Out of gas: Managing the decline of gas in Australia

Briefing pack

Alison Reeve, Tony Wood, Hamish McKenzie, Ben Jefferson
May 31, 2026

GRATTAN Institute

Overview

GRATTAN Institute

For more than a century, gas has been deeply enmeshed in the Australian economy. It heats our homes and cooks our food, generates electricity, fuels industry, and brings in export income.

But in the past decade, this has started to change. As Australian households and businesses search for cheaper, cleaner, and more efficient fuels, they are using less gas.

Governments have largely ignored this decline, and have failed to plan for it. As a result, new problems are emerging: electricity networks are under strain, backup generation for the power system is not being built fast enough, gas bills are rising, and manufacturers are closing.

And yet, the use of gas will need to decline even faster to meet emissions-reduction targets. The energy transition is also a transition for gas -- from a widespread fuel to one that occupies some vital but small niches in a mostly-electrified economy.

Without action, gas use will continue to decline, but the process will be costly, chaotic, and inequitable. Governments must take control to both accelerate and manage the gas transition.

First, governments should implement policies to methodically and predictably reduce gas use across the economy. This includes setting phase-out dates for the use of gas in households, using the Safeguard Mechanism to encourage industrial decarbonisation, and reforming the electricity market to properly price both the emissions costs and the reliability value of gas. Policies to fix forecast gas shortages should put demand reduction ahead of increased supply.

Each sector will move at a different pace, depending on its options. Even in a mostly-electric economy, there will still be some residual demand for gas.

To meet this demand, Australia will need supplies of renewable gases such as biomethane and hydrogen. Governments should drive their development with targeted grants, finance, and a demand-side obligation.

A declining gas market will need to be managed very differently, to avoid sky-rocketing prices for consumers and stranded assets for gas network owners. Governments should reform pipeline regulation to facilitate progressive decommissioning.

The role of gas-powered electricity generation is also changing. It is running less often, but is increasingly valuable as a backup during rare renewable energy droughts. The federal and state governments should use upcoming reforms to the wholesale electricity market to remove financing barriers for new gas-powered generators.

Less demand for gas means more demand for electricity. Without integrated planning, consumers and taxpayers are exposed to the risk of over-investing in gas and under-investing in electricity infrastructure. Gas and electricity system planning should be integrated to keep infrastructure costs low, and ensure the electricity network can handle increased demand from gas-to-electric switching.

While LNG producers are riding high at the moment, they face a future of being high-cost producers in a shrinking market as other countries move to reduce their reliance on high-cost and imported energy sources. For as long as the LNG industry lasts in Australia, governments should ensure it pays its share of tax, cleans up after itself, and keeps its emissions under control.

Australia is at a critical juncture in energy policy. The decisions made now around gas will have lasting ramifications. The gas transition will not get easier or cheaper if we wait. The choice is between chaotic and inequitable, or steady and fair. It's time to move.

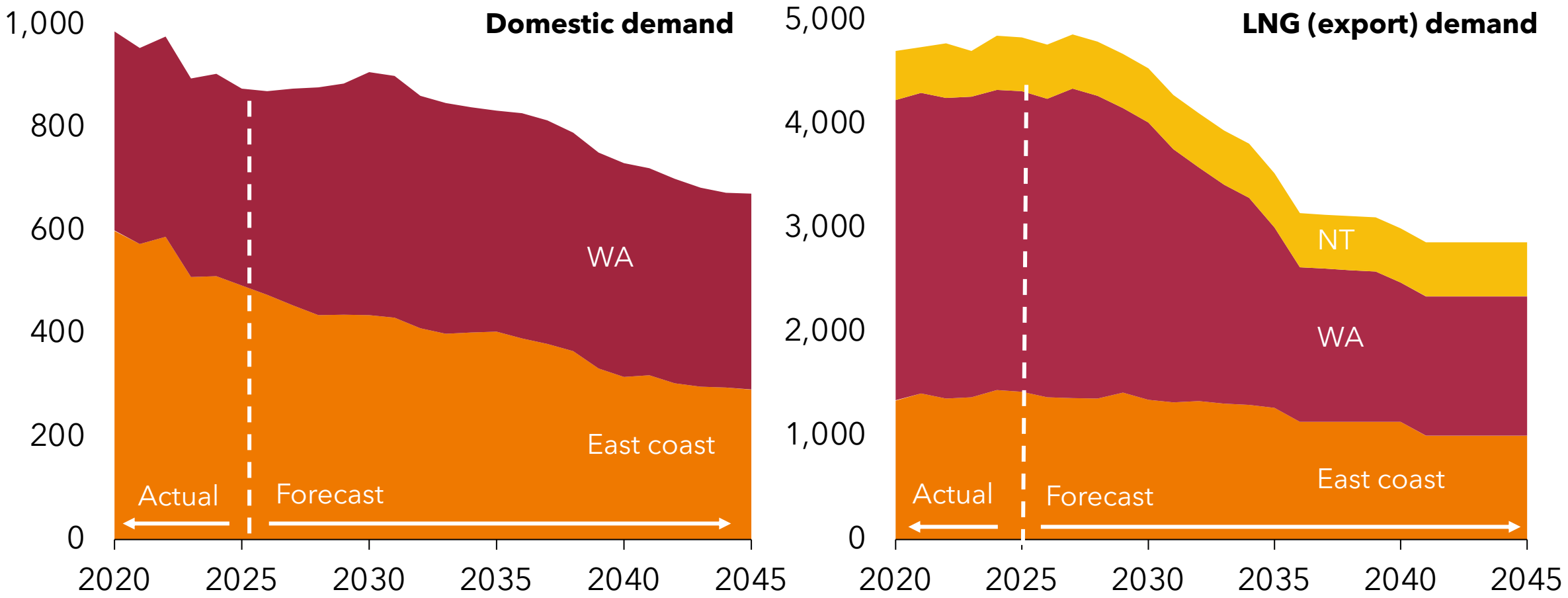
Recommendations – summary

1. Reduce demand for gas across the economy, with targeted policies across households, industry, and power generation, including phase-out dates for residential gas use. The federal government should focus on extending the Safeguard Mechanism into the electricity sector, and it should test the effect on the wider economy via the planned review of the Safeguard Mechanism in 2026-27.
2. Accelerate growth of the biomethane and green hydrogen sectors with better targeted industry policy and a new national scheme to drive demand for renewable gases.
3. Reform regulation and planning of gas distribution networks to enable and encourage the safe, progressive decommissioning of the network as households electrify. Share the costs between consumers, industry, and government through a grand bargain.
4. Get market settings right to ensure there is sufficient gas-powered generation in the National Electricity Market.
5. Better integrate gas and electricity planning to enable a least-cost transition away from gas by expanding the Integrated System Plan to include gas, and integrating the build-out of electricity networks with the phase-out of gas distribution networks.
6. Prioritise demand-side measures to address future gas supply gaps by expanding the Australian Energy Market Operator's ability to identify and use demand-reduction tools.
7. Manage the LNG sector more actively to maximise its benefit to Australia. Prepare for a post-LNG economy by reforming gas taxes, requiring emissions cuts from LNG, and using industry policy to replace the economic contribution of LNG.

Demand for gas is forecast to remain high into the 2040s

GRATTAN Institute

PJ of gas demand

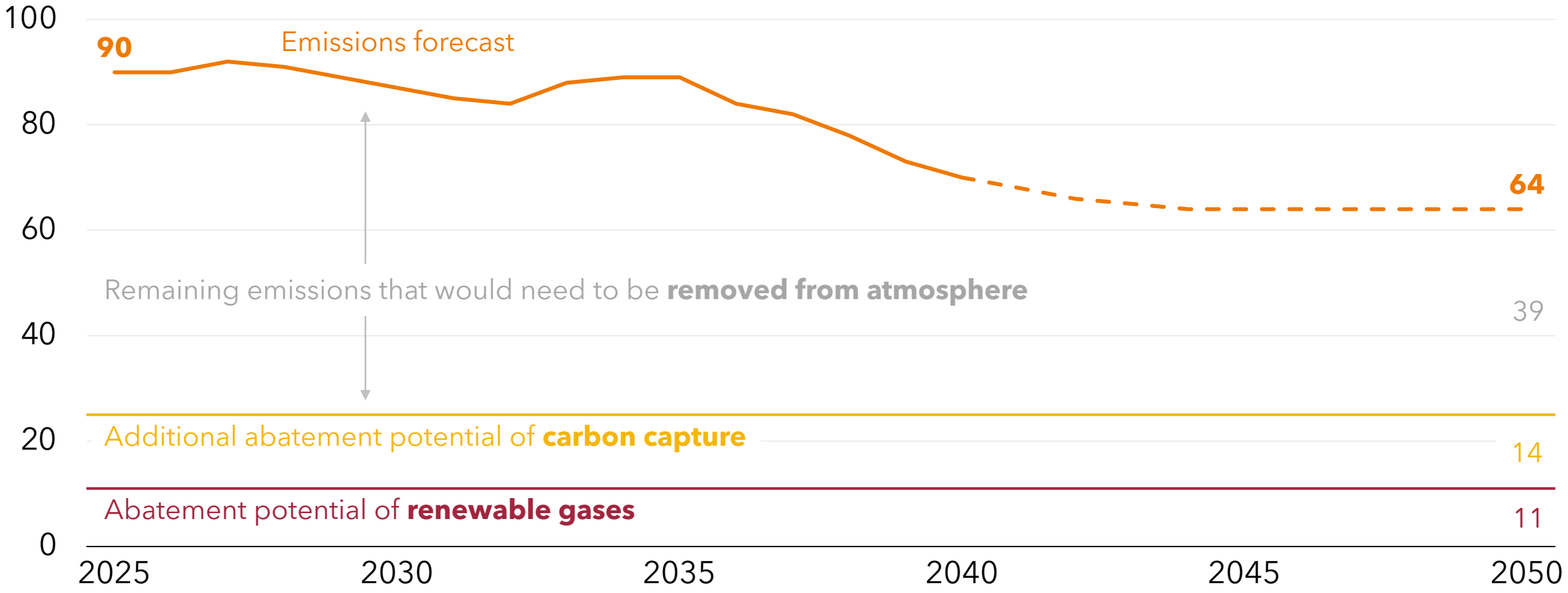


Note: PJ = petajoules. East estimates are compiled from the 2026 Gas Statement of Opportunities and west estimates from the 2025 WA Gas Statement of Opportunities. NT LNG estimates are forecast as flat, based on current data in the Australian Energy Statistics. A full explanation of volume and emissions forecasts is in Appendix A.

Sources: AEMO (2025a), AEMO (2026), DCCEEW (2025b).

