



The role of gas in Australia's energy transformation

A South Australian perspective



Tony Wood

Energy and Climate Change
Program Director

Oil & Gas Roundtable

20 October 2022

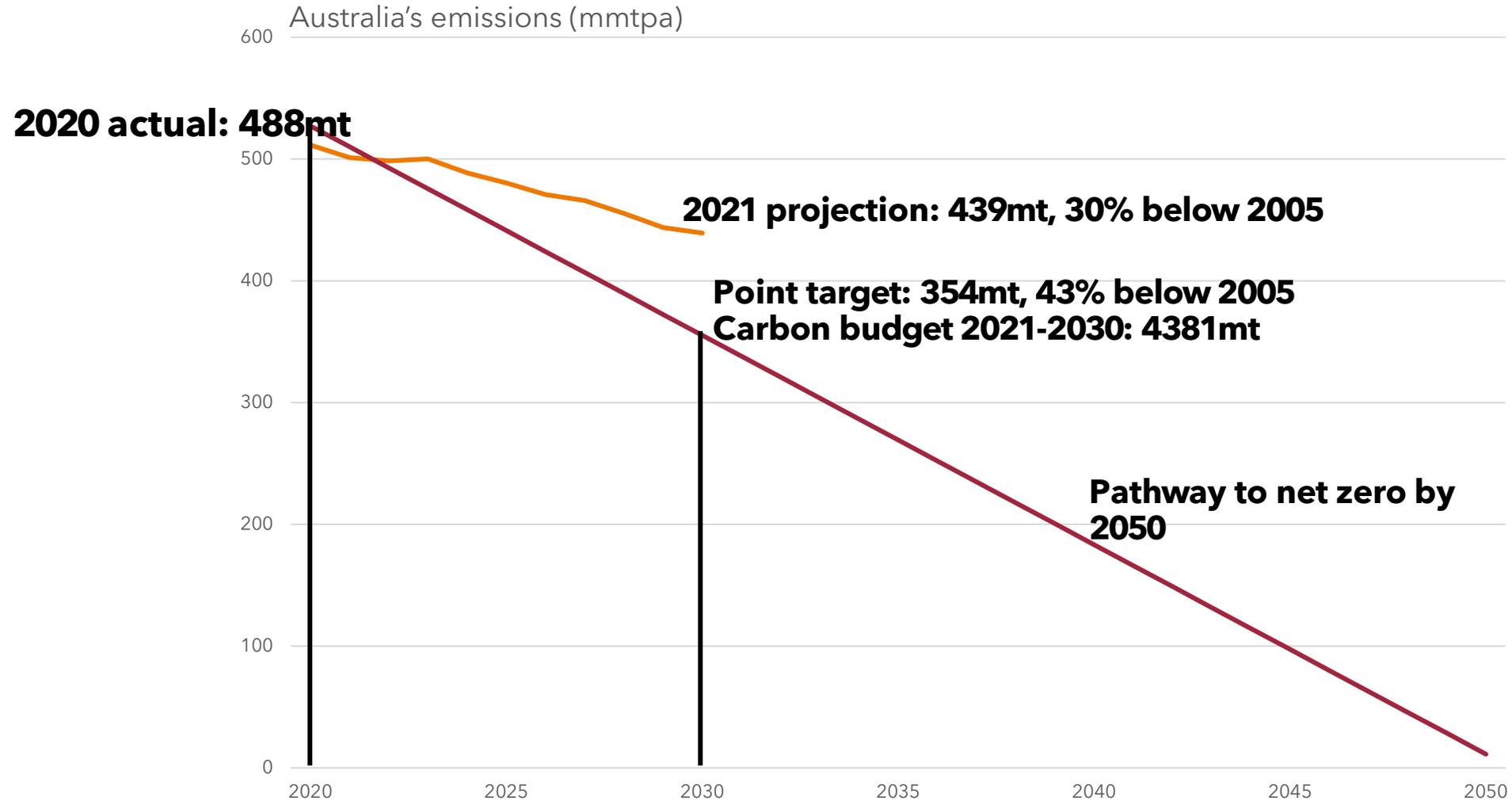
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Fossil-based methane is inconsistent with a net-zero world

- Meeting climate change targets will impose transformative change - no sector of Australia's economy will be immune.
- A 100-year-old electricity sector will be turned on its head.
- A 200-year-old gas sector will be effectively shut down.
- We must find new ways to make explosives and fertilisers, iron and steel, alumina and aluminium, and cement and concrete.
- We must electrify our light vehicles and develop zero-emissions fuels for heavy trucks, trains, ships and planes.
- And then there are burping cattle and sheep.

