://www.rba.gov.au/publications/bulletin/2021/mar/understanding-the-east-coast-gas-market.html>

¹ Gippsland, Bass, and Otway basins.

² The ability to recover/extract gas depends on many factors, including developers’ operations and operational skill. Presumably EY accounted for this when developing its minimum scenario of recovering less than estimated 128PJ resource, though VGP’s report does not specify the reasoning.

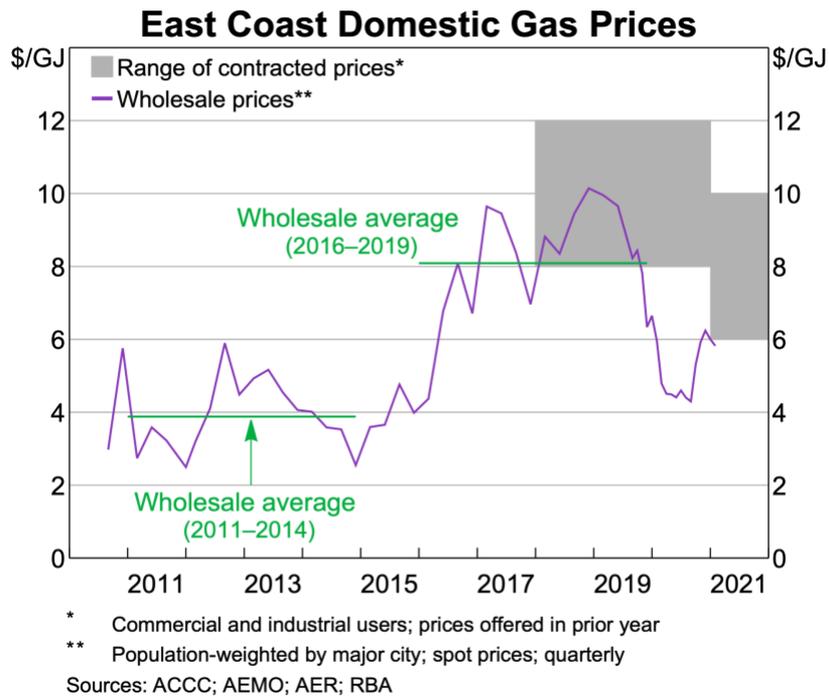


Figure 2: Impact of LNG export market to the world on natural gas prices. **Source:** <https://www.rba.gov.au/publications/bulletin/2021/mar/understanding-the-east-coast-gas-market.html>

Because global demand is much higher than domestic Australian demand, and the Queensland terminals can export more than can be supplied domestically, prices shot up as production increased. Average prices roughly doubled from 2014 to 2016 despite supply almost tripling. Simply put, Australians began having to pay global prices only because their own domestic supply was now exposed to global demand. Figure 3 from the RBA shows how domestic gas prices rose to become highly correlated to Asian prices.

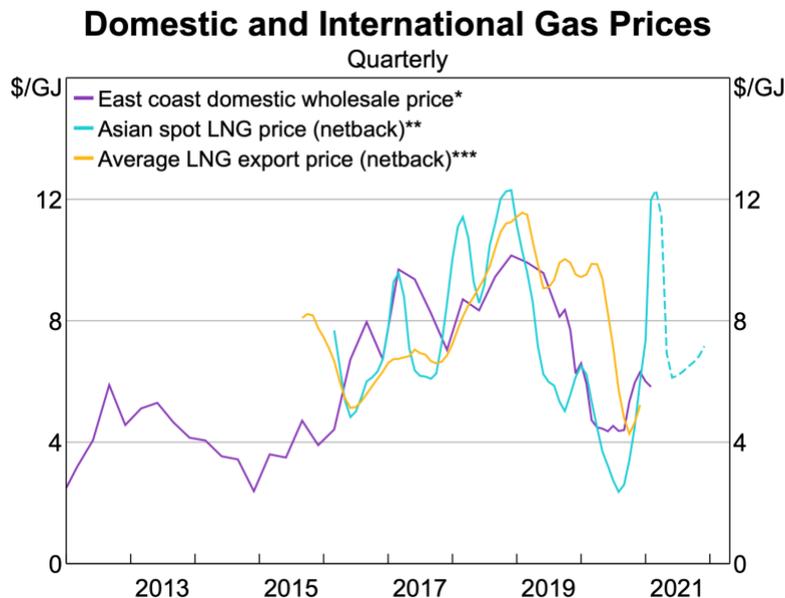


Figure 3: Eastern gas prices rose to close resemble Asian gas prices. **Source:** <https://www.rba.gov.au/publications/bulletin/2021/mar/understanding-the-east-coast-gas-market.html>

Russia's invasion of Ukraine and the subsequent sanctions exacerbated these impacts of globalisation on demand and prices appear to have grown stronger. By February 2022, the Queensland export terminals still had more demand for gas to export than quantity of gas available. As EU and other nations began to curtail their import of gas from Russia and implement sanctions, demand rose for Victorian exports (some ultimately to Queensland for international export), placing more upward pressure on prices for east coast gas users. Figures 4 and 5 show that increase.