High gas use means heavy reliance on implausible abatement options

Projection of gas-related emissions and estimated role of abatement options under current policy, MtCo2-e

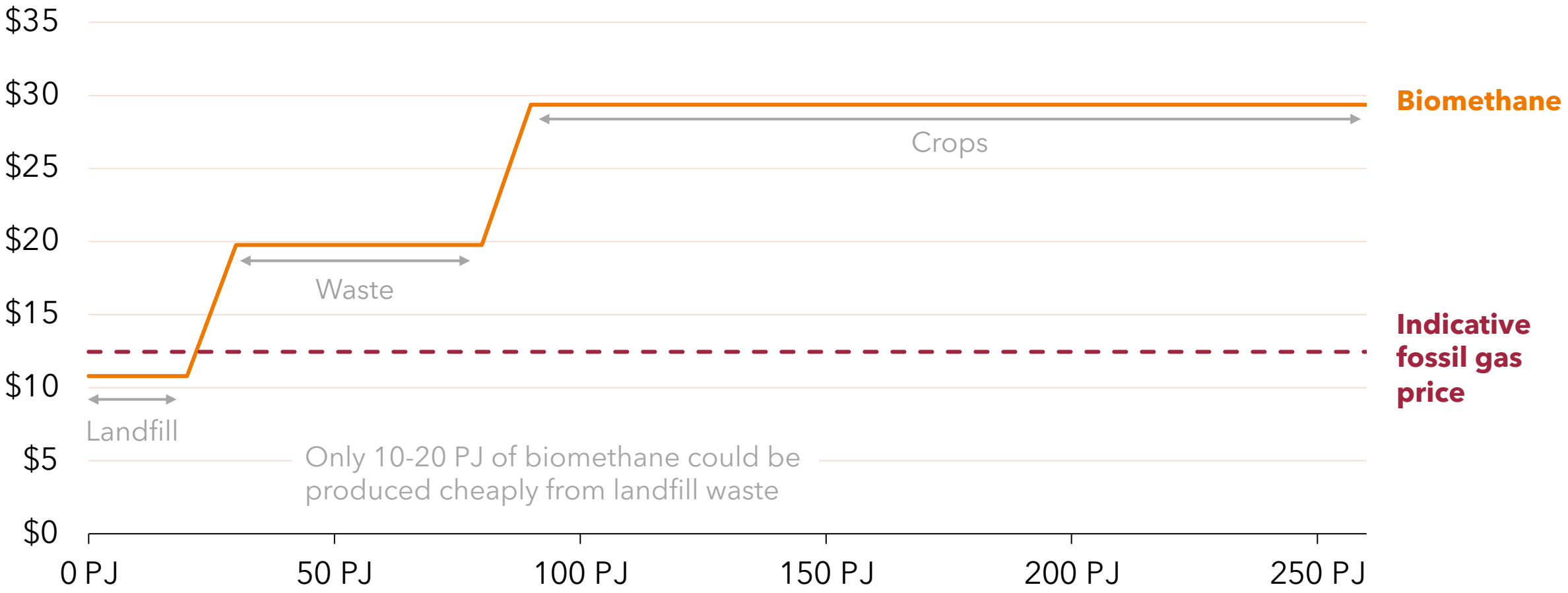


Note: MtCO2-e = millions of tons of carbon dioxide equivalent emissions and includes other emissions (such as methane) converted to carbon dioxide-equivalent amounts.
Sources: Grattan analysis of DCCEEW (2026), DISR (2024), AEMO (2026), and AEMO (2025a).

Small volumes of cheap biomethane are available, but scale would require expensive feedstocks

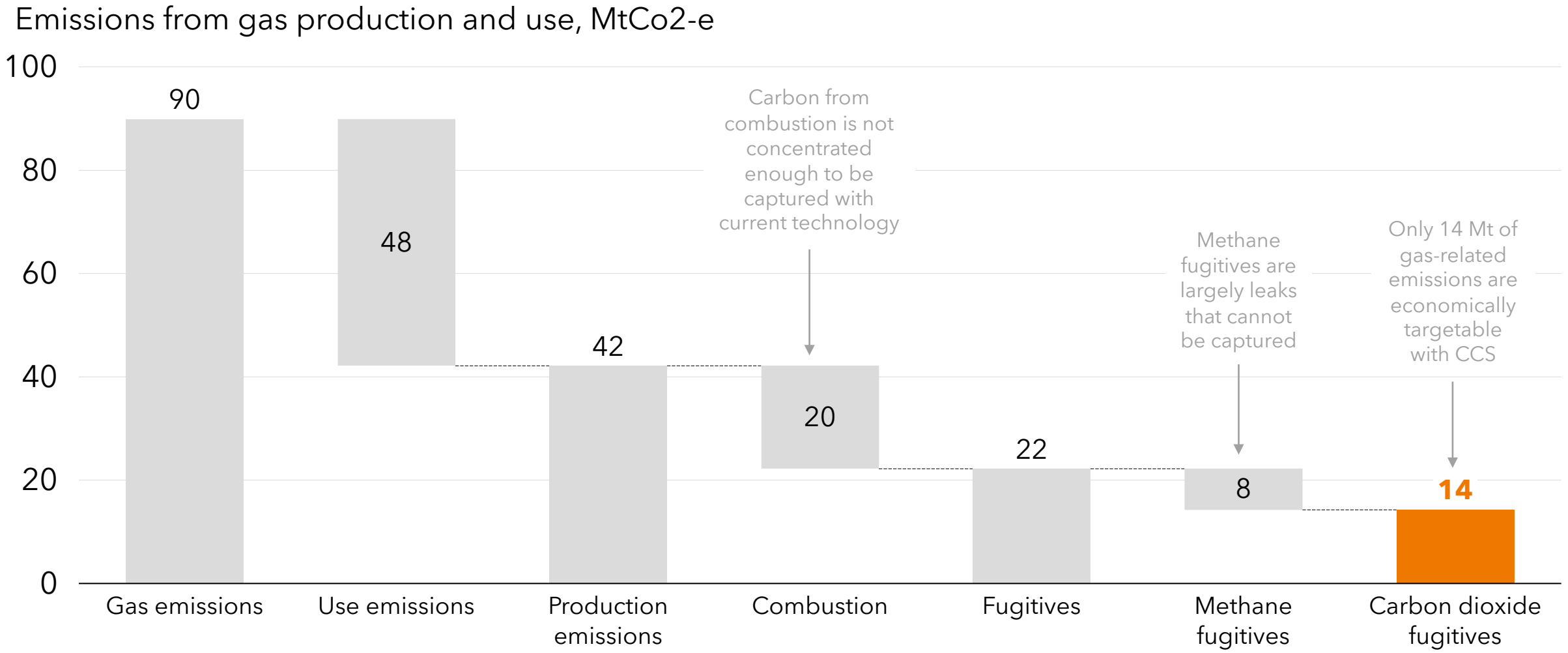
GRATTAN Institute

Estimated costs and volumes of biomethane for different feedstocks in 2050, $/GJ



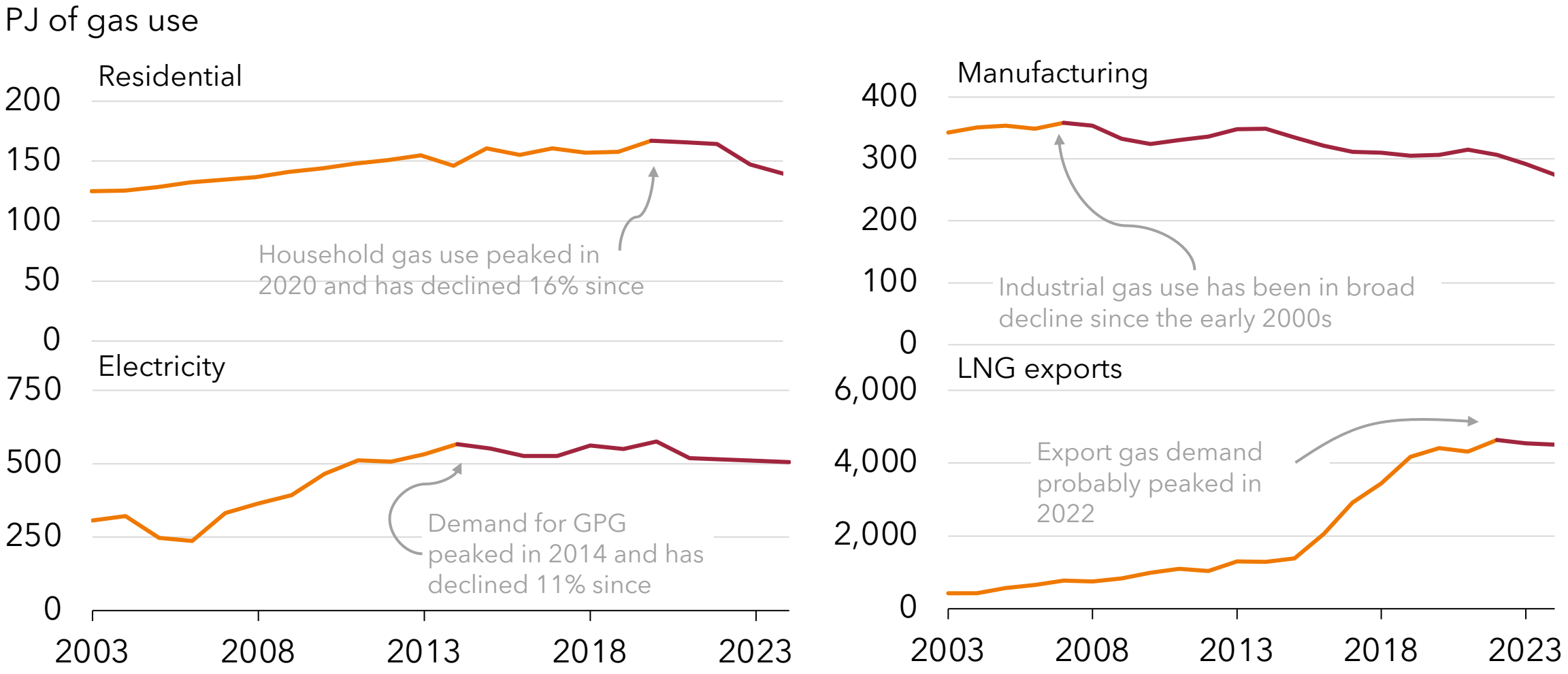
Notes: GJ = gigajoules. PJ = petajoules. Costs are the forecasts production costs in 2050, shown in today's dollars.
Source: Grattan analysis of AEMO 2025b

Only a small share of gas-related emissions can currently be addressed economically with CCS



Notes: MtCO2-e = millions of tons of carbon dioxide equivalent emissions, and includes other emissions (such as methane) converted to carbon dioxide-equivalent amounts.
Source: Grattan analysis of DCCEEW 2026.