The first priority is to recognise the coming changes

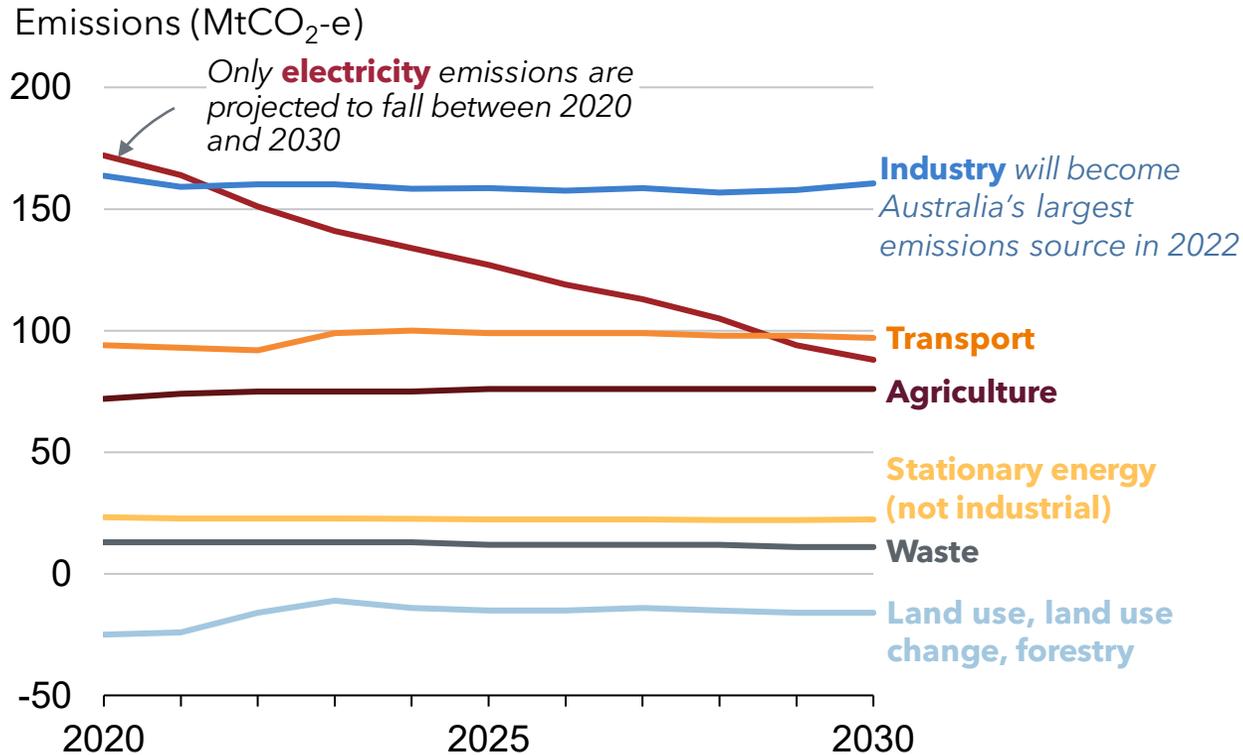
Australia has a legislated carbon budget



