

# The Case for Gas



## Gas is an important part of Australia's energy mix

Gas has been used in Australia for decades in heating, cooking, power generation and manufacturing. Gas currently meets around 22% of Victoria's total energy needs, and a secure, affordable supply of natural gas is fundamental to Victoria's economy. Around 60% Victoria's gas is used for residential – for heating, hot water and cooking – and for light commercial. Victorian homes rely on gas far more than other states for heating, with many homes directly connected to pipeline gas. Gas is also a key input into some industrial and manufacturing processes, with 31% of total gas used by industry. Gas-powered electricity generation accounts for a further 9% of total Victorian gas demand.

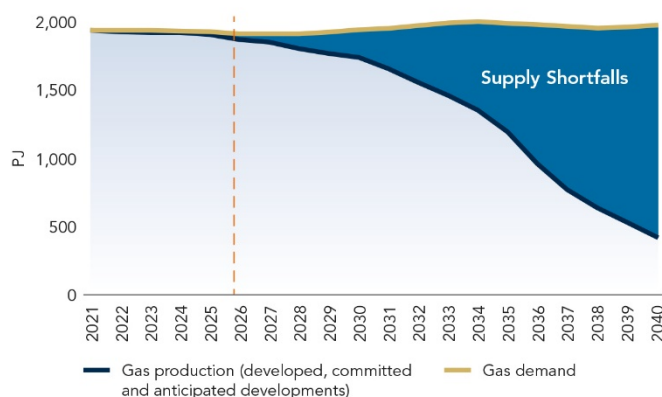
## Gas supply to south-east Australia is declining

South-eastern Australia is facing winter gas shortages from the mid-2020s and possibly even earlier in certain circumstances, according to the Australian Energy Market Operator (AEMO). This is because most gas now being produced in Australia is in Western Australia and Queensland – far from the domestic demand centres that need gas the most in the south-east.

Gas fields in the south-east such as the Esso/BHP gas fields in Bass Strait have traditionally supplied up to 40 per cent of demand – but these are in steep decline. As local production falls, Victoria will need to secure new gas supplies to avoid shortages on high demand days.

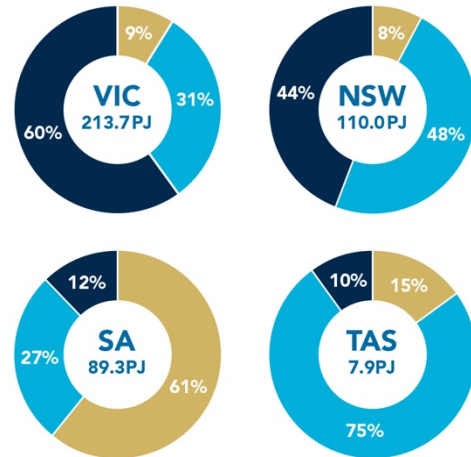
The proposed Viva Energy Gas Terminal would provide an economic way of transporting Australian gas to Victoria from the new gas fields in Queensland and NSW, as well as from overseas. By delivering a new, reliable source of gas to Victoria, it will enhance competition and encourage competitive market pricing.

## Gas demand vs forecast production for south-east and eastern Australia



Based on AEMO Gas Statement of Opportunity 2021 (central scenario).

## Gas usage south-eastern Australia



Legend: Gas Powered Generation (Yellow), Industrial (Blue), Residential and Commercial (Dark Blue)

Source: 2021 GS00.

## Gas is critical for industry and manufacturing

Natural gas is used in all sectors of Australian industry, in particular in the chemical, rubber, paper, metal, milk, plastics and vehicle industries. Gas is used as a feedstock because of its chemical properties or because it can cheaply and rapidly heat to very high temperatures. Natural gas has no real alternative as a feedstock - chemicals companies often require gas to be supplied continuously for efficient production processes.

More gas means more affordable and reliable energy to domestic manufacturers that rely on it – thereby boosting the economy and supporting employment. A three-fold increase in east-coast gas prices in recent years has been particularly challenging for local manufacturers. Increasing supply will open up more sources of gas for Victorian businesses which will increase competition and potentially put downward pressure on prices.

In 2020 more than 10% of total Victorian gas was consumed in the Geelong region. Of that, roughly 50% is consumed by Geelong residents for household use.