Gas demand is declining in Australia across all sectors

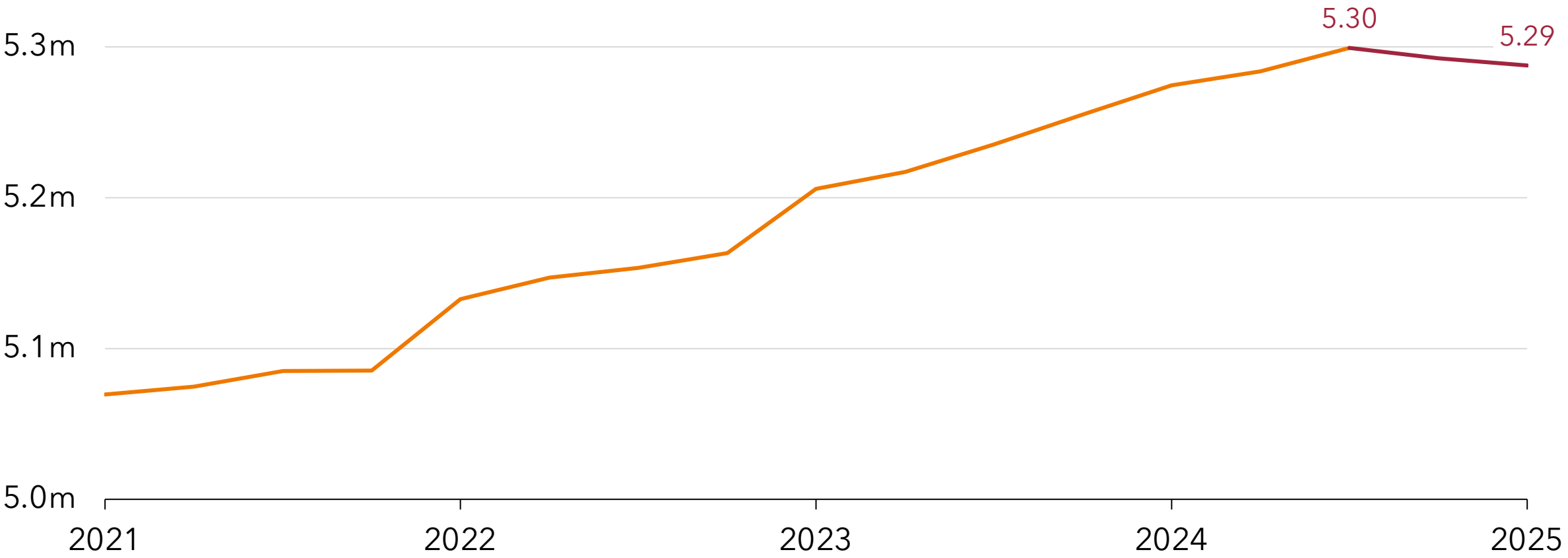


Notes: GPG = gas-powered generation. Manufacturing gas use does not include all industrial use. Electricity demand is final GWh converted back to petajoules. Full methodology explained in Appendix A.
Sources: DCCEEW (2025b), Australian Energy Regulator (2025a).

The number of households consuming gas has declined for the first time

GRATTAN Institute

Total residential gas customers in Australia

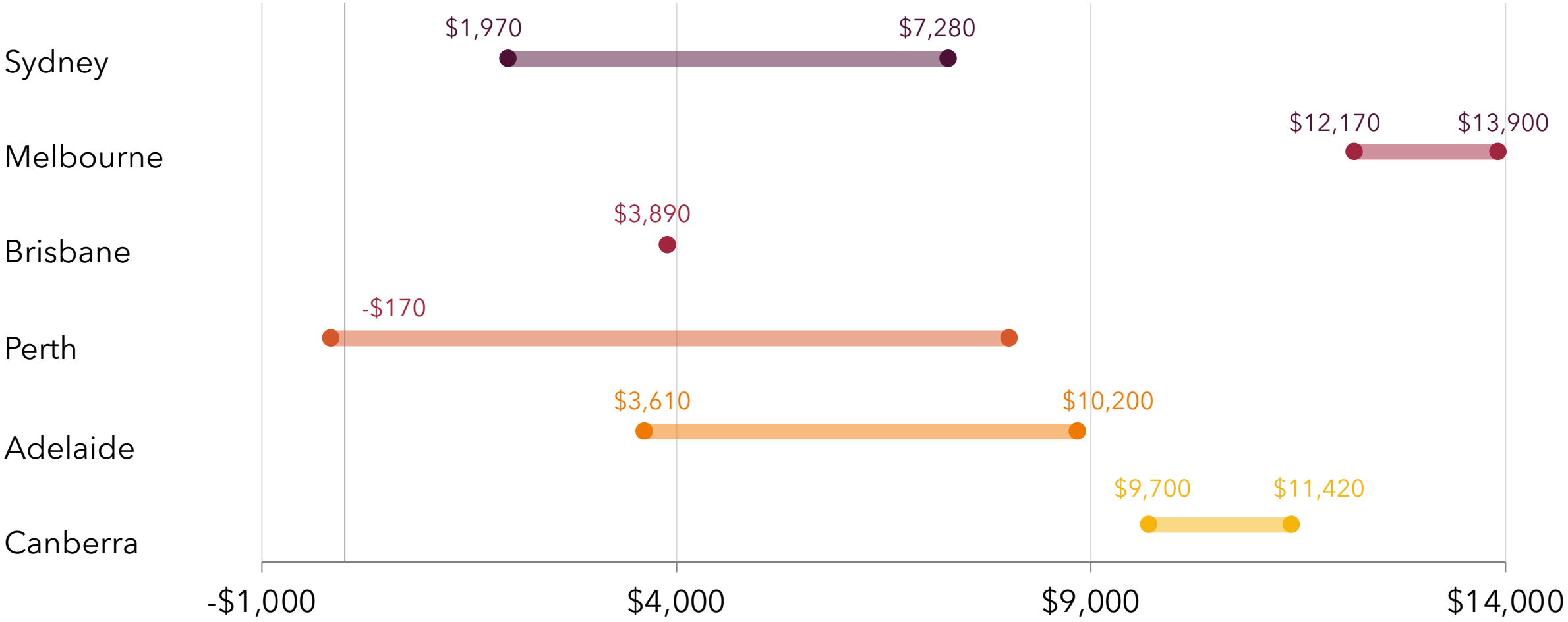


Note: Excludes the Northern Territory. This data refers to customers with retail gas plans. Separate network data on gas connections indicate numbers still rising, but the gas retail data provide a more accurate view of the number of customers actually consuming gas, as opposed to customers with dormant gas connections.

Sources: Grattan analysis of Australian Energy Regulator (2025a), Essential Services Commission (2026), and Economic Regulation Authority of WA (2025).

Most households will save money if they upgrade from gas to electric appliances

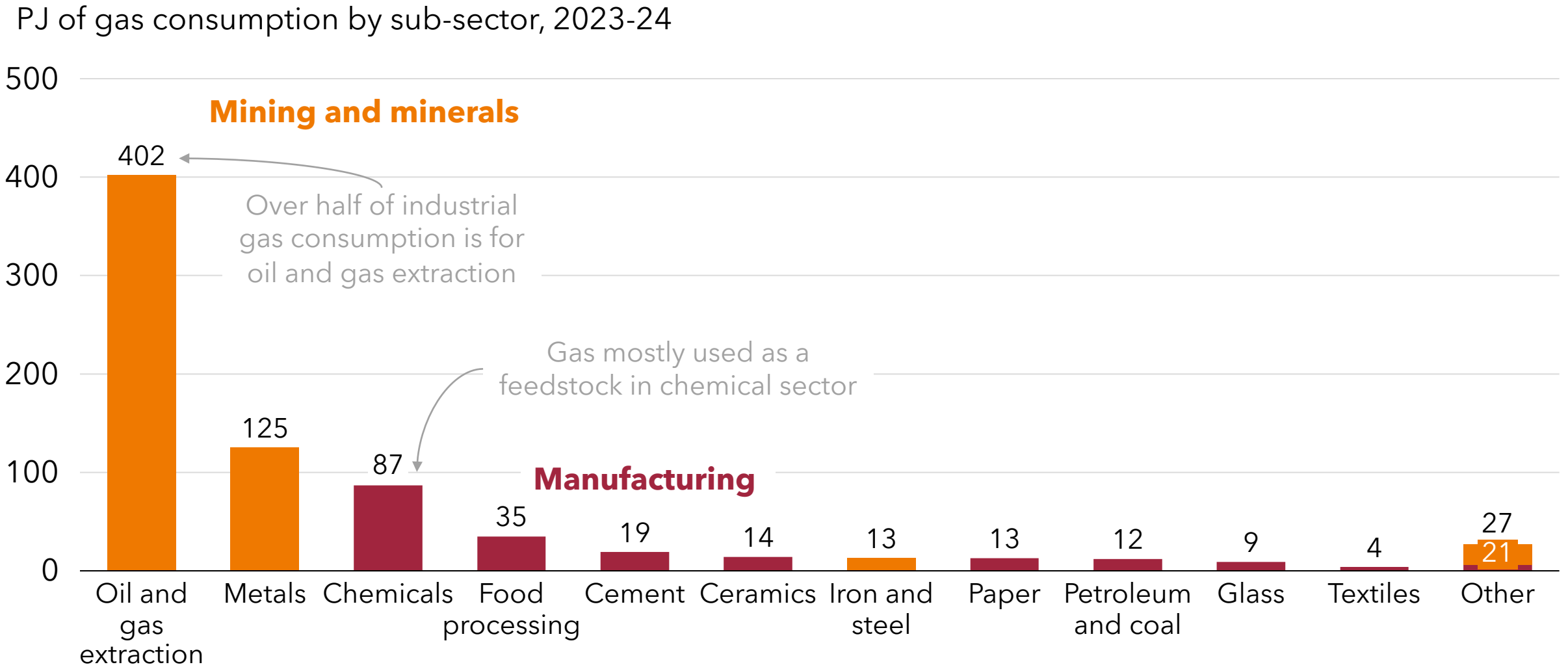
Potential range of household savings over 10 years, 2023 dollars



Notes: The leftmost dot reflects the savings over 10 years from electrifying hot water and cooking for a house without gas heating; the rightmost dot is the savings over 10 years from electrifying heating, hot water, and cooking. Includes the upfront cost of new appliances, assumed to be replaced when the old ones break. See Appendix B of T. Wood et al (2023) for further detail.