But targets don't achieve themselves

Targets won't be achieved with current policies

Industrial emissions flat across the decade

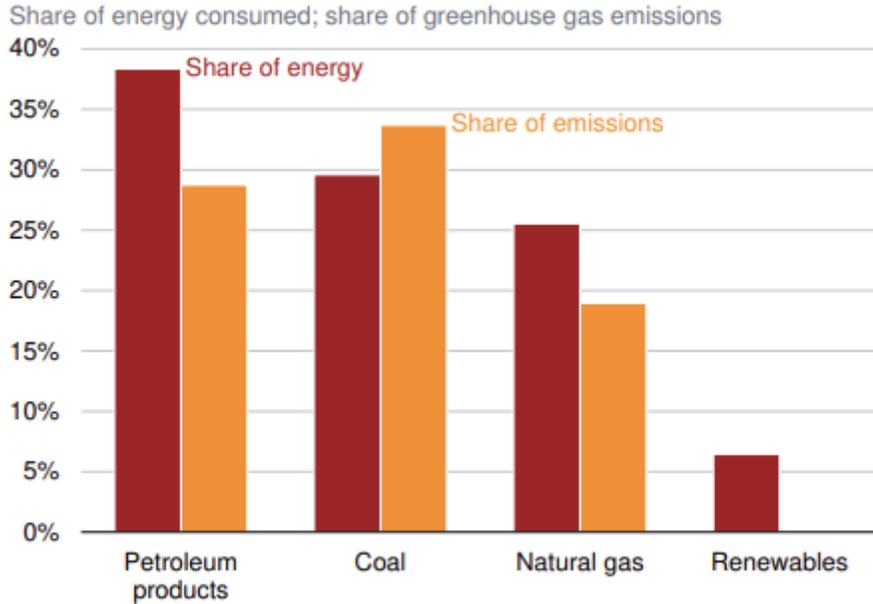


- **No over-arching policy framework**
- **Electricity depends on policies and infrastructure**
- **Industrial emissions depend on the Safeguard Mechanism**
- **LNG emissions contribute heavily to industrial emissions**
- **Transport is partly clear and partly very uncertain**
- **Agriculture remains hard**

Gas matters

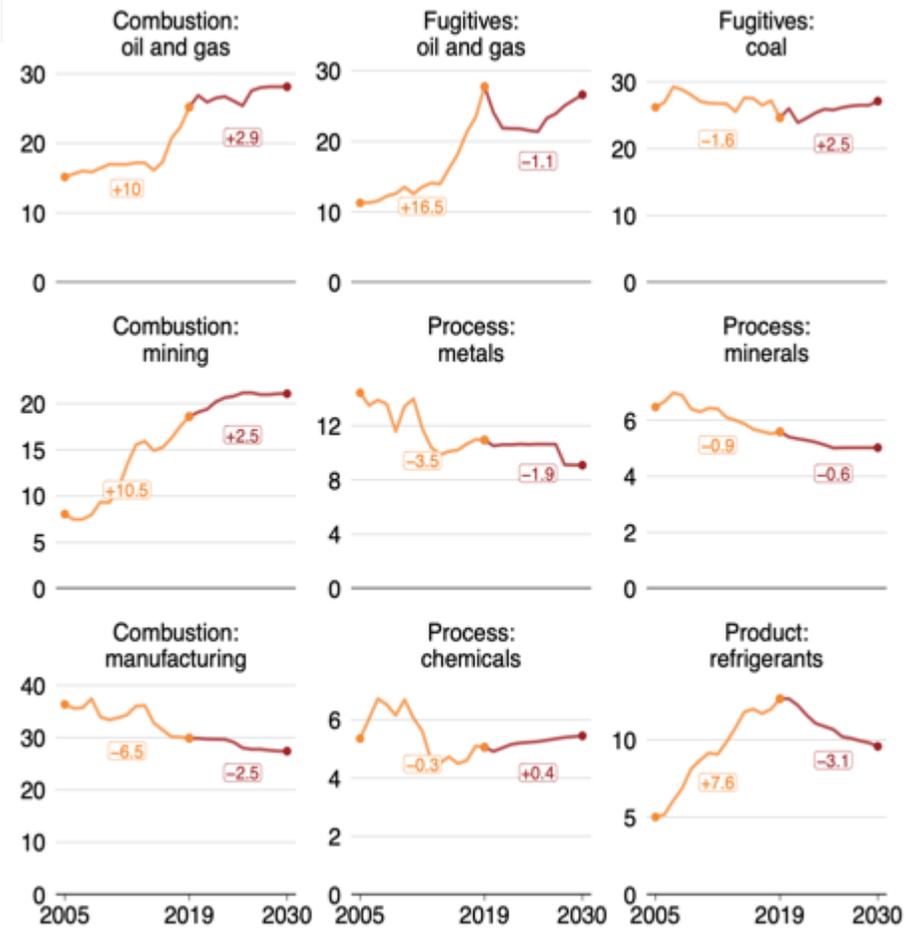
Gas contributes to Australia's emissions