The rest is used by large commercial and industrial businesses, including food processing and agriculture (malting, timber processing, commercial nursery, meat processing) and the foundry. The City of Greater Geelong is also a large user of gas for the Swim Sport & Leisure facilities, and gas is an essential input for Viva Energy's Geelong refinery in the manufacture of petroleum products.

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## Gas plays a critical role in the electricity grid

Gas-powered electricity generation has an important role to play in the energy mix. Despite growing power generation from renewable sources like solar and wind, gas consumption is expected to remain steady to out to 2040, according to projections by the Australian Energy Market Operator.

Coal currently provides over 60% of Australia's power, and delivers important reliability and stabilising services to the national electricity market (NEM). But 63% of coal generation is set to retire by 2040. Gas-fired power generators are ideal for meeting peak demand – supporting the uptake of renewable energy – as well as for providing essential baseload power. They are not weather dependent, and they can be ramped up and ramped down more quickly than coal-fired generators. In addition, carbon emissions from gas-fired power generation are about 50 to 60 per cent lower than from coal-fired power, making gas a cleaner option for electricity generation.

## Gas supports the growth of renewable power

Gas is needed to support the electrical grid as it transitions away from coal. Renewable sources of energy like wind and solar farms are growing fast, and energy generated from renewables is forecast to double or even triple in the next 20 years. The challenge is that renewables cannot provide all the electricity we need, all the time. We still need 'baseload' power that can be dispatched on demand, to keep the electricity grid working when the wind is not blowing and the sun not shining.

Natural gas is the perfect complement to the intermittent nature of renewable energy, providing fast, reliable energy in times of peak demand. In several European countries with high uptake of variable renewable energy, gas demand has held steady or even grown, playing an important role in supporting the transition to a lower-carbon energy mix.

"Gas has much, much more scale than batteries. And gas is effectively the perfect complement to solar and wind. We can build a lot of solar and a lot of wind, and use gas for times when we don't have the sun shining and the wind blowing to deliver the energy we need... The reality is we're going to need to rely on it for 10, 20, perhaps 30 years."

Australia's Chief Scientist  
Dr Alan Finkel AO (ABC 2020)

## Gas – a cleaner alternative fuel

Natural gas is a cleaner alternative to the use of diesel for industry, transport and manufacturing. Compared to diesel alternatives, natural gas engines produce fewer emissions, have a lower carbon footprint and are 50 per cent less noisy.

Compressed natural gas (CNG) has a growing role in bus fleets and some intercity heavy road transport. CNG burns efficiently, has lower emissions and it can be retro-fitted to existing vehicles. Gas can also be used to produce 'lower emission'

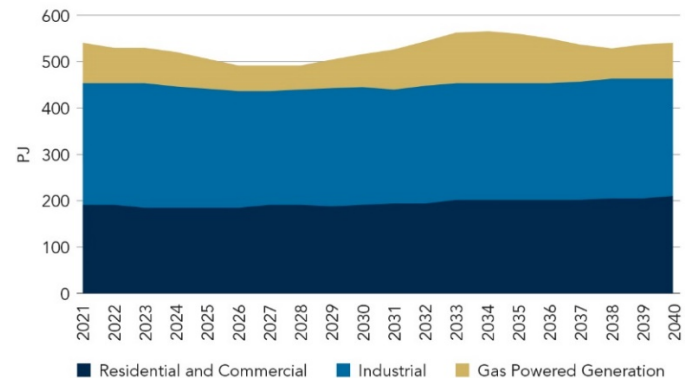
alternative energies such as hydrogen. Hydrogen can be blended into natural gas at low concentrations and even delivered via the existing pipeline system – potentially playing a big role in the future as a lower-carbon fuel.



## The future of gas – a continuing & important role

Looking ahead, despite increases in energy efficiency schemes, fuel switching away from gas appliances, and changing consumption patterns, gas will continue to have an important role to play in Australia's energy landscape for many years to come, with consumption in the residential, industrial and commercial sectors expected to remain relatively flat beyond 2040.

### Projected Gas Consumption for key sectors to 2040



Based on AEMO GSOO 2021, national data. Excludes gas use by LNG sector.

The challenge for the Government and energy system regulators is to find a path to the future which meet targets for reducing carbon emissions, while also meeting energy demand –reliably and affordably.

The Federal Government supports a continuing role for gas in Australia, for two main reasons – firstly, economic: more gas means more affordable and reliable energy to domestic manufacturers that rely on it – thereby boosting employment. And secondly – to support the electricity grid and the integration of renewable energy sources as Australia transitions away from coal.

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