Source: Grattan analysis in T. Wood et al (ibid).

A few sectors account for the majority of industrial gas use

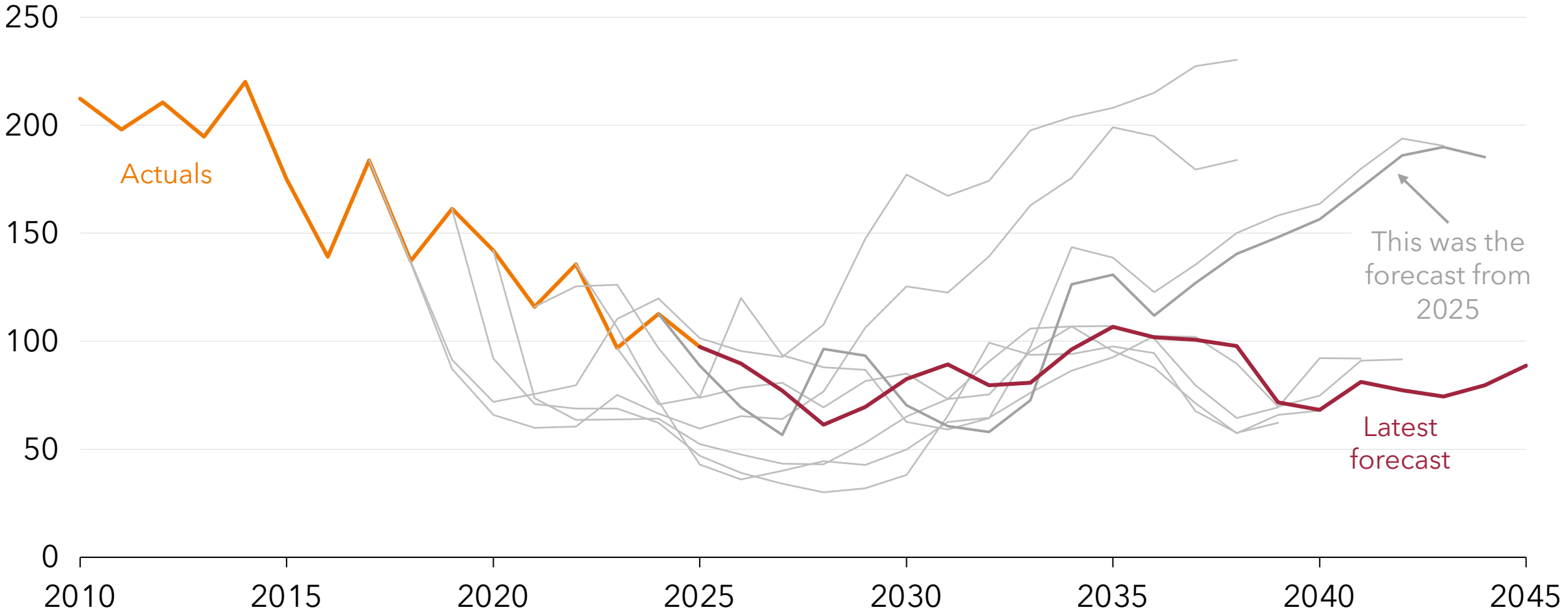


Notes: PJ = petajoules. Metals refers to metals other than iron and steel.
Source: Grattan analysis of DCCEEW (2025b).

AEMO's forecasts of future gas-powered generation have varied widely

GRATTAN Institute

Successive yearly forecasts of east coast gas demand for electricity generation, PJ

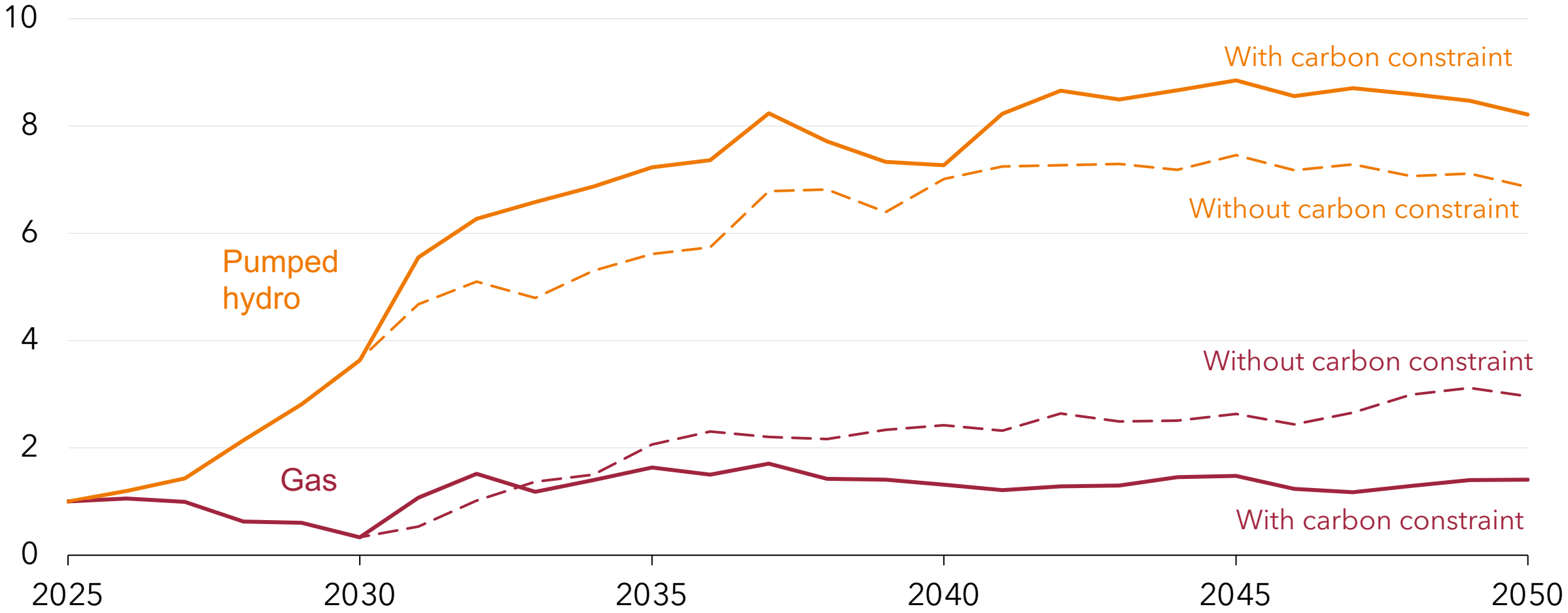


Notes: PJ = petajoules. AEMO = Australian Energy Market Operator. GPG = gas-powered generation.
Sources: Grattan analysis of AEMO Gas Statement of Opportunities, 2018 to 2026.

Without a carbon constraint in the electricity sector, gas takes a much higher share of generation

GRATTAN Institute

Index of pumped hydro and GPG output, with and without an emissions constraint, 2025 = 1



Notes: Carbon constraint applied from 2030, consistent with an emissions budget where Australia meets its 2030 and 2050 emissions-reduction targets, and meeting the reliability standard. For full details see Appendix B of Reeve et al (2025).

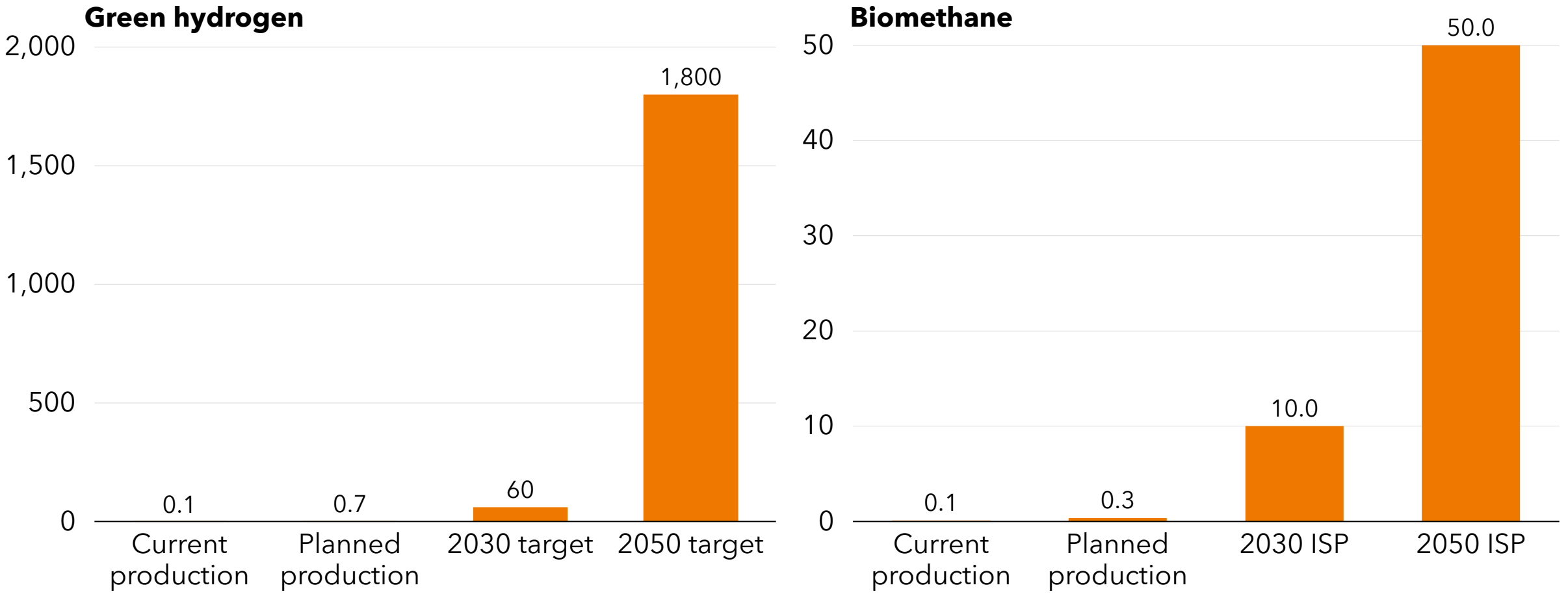
Sources: Jacobs for Grattan, Reeve et al (ibid).

Recommendation 1: Reduce demand for gas across the economy

- Set dates to phase out residential gas use.
- Remove barriers that many households face to electrification.
- Reform the Safeguard Mechanism to sharpen incentives for large industrial users of gas to reduce emissions.
- Better target existing industrial policy to reduce technology risk and financial risk for large industrial emitters.
- Fill the policy gap for small industrial facilities.
- Reactivate the Safeguard Mechanism in the electricity sector to accelerate power system decarbonisation.