Gas: a quarter of energy consumption, a fifth of emissions



Source: Grattan published reports

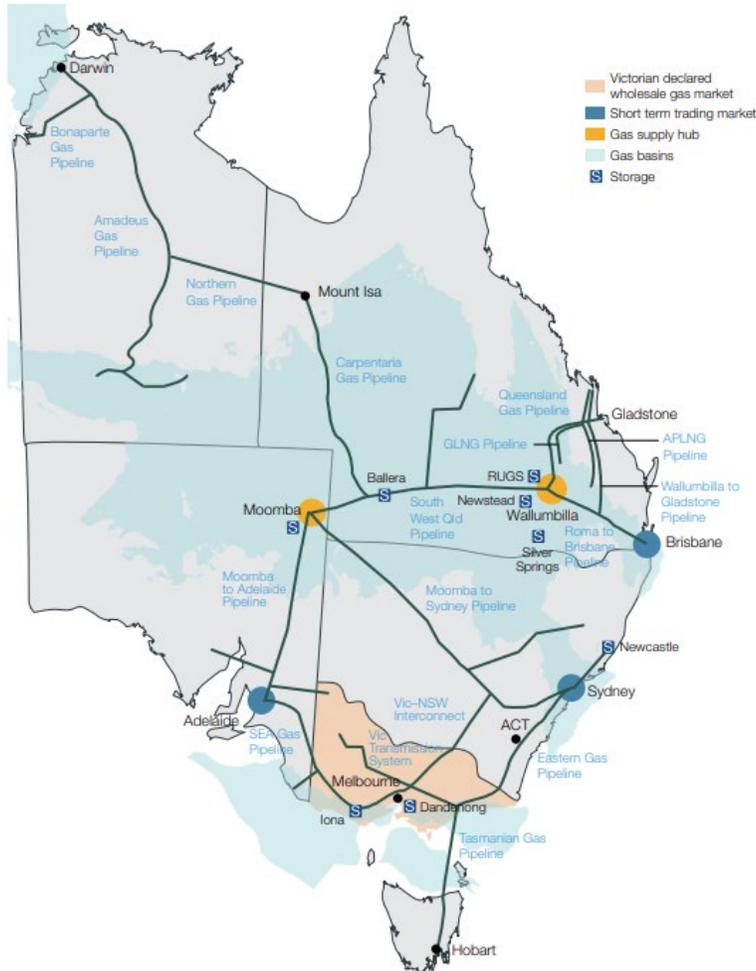
Extractive industries dominate industrial emissions



And every sector must contribute

The role of gas is full of contradictions

The east coast gas system



Source: AER, State of the Energy Market 2022

South Australia has had a long history of using natural gas, particularly for flexible electricity supply.

Natural gas has been a valuable resource for more than 50 years.