Victorian net gas transfers to other regions

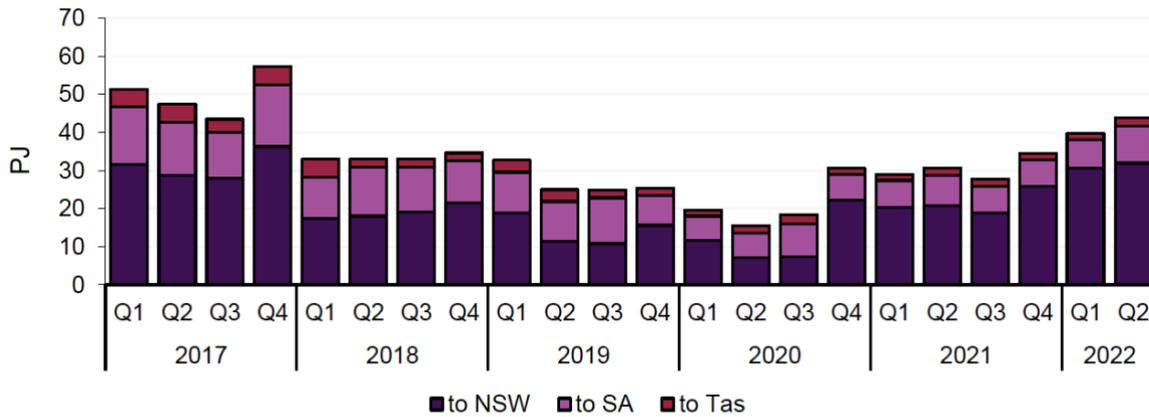


Figure 4: Quarterly supply of gas from Vic to other states through second quarter of 2022. Source: AEMO, Quarterly Energy Dynamics Q2 2022 (July 2022).

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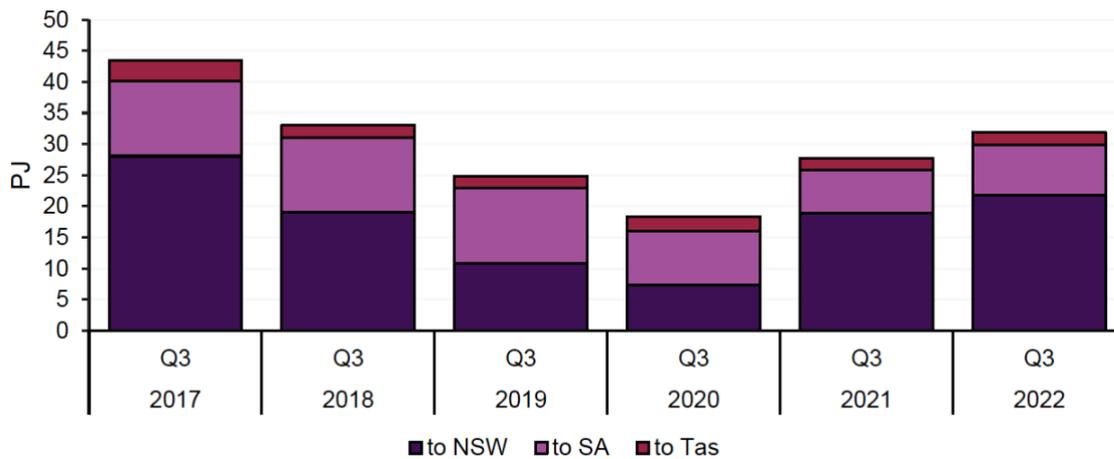


Figure 5: Third quarter supply of gas from Vic to other states 2017-2022. Source: AEMO, Quarterly Energy Dynamics Q3 2022 (October 2022).

This happened because of a “perfect-storm” confluence of a cold winter leading to more domestic demand plus a significant amount of coal-powered electric generating capacity in Queensland and NSW going offline. While wind and solar were able to make up about 65% of the shortfall, the rest had to be supplied by gas-fired generation: the most expensive power source in the National Electricity Market (NEM).³

The important figure to notice is the very large amount of gas currently exported from Victoria to the rest of Australia, and from the Queensland LNG export terminals to the rest of the world. Victoria is exporting 100PJ to 160PJ per year and on an upward trajectory. Queensland currently exports 1,300-1,400PJ/year, and has excess capacity. Both are quite large compared to the geologically shown onshore Victorian resource of 128PJ to 830PJ and also Victoria's offshore production and resources.

³ See AEMO, Quarterly Energy Dynamics Q2 2022 (July 2022) and AEMO, Quarterly Energy Dynamics Q3 2022 (October 2022).

