



FACT SHEET

Key factors that influence east coast gas prices

Key points

- East coast gas wholesale prices are fundamentally determined by supply, demand, the cost of production and government regulation.
- The short-term (spot) gas price is strongly correlated with electricity prices in the National Electricity Market (NEM).
- Longer-term contract prices depend on a range of factors such as the cost and availability of alternative energy sources, the length of the contract, and whether the buyer seeks flexible deliveries or is willing to 'take or pay' (i.e. pay for a certain volume whether or not it is taken).
- Other factors that influence price include the cost of production and transport, weather, and government regulation.
- The cost of east coast gas production is likely to rise over the coming decade, and EnergyQuest forecasts that LNG imports will be required from 2028 to meet demand. LNG prices are higher than domestic prices.
- International gas prices are not strongly correlated with east coast domestic gas prices. This will change if LNG imports become a significant component of domestic supply.
- We suggest this fact sheet be read in conjunction with the accompanying ***Spot and contract markets and prices*** fact sheet.

Summary

EnergyQuest forecasts that overall demand and supply of gas for the domestic east coast market will fall in coming decades, but supply will generally fall faster than demand over the next decade which will place upwards pressure on gas prices. The cost of production is expected to rise as low-cost gas fields decline, LNG imports are also likely to be needed to meet demand and will be supplied at (higher) international prices - both these factors will place further upwards pressure on prices.¹

Additional factors that can impact prices include demand for gas for power generation, seasonal demand for gas heating in southern states, government regulation, and contract terms.

On any given day one or more of factors may dominate and a confluence of factors pushing in one direction can lead to significant price deviations. An example is the winter of 2022 when a combination of domestic factors – primarily a lack of coal and renewable electricity generation - led to east coast gas prices increasing by up to 400%. Since the peak in 2022, gas spot prices for the Victorian and Queensland gas supply hubs (for the December Quarter 2023) returned to past pricing levels at around \$10.31/GJ.

Domestic supply and demand

EnergyQuest forecasts to 2042 are for declining demand from industrial (-31%) and residential and commercial (-51%) users, however overall supply will decline faster than demand and be 64% less in 2042 than in 2024. Figure 1 in the Attachment shows EnergyQuest's supply/demand forecasts for the Southern Region and indicates a significant supply shortfall emerging from 2028 and peaking in 2034.

In the absence of demand destruction or government intervention, this gap would need to be filled by LNG imports which we forecast will account for more than half the Southern Region's total supply in 2034.² LNG prices are higher than domestic prices and the \$12/GJ price cap and so meeting domestic demand with LNG imports will place upwards pressure on domestic prices. LNG could be sourced internationally or from Australian projects.

¹ EnergyQuest analysis, '[East Coast Gas Outlook 2023](#)', 9 November 2023

² Ibid

The cost of domestic gas production is also rising. For example, EnergyQuest estimates the volume-weighted average cost of production from the Narrabri project is approximately 50% higher than the existing average cost of production for east coast non-LNG Reserves and Resources. However, it should be emphasised that commodities are not typically sold at cost over the long term as this does not cover a fair return required by investors for the risk taken.

National Electricity Market supply/demand balance and prices

The overall contribution of gas-fired power generation to total electricity supply is relatively low at approximately 5%, however gas-fired power generation can be the marginal source of electricity supply during peak demand. For example, in June 2022 gas fired generation supplied 11% of total NEM generation. During these periods high demand for electricity increases the electricity price which, in turn, flows through to higher spot gas prices. Since at least January 2018, there has been a correlation between state electricity and spot gas prices.

Weather

Cold weather in winter is a key factor influencing east coast demand as gas is a significant source of energy for heating in southern states. The use of gas for heating is most evident in Victoria where households account for 59% of gas consumed.³ Within Victorian households 60% of gas is used for space heating and 36% for water heating.⁴ Analysis by EnergyQuest indicates that during peak demand on cold days the energy provided by reticulated natural gas can be more than half the energy provided by the Victorian part of the NEM.⁵ Victorian demand for gas therefore peaks in winter as shown in Figure 3 in the Attachment.

International markets

Global LNG markets and international gas prices are not strongly correlated with east coast domestic prices. For example, as shown in Figure 4 in the Attachment the LNG spot price started rising in mid-2021 while east coast spot prices remained flat. East coast prices then rose during the winter of 2022 while LNG spot prices were declining. LNG spot prices then rose again and peaked in late 2022 while east coast spot prices were falling.