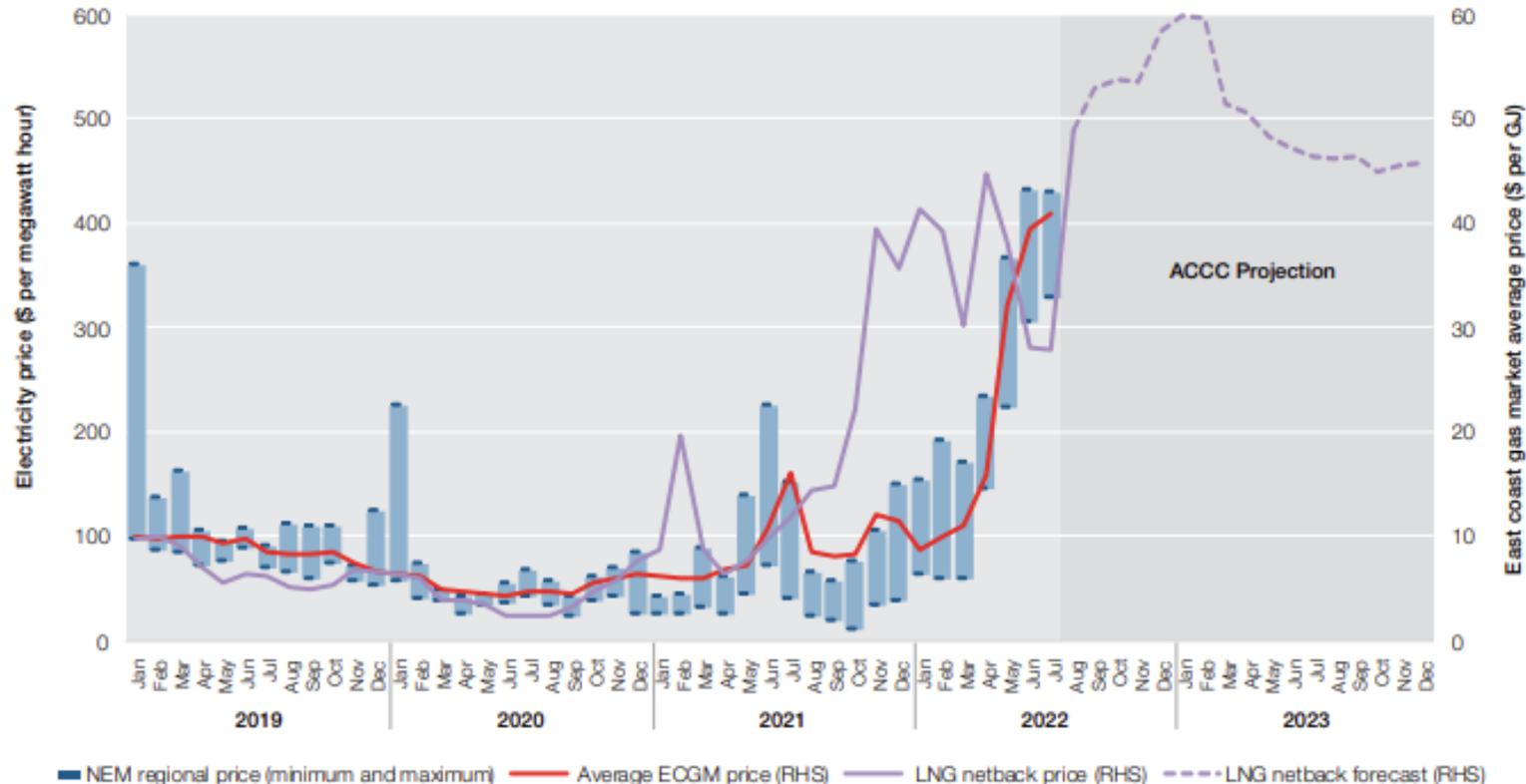
Natural gas is an expensive fossil fuel with declining supply.

Its production and combustion are incompatible with Australia's emissions reduction targets.

A gas-led manufacturing renaissance is wishful thinking.