Australia is a long way off track for renewable gas production

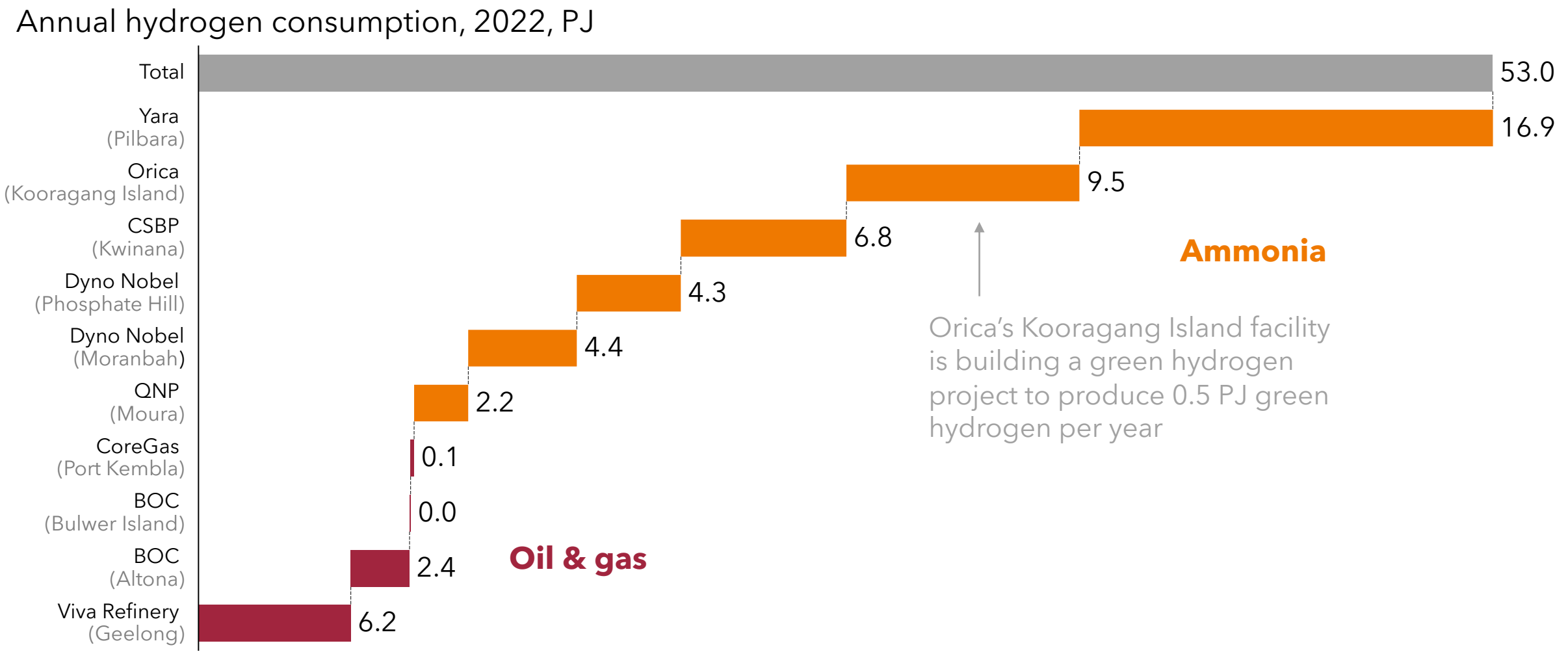
Annual production of green hydrogen and biomethane, PJ



Notes: PJ = petajoules. ISP = Integrated System Plan. 'Planned production' refers to electrolysers under development for hydrogen and the planned Delorean and Wasleys biomethane projects.
Sources: Current production is from CSIRO (2026). Green hydrogen targets are from DCCEEW (2022) and biomethane targets are from AEMO (2025b).

Currently just 10 facilities in Australia use hydrogen, all of it grey (produced from methane)

GRATTAN Institute



Note: PJ = petajoules. Grey hydrogen refers to hydrogen produced from methane steam reforming. Estimates of hydrogen consumption at Ampol's Lytton refinery are not available.
Source: Grattan analysis of DCCEEW (2022).

Recommendation 2: Accelerate growth of the biomethane and green hydrogen sectors

- Restructure financial support for hydrogen to focus more on smaller grants and loans. Funding could be repurposed from the hydrogen production tax incentive.
- Target initial green hydrogen deployment in sectors that have the lowest barriers to adoption to build scale.
- Increase support through the Australian Renewable Energy Agency and the Clean Energy Finance Corporation to biomethane producers.
- Require the federal Treasury to conduct a sector assessment of biomethane to determine if it should be designated a strategic priority sector under the Future Made in Australia framework.
- Replace the NSW and Victorian renewable gas targets with a single, national scheme to slowly increase demand for renewable gases by placing a small obligation on the largest users of gas.
- Use the ongoing federal Gas Market Review to ensure biomethane producers can participate on a level playing field in the gas market.
- Improve the economics of green hydrogen by relentlessly pursuing the efficient rollout of renewables and storage to drive down the cost of electricity.

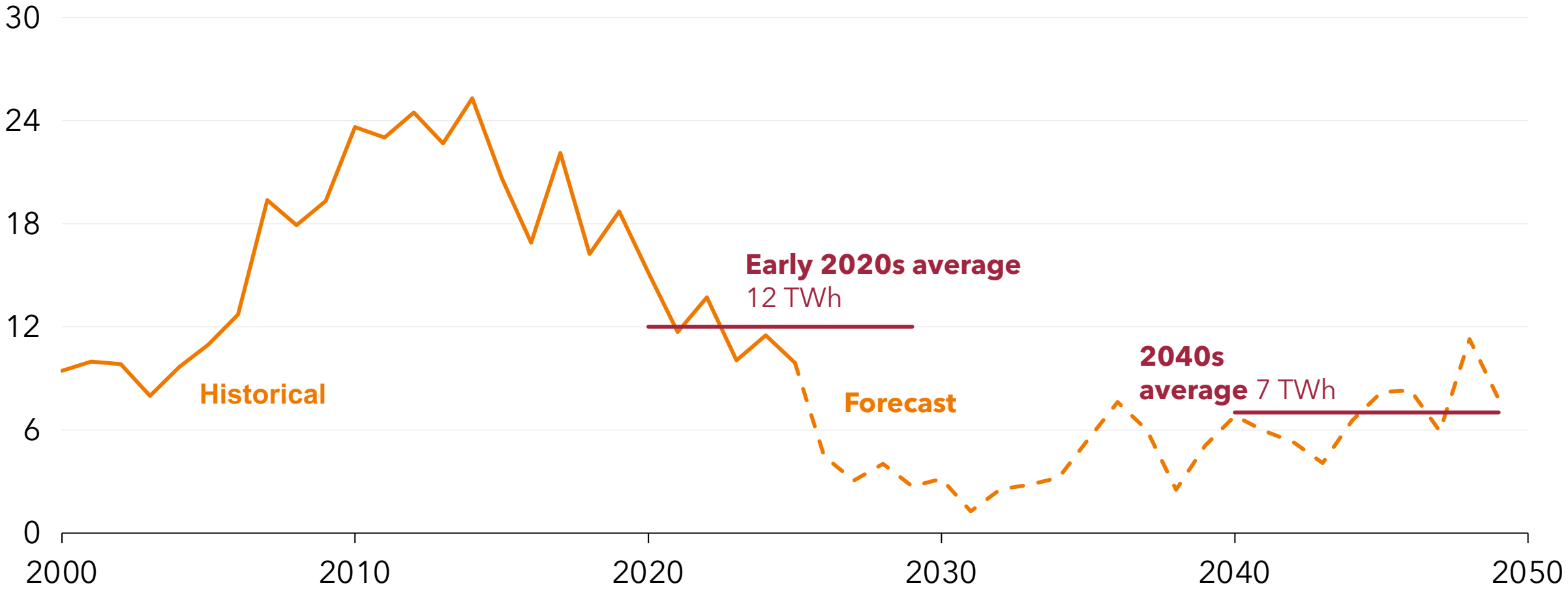
Recommendation 3: Reform regulation and planning of gas distribution networks

- Develop consistent national standards for decommissioning gas distribution networks, with clear roles and responsibilities and requirements for safety and site remediation
- Repeal rules that require regulated networks to connect new customers to the network and that prevent networks from disconnecting customers
- Introduce new 25-year common gas demand forecast scenarios to be used as the basis of all gas system planning. Require networks to reconcile their own network demand forecasts with the common forecast.
- Require gas networks to develop transition plans outlining how they intend to progressively retire their networks by the phase-out date.
- Restrict new expenditure by gas networks to only what is required to safely operate the network until phase-out.
- Allow networks to use accelerated depreciation only insofar as it does not increase gas bills.
- Progressively reduce the size of the regulated asset base by writing down redundant parts of the networks. Share this cost between networks and state governments
- Levy charges on gas and electricity networks and gas producers to fund the cost of decommissioning. Reform network regulations to prevent networks passing through the remainder of the cost to gas and electricity consumers.