Global prices will have an impact on east coast prices if LNG imports become a significant component of domestic supply. As noted above, EnergyQuest forecasts that from 2028 east coast domestic supply shortages mean that LNG imports will be needed to meet demand. For our base case of US\$69/bbl oil, this would provide for gas delivered to Sydney at around A\$17.81/GJ and to Melbourne at A\$17.39/GJ. This is a substantial premium to domestic production costs but will likely be necessary to supplement winter peaks and falling domestic production.⁶

Government regulation

The Australian Government has established a \$12/GJ price cap applying to new wholesale contracts with east coast gas producers. The cap applies to new wholesale contracts only and there are a range of exemptions which include spot market sales and LNG imports. ACCC data suggests more than 90% of gas sold in the east coast market is not currently subject to the cap.⁷

³ AEMO, '[National Electricity and Gas Forecasting](#)', 2023

⁴ Infrastructure Victoria, '[Towards 2050: Gas infrastructure in a net-zero emissions economy](#)', December 2021,

⁵ EnergyQuest analysis, '[Victorian Peak Demand Analysis](#)', 5 December 2023

⁶ EnergyQuest analysis, '[East Coast Gas Outlook 2023](#)', 9 November 2023

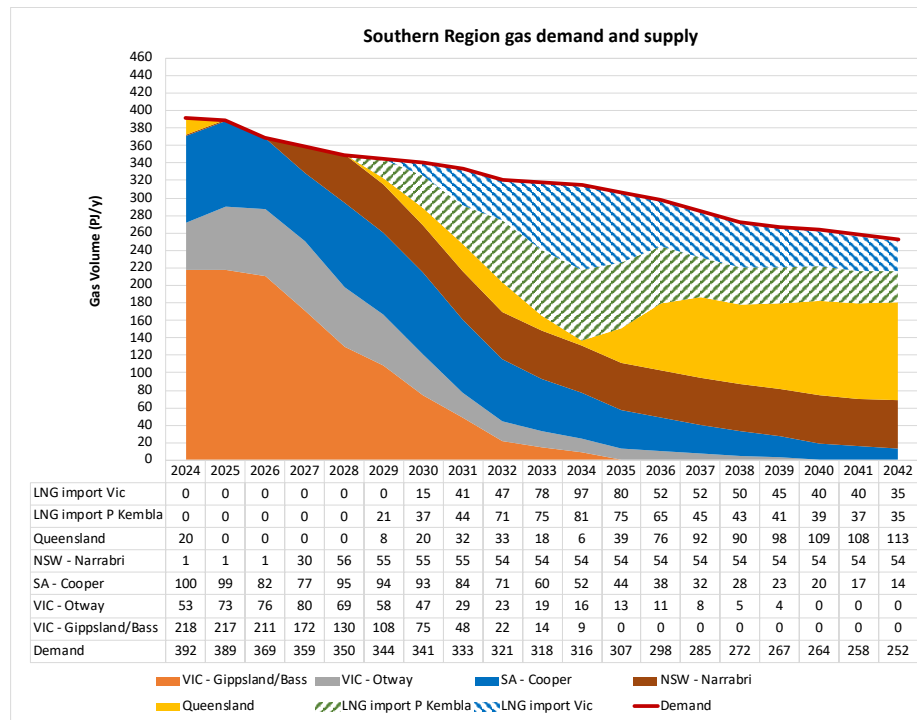
⁷ ACCC, '[Gas Inquiry 2017-2030 Interim update on east coast gas market, December 2023](#)', 15 December 2023

Attachment - supporting information

Domestic supply and demand

Figure 1 below shows Southern Region gas supply and demand.⁸ EnergyQuest forecasts domestic supply will run short from 2028 and LNG imports will be required to meet demand, unless there is demand destruction or the government intervenes, for example by diverting contracted LNG export feedstock gas to the domestic gas market.

Figure 1 Southern Region gas demand and supply

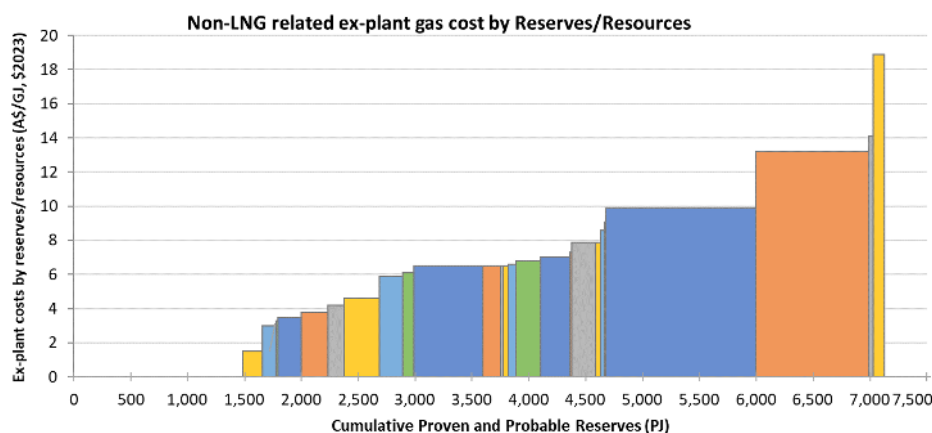


Source: EnergyQuest analysis

Cost curve for existing and potential supply

The cost of domestic gas production is expected to rise as low-cost gas reserves are depleted. Figure 2 below shows the cost curve for non-LNG related domestic gas reserves and resources on the east coast.