Yet, demand is high, prices are higher and producers are keen

Domestic prices could become untenable



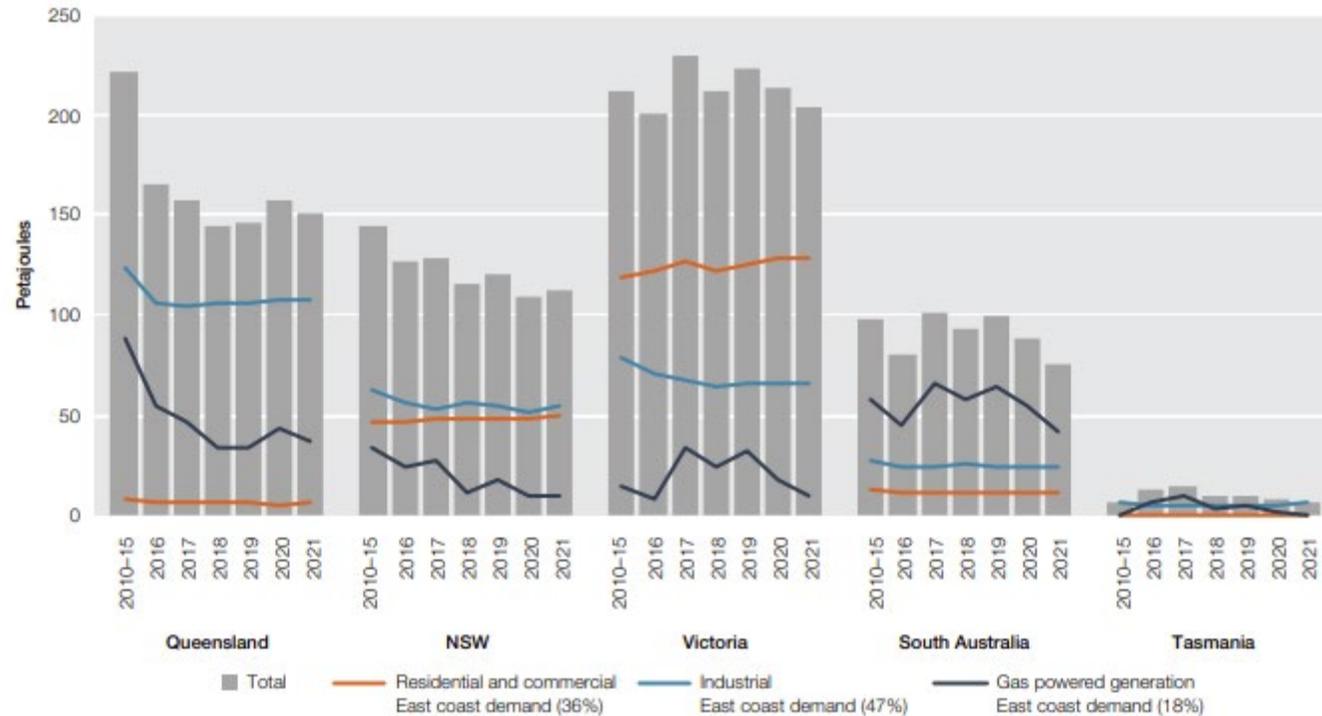
- Australia's coal and gas markets are connected to the international markets.
- The international prices are very high with little sign of abating.
- The consequences of flow-through to domestic gas sales agreements are politically untenable.
- The answer is to disconnect the domestic market.
- Political choice: least bad.

Source: AER, State of the Energy Market 2022

Electricity isn't the only concern

The domestic market: a sector-based focus

Gas consumption by state

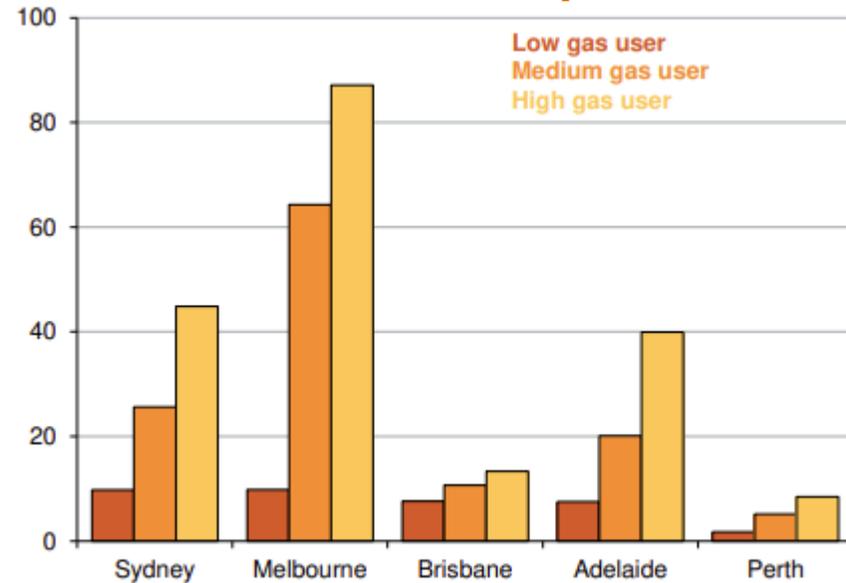


- South Australia stands out for the dominance of gas-powered generation.
- Electricity pricing implications follow.
- The political, technology, and economic issues vary across the applications.