Gas-powered generation in the NEM peaked in 2014 and is forecast to decline even further

GRATTAN Institute

Electricity generation from gas-powered generation, NEM, in TWh

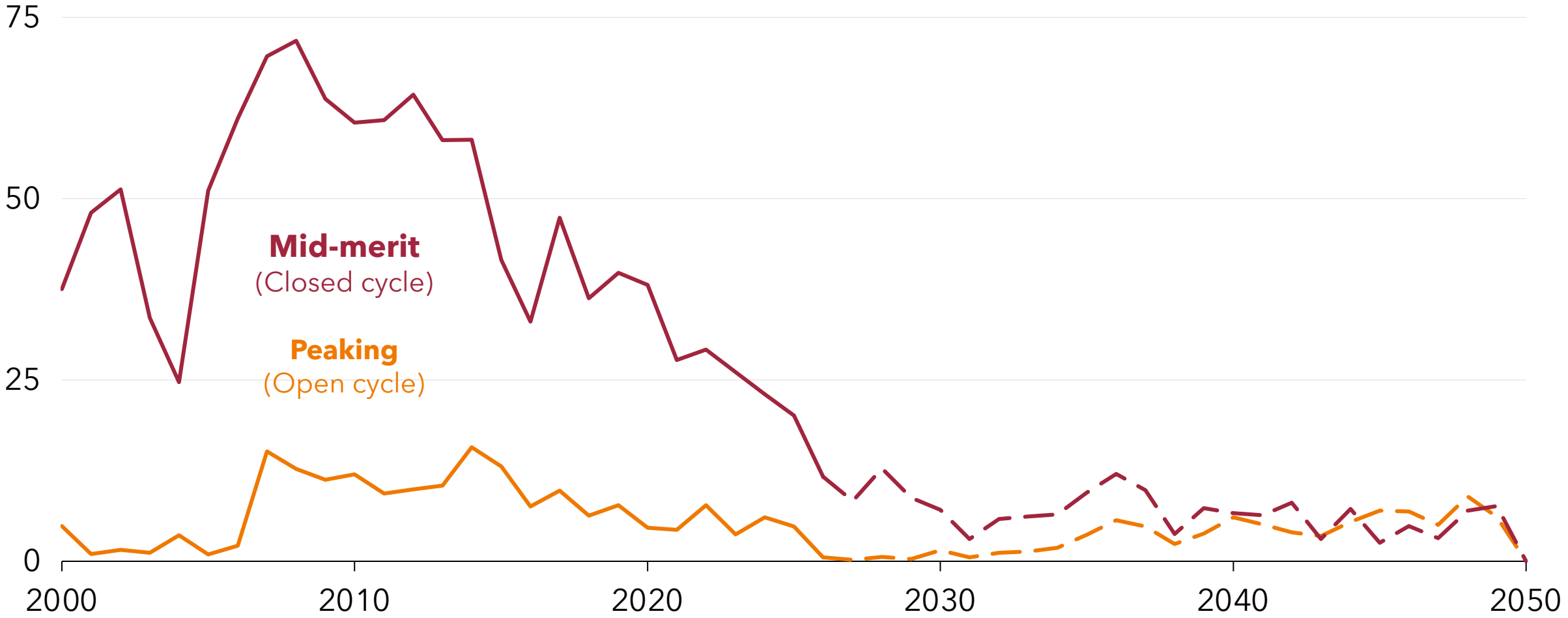


Note: TWh = terawatt-hours.
Grattan analysis of Open Electricity (2026) and the Draft 2026 Integrated System Plan, AEMO (2025b).

Gas-powered generators are running for fewer hours each year and are forecast to run even less

GRATTAN Institute

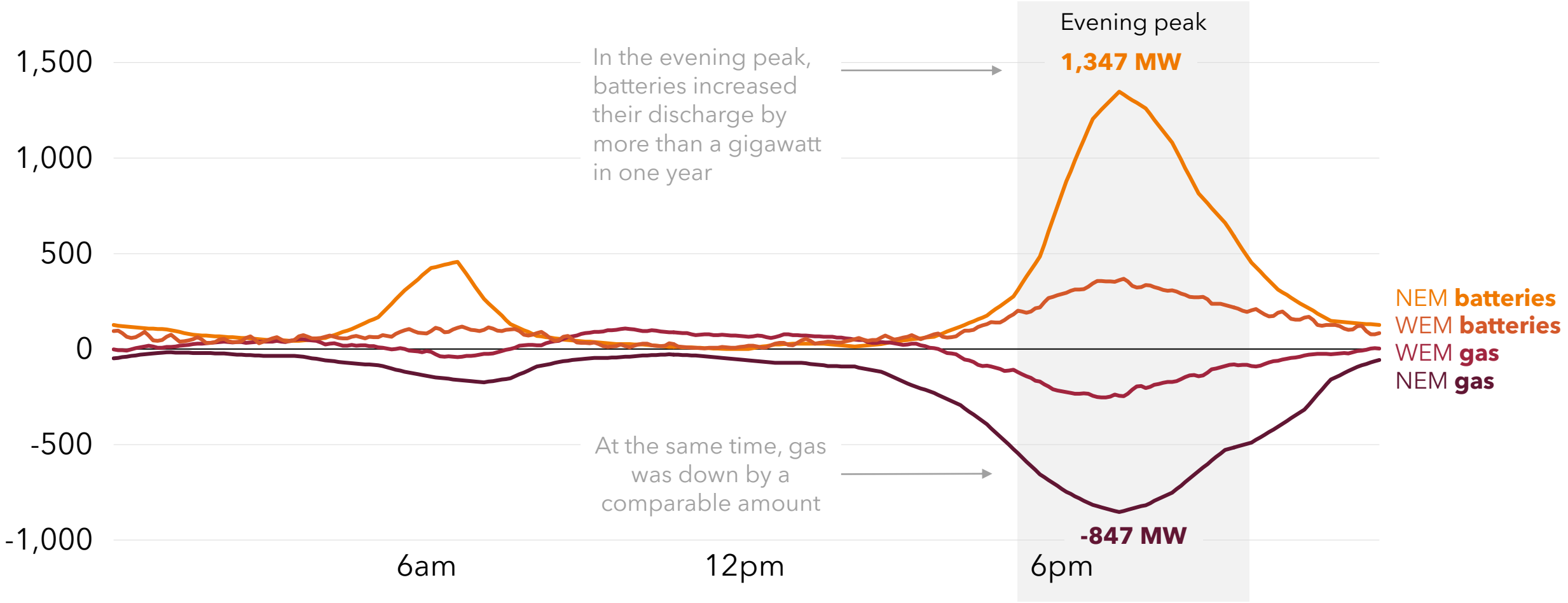
Percent of the year gas-powered generation plants are running, NEM



Source: Grattan analysis of Open Electricity 2026 and the Draft 2026 Integrated System Plan AEMO 2025b.

Batteries are increasingly taking market share in evening peak times from gas generators

Change in average output (MW) by time of day from Q1 2025 to Q1 2026, NEM and WEM

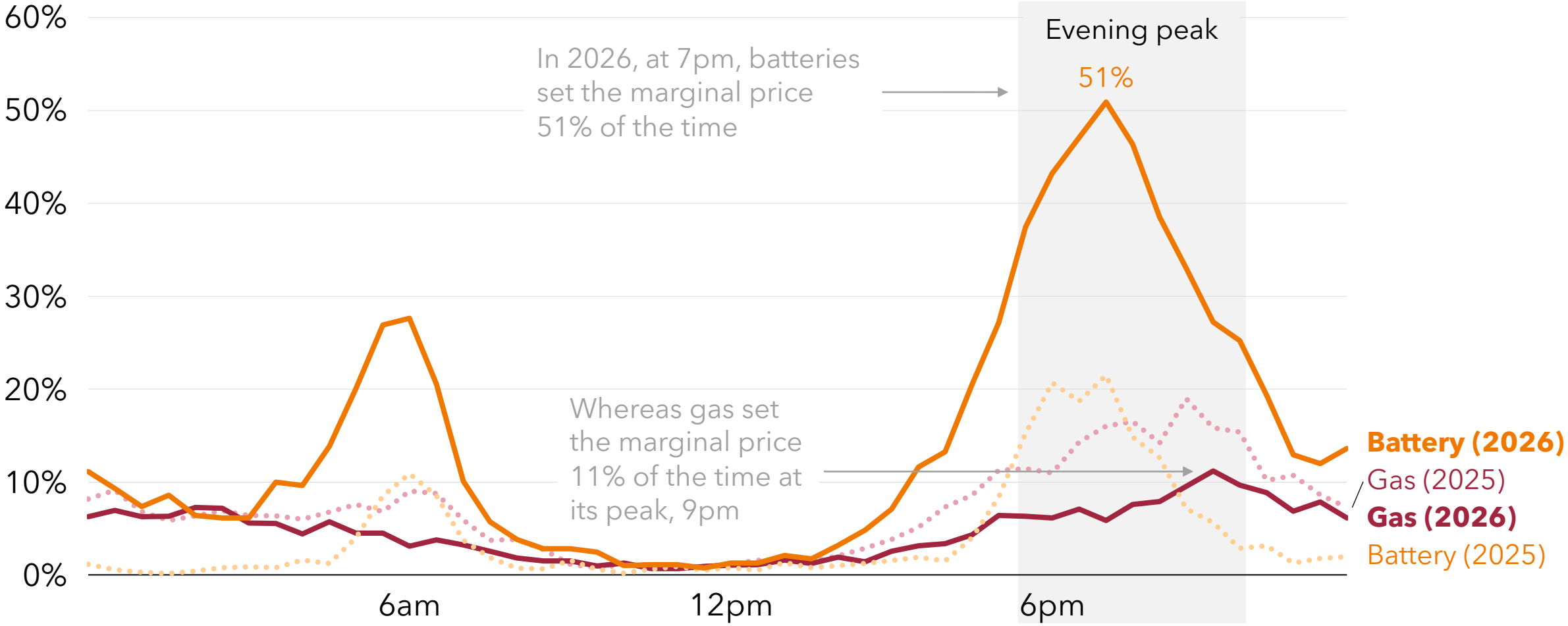


Notes: NEM = National Electricity Market, WEM = Western Australia's Wholesale Electricity Market.
Source: Grattan analysis of AEMO Quarterly Energy Dynamics, Q1, 2026.