Figure 2 Non-LNG related ex-plant gas cost by Reserves/Resources



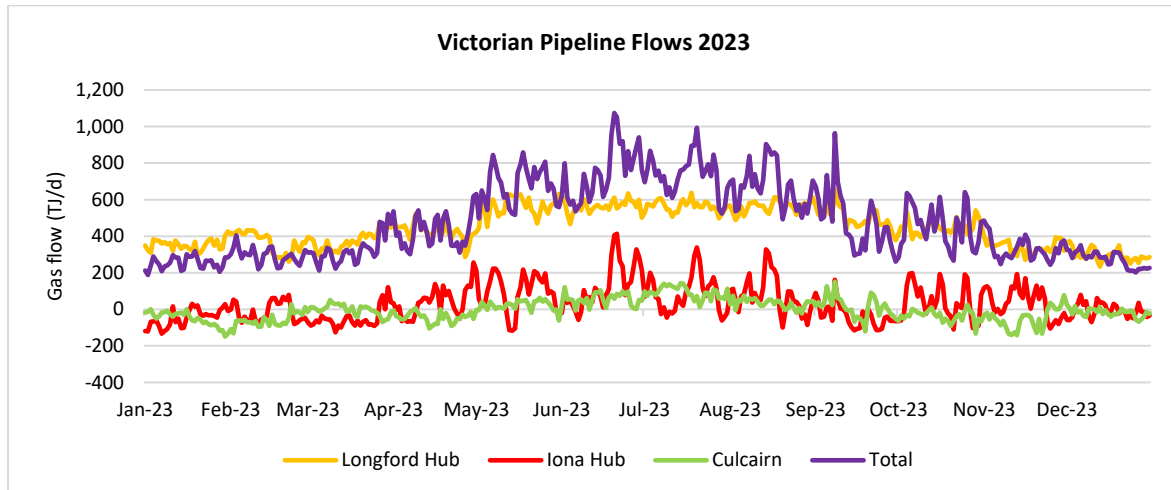
Source: EnergyQuest analysis

⁸ Southern region includes NSW, ACT, Victoria, Tasmania and South Australia.

Weather

Figure 3 below shows gas pipeline flows in Victoria over the course of a year. Demand rises during winter as more gas is used for heating. LNG imports are likely to be required from 2028 to meet demand in winter as the substantial contribution from Longford is forecast to fall away with the decline of the Gippsland Basin.

Figure 3 Victorian gas pipeline flows 2022

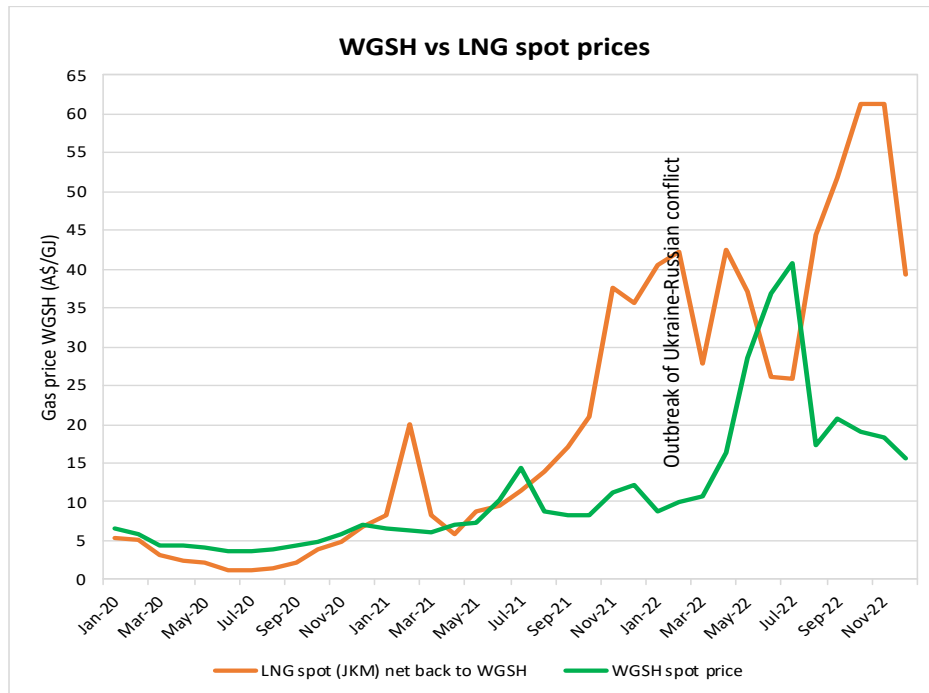


Source: AEMO, EnergyQuest analysis

International vs domestic spot price

Figure 4 shows spot prices at the Wallumbilla Gas Supply Hub (WGSB) against LNG spot prices. LNG prices started to rise in the second half of 2021 - before the outbreak of the Ukraine war and before WGSB prices started to rise during the Australian winter. WGSB prices then fell significantly after winter passed as LNG prices continued to rise.

Figure 4 WGSB vs LNG spot prices



Note: Correlation of WGSB vs JKM = 58%

Source: AEMO, EnergyQuest analysis