We know what's needed in each subsector

Household gas usage varies dramatically

Household annual consumption (GJ)



Source: Grattan, "Flame out", 2020

Around half of SA households use mains gas, compared with three-quarters in Victoria, and they use less gas.

A medium household bill could go up by \$400 and a moderate commercial business by more than \$10,000

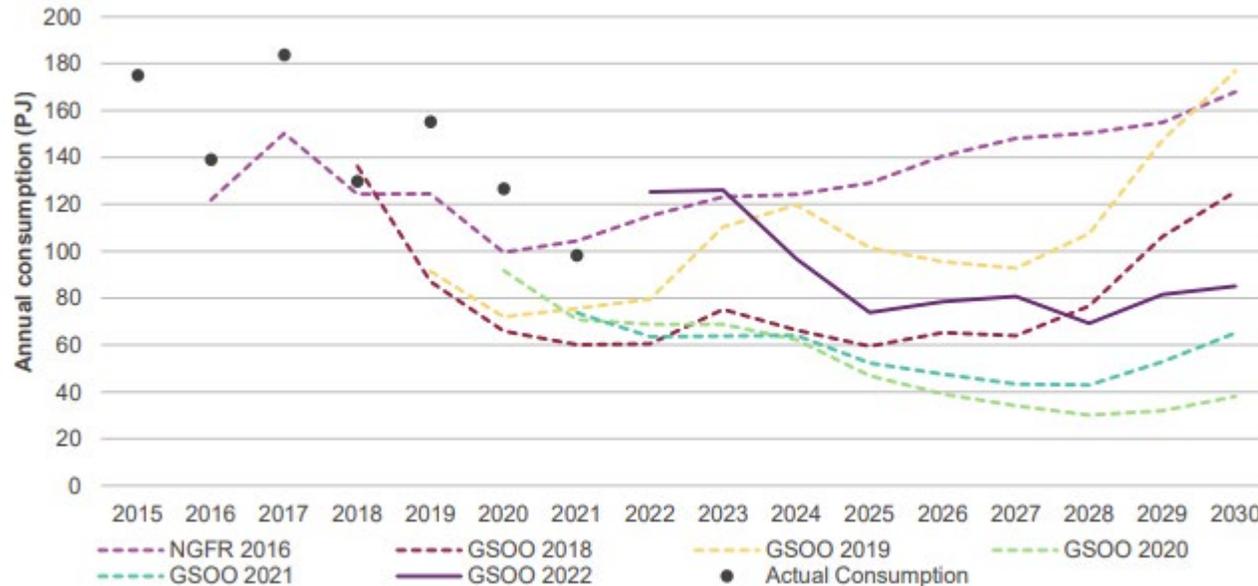
A policy pathway for degasification:

- Confirm an electrification pathway
- Moratorium on new gas connections
- Plan for degasification
 - Detailed by region
 - Decide who will pay
 - Address stranded assets transition
 - Develop and communicate the narrative

We know what's needed

Gas for power generation: driven by events

Gas annual consumption forecast



Source: AEMO, "Gas Statement of opportunities 2022"

- **GPG will be determined by the policies to support dispatchable capacity in the short term.**
- **In the longer-term, the role of gas to balance higher levels of renewables is a mystery yet to be solved.**

So, the immediate priorities are clear

The need: Clear policies that drive action and investment

LNG development

- Resolve the Safeguard Mechanism

Households & small businesses

- Electrification
- A clear degasification policy

Industrial heat and feedstock

- Resolve the techno-economic questions around CST, biogas and hydrogen

Power generation

- Short-term: capacity mechanism
- Long-term: the last 5-10 per cent



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