Batteries, not gas, are increasingly setting morning and evening peak prices

GRATTAN Institute

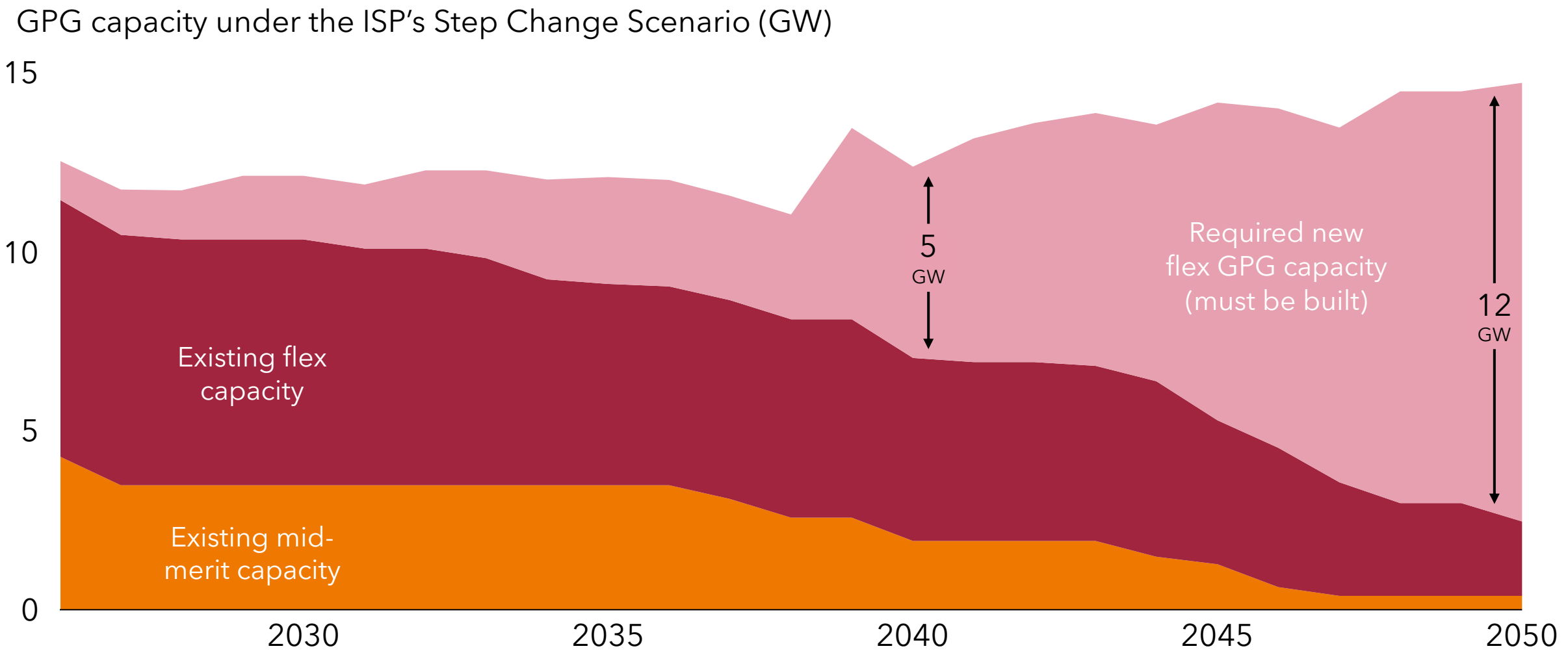
Proportion of time as marginal price setter in the NEM, Q1 2025 compared to Q1 2026



Source: Grattan analysis of AEMO Quarterly Energy Dynamics, Q1, 2026.

If the Integrated System Plan is correct, a lot of new flexible gas generators need to be built

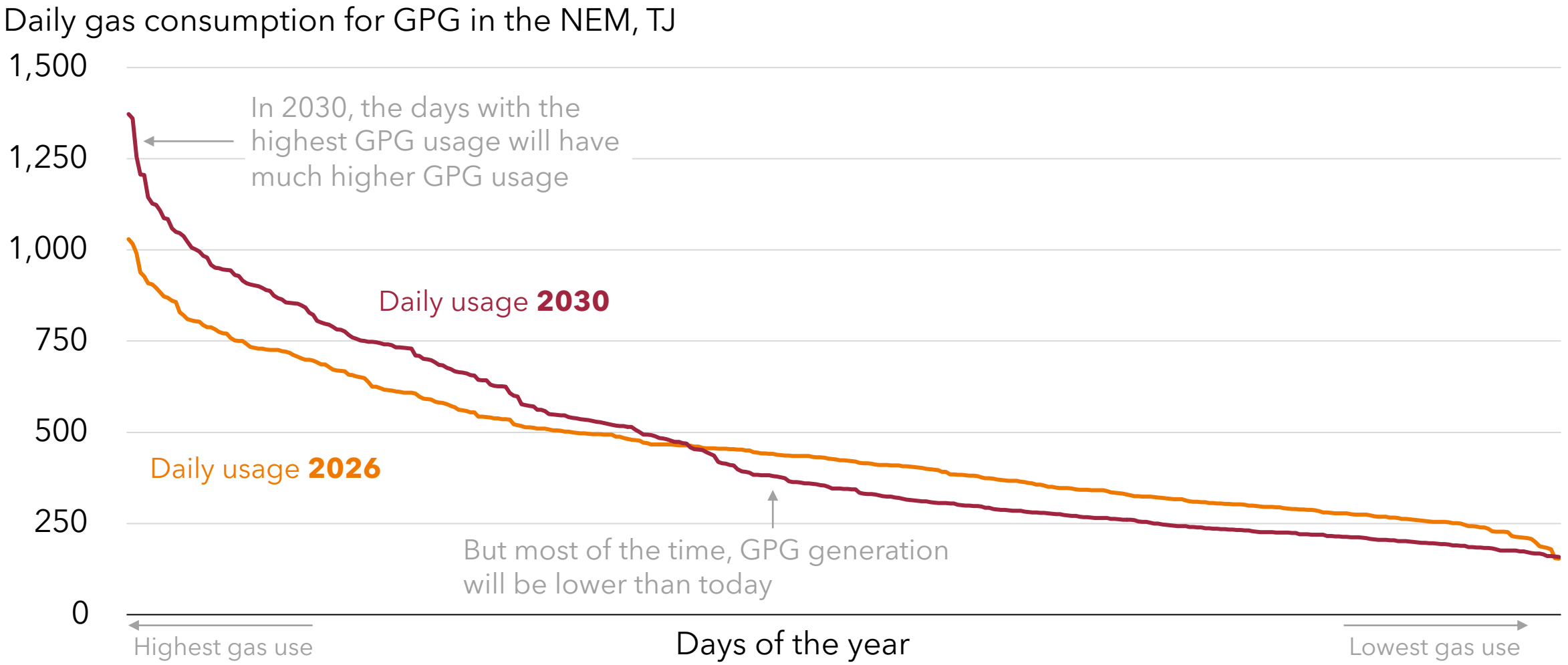
GRATTAN Institute



Notes: GPG = gas-powered generation. ISP = Integrated System Plan. GW = gigawatts. Years converted from financial to calendar, so 2025-26 appears at 2026.
Source: Grattan analysis of AEMO 2025b.

Future GPG plants will run less on many days, but will have more days of very high demand

GRATTAN Institute



Source: Grattan analysis of AEMO 2026.

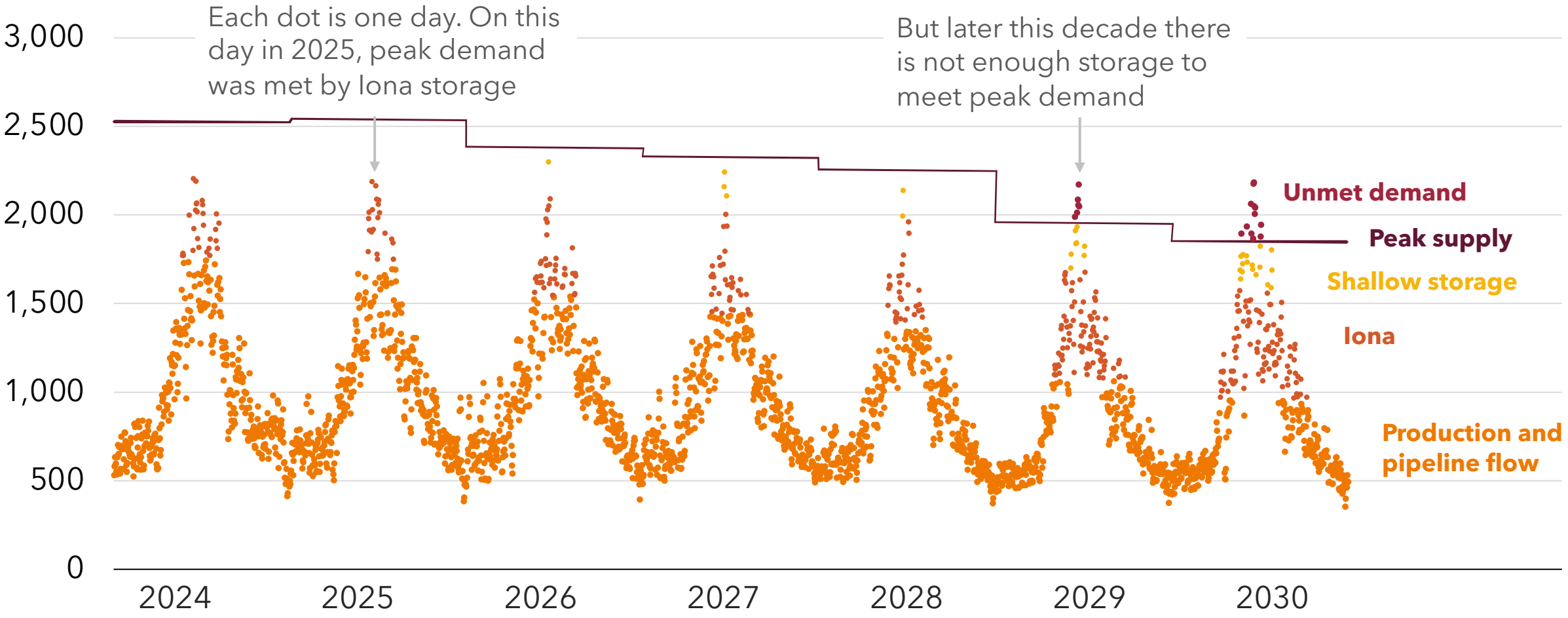
Recommendation 4: Get market settings right to ensure there is sufficient gas-powered generation

- Implement the Electricity Services Entry Mechanism (ESEM) as proposed by the Nelson Review in the wholesale National Electricity Market.
- Incorporate gas-powered generation into the ESEM by contracting for sufficient volumes of technology-neutral firmed capacity.
- Price the emissions from electricity generation outside the ESEM by reactivating the Safeguard Mechanism in the electricity sector.
- Expand the capability of the Gas Statement of Opportunities to publish more granular forecasts of supply adequacy of pipeline gas to existing gas-powered generators.
- Enhance AEMO's modelling of storage requirements by incorporating non-market storage facilities and transmission linepack into the gas storage model.