Meanwhile, Victorian onshore and offshore production have mostly declined over the prior five years. Onshore production (from wells within the three nautical mile zone of Victoria's shoreline from 2016 to 2021) fell from [21PJ/year to 8PJ/year](#). Production in 2022 so far has nearly doubled compared to 2021, but even if it hits 16PJ for the year will remain a mere 8% of total Victorian consumption. Offshore production under Commonwealth jurisdiction has also [declined](#). This decline is expected to accelerate as the Bass Basin has ceased production and continues with [decommissioning](#).

Putting this all together, it becomes evident that even as Victorian production increased, prices skyrocketed precisely because the amount of possible production is too small to have an impact on globally set market prices.

4. IMPORT TERMINALS WOULD IMPORT EXPENSIVE GAS

Currently two LNG import terminals are proposed in Victoria. Viva Energy has been through an Environment Effects Statement process for a terminal to be located in Corio Bay near Geelong. Vopak is proposing a terminal in Port Phillip Bay off the coast of Avalon. The Victorian government has already rejected an LNG import terminal proposal in Westernport Bay, citing unacceptable environmental concerns.

However, building import terminals will only expose Victorians to further global market volatility. With strong demand in Asia and EU, and decreased supply from Russia, gas prices stand to remain at historic highs for years. Import terminals would be all but guaranteed to pay at least international prices, possibly more.⁴ Those prices will then be pushed to NEM gas consumers, increasing the cost of living and doing business in a time when energy affordability is a critical social problem.

⁴ Domestic prices already rose above international prices during May through July 2022. See AEMO, Quarterly Energy Dynamics Q3 2022 (October 2022).

SUFFICIENT RENEWABLES WITH STORAGE: A MORE RESILIENT AND CHEAPER ALTERNATIVE

Renewable electric power generation offers a more resilient way to insulate against price or geopolitical energy shocks. As black coal in the NEM began to go offline in June, AEMO was able to fill well over half the gap with renewable sources. Had there been more transmission, existing renewables could have filled even more of the gap and prices would not have gone as high as they did. Had there been more transmission and more renewables with storage, no crisis would have occurred. Gas would have provided 3-5%, maybe less, of generated power. Even with gas price increases of the magnitude seen in May onward, wholesale power prices would have risen only slightly.

Home electrification: smarter bet for lowering energy bills

Given the situation describe above, electrifying homes supplied with cheaper and more abundant electricity sources emerges as the most realistic and pragmatic option to lower energy bills and protect households from energy price shocks.

For households, replacing gas appliances – cooktops and heaters – with efficient electric alternatives can help people save between \$560 to \$1,250 per year in energy bills, according to modelling conducted for Victoria’s [Gas Substitution Roadmap](#). Those figures were computed before the historically high gas prices, so the savings are larger now. If gas prices keep going up, the savings from switching to efficient electric appliances powered by renewables will keep increasing. As mentioned above, since renewables have lower running costs the faster the grid transitions to renewables, the faster households will benefit from stable or decreasing electricity prices.

Health concerns of gas

In addition to exposing Victorian gas users to volatile global market prices, domestic gas use raises health concerns. Using gas in homes produces indoor air pollution. The adverse health impacts of air pollution has been well studied. Air pollution, particularly fine particulate pollution, is known to cause and contribute to respiratory diseases (notably asthma), heart disease, type-two diabetes, cancer, and other health harms. The net result is people get sick more often, get sicker, and even [die earlier](#).

CONCLUSION

Attempts to lower energy prices through increased onshore conventional gas are misguided, and extremely unlikely to reduce bills for households due to four fundamental market factors: 1) Victoria has little gas onshore conventional resources available 2) this slight increase in supply can’t possibly impact globally set prices 3) a lack of retail competition keeps prices high for households and small businesses, which can’t buy gas from producers directly and 4) LNG import terminals will only import expensive gas.

The only long-term relief for households will come from helping them to switch to efficient electric appliances, taking advantage of cheaper energy as more renewable resources enter the electricity grid.

A NOTE ON THE SCOPE OF THIS ANALYSIS

Various figures have been put forward in the media to estimate the scope of Victoria's gas resources. This analysis is limited to conventional onshore gas exploration because:

- The Coalition's proposal to 'turbocharge gas production' and to quarantine new Victorian gas for Victorian use relates to onshore conventional gas only.
- Onshore gas is within Victoria's jurisdiction. Offshore gas beyond three nautical miles is under Commonwealth jurisdiction. For a recent independent estimate of proven and probable reserves in Victoria's three offshore basins, see the ACCC's [Gas inquiry 2017-2025 Interim report \(table page 159\)](#).
- Victoria has a provision in the Constitution which prohibits some forms of unconventional gas extraction, defined as "hydraulic fracturing and coal seam gas exploration and mining".