Gas storage is playing a growing role in meeting southern demand, but there is not enough storage

GRATTAN Institute

Daily southern demand (terajoules) met by southern production, Iona, and shallow storage

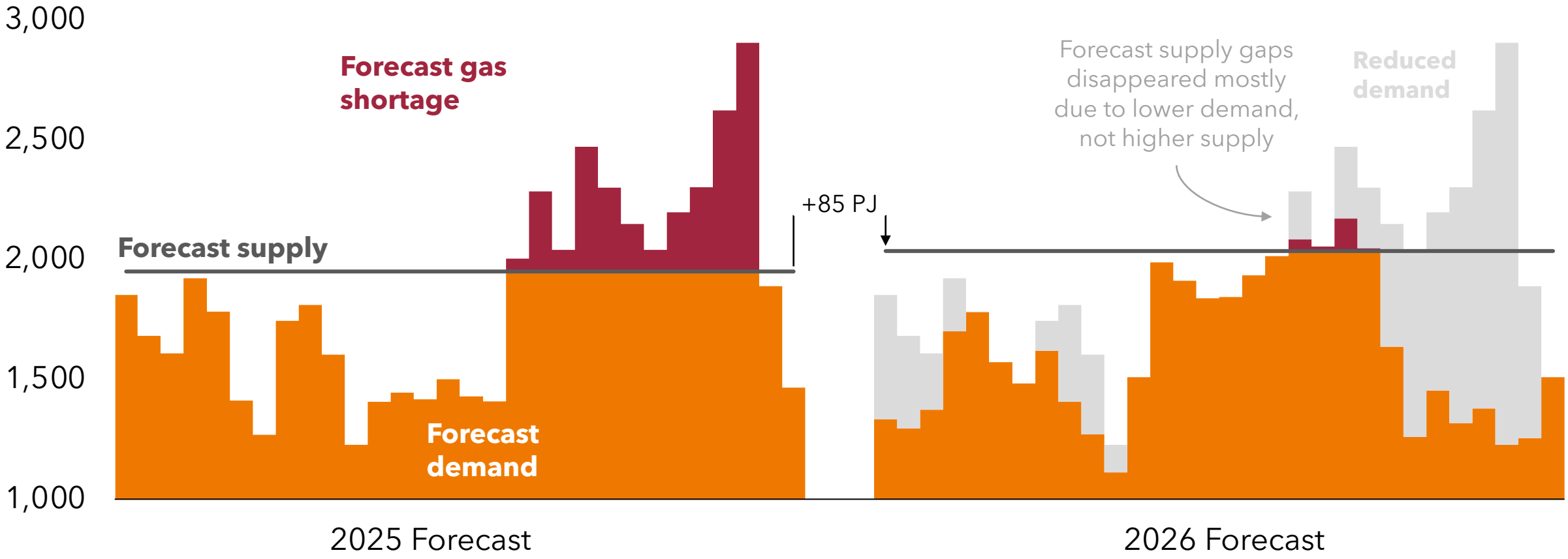


Notes: Shallow storage includes Newcastle, Dandenong, and the Kurri Kurri Lateral pipeline. Additional demand is demand that cannot be met from pipeline flows from the north, or existing storage facilities. Because they do not provide storage services to the market, Colongra, Braemar, and Mortlake storage pipelines are not modelled – they are assumed to be available and supporting their power stations. AEMO's modelling of daily shortfalls does not account for seasonal storage depletion, so actual supply gaps are likely to be much larger than suggested here.
Source: Grattan analysis of AEMO 2026.

In the short term, demand reduction is playing more of a role in addressing forecast supply gaps

GRATTAN Institute

Daily southern supply and demand, June 2029, TJ

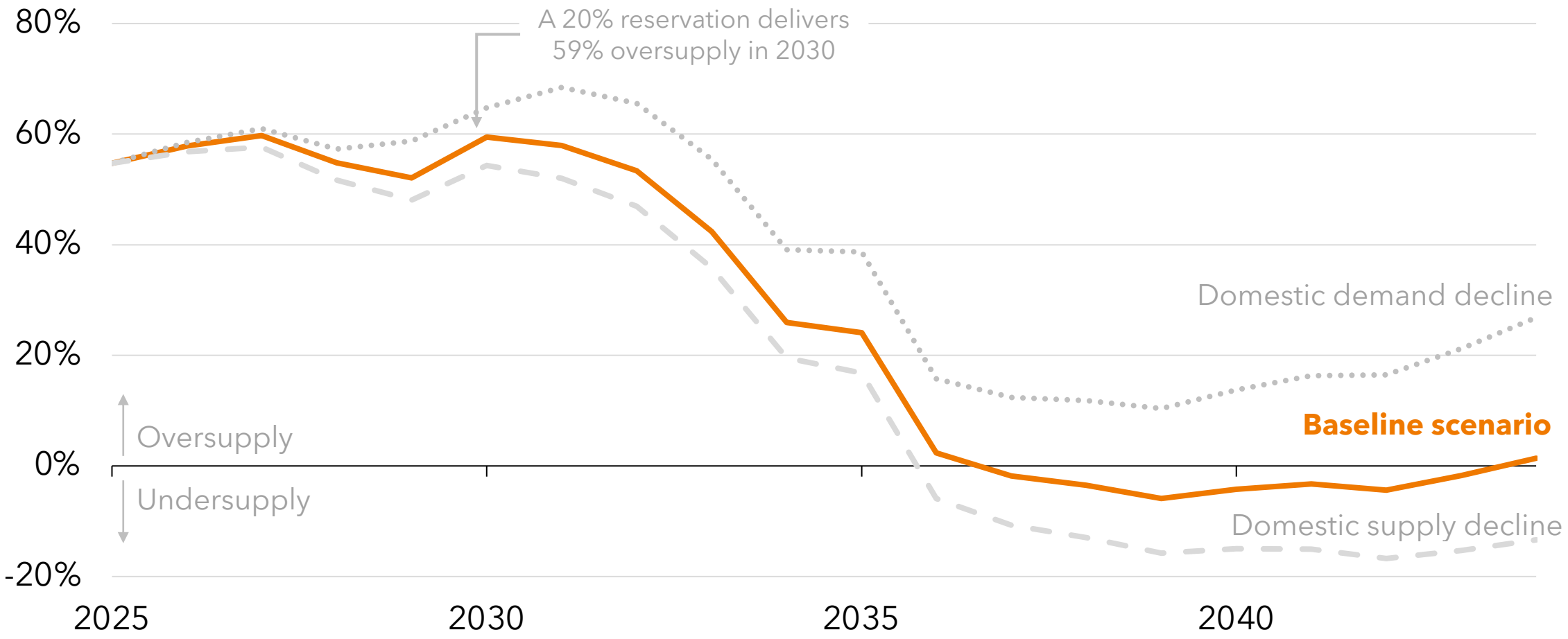


Note: TJ = terajoules.
Source: Grattan analysis.

Requiring 20 per cent of LNG exports to be supplied risks flooding the domestic market with gas

GRATTAN Institute

Gas oversupply delivered by a 20 per cent reservation scheme, per cent of domestic supply



Note: See Reeve et al (2026) for a full outline of Grattan's proposed federal gas reservation design.
Source: Grattan analysis.

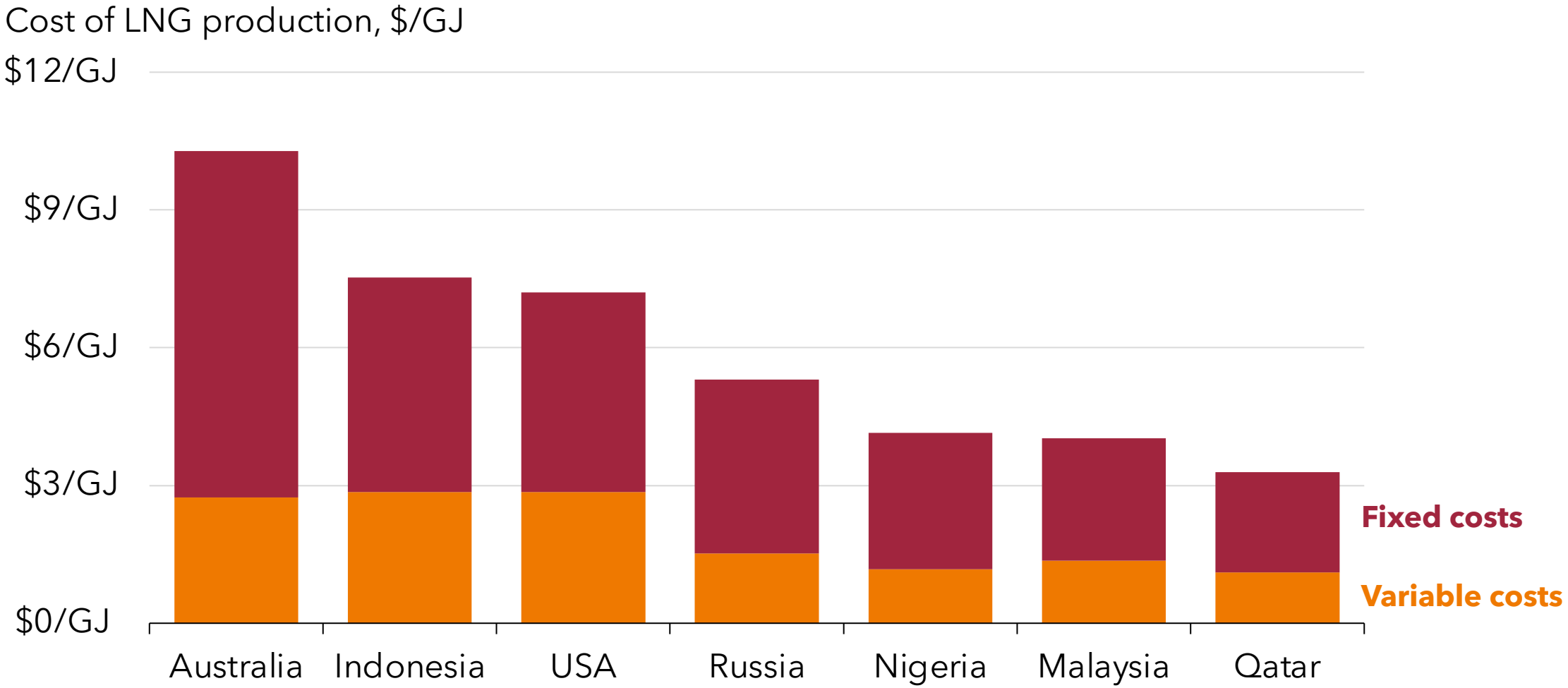
Recommendation 5: Better integrate gas and electricity system planning

- Combine the National Gas Objective and the National Electricity Objective into a single National Energy Objective.
- Expand the Integrated System Plan to become a least-cost whole-of-energy system transition pathway by including the physical gas system and its constraints.
- Integrate planning of electricity distribution and gas distribution networks to ensure that electricity networks are able to manage the increased load from electrification of gas use.

Recommendation 6: Prioritise demand-side measures to address future gas supply gaps

- Expand AEMO's gas reliability and supply powers to include demand-side as well as supply-side measures to avert gas supply gaps.
- Expand the Gas Statement of Opportunities to include specific demand-side options to address future supply gaps.
- Give AEMO expanded powers to manage daily peak gas demand by paying users of gas to reduce demand. Expand the planned Supplier of Last Resort power to preference demand-reduction over supply-side solutions, and integrate its operation into the normal function of the gas market, not as a last resort.
- Ensure the federal gas reservation is designed to avoid locking in high gas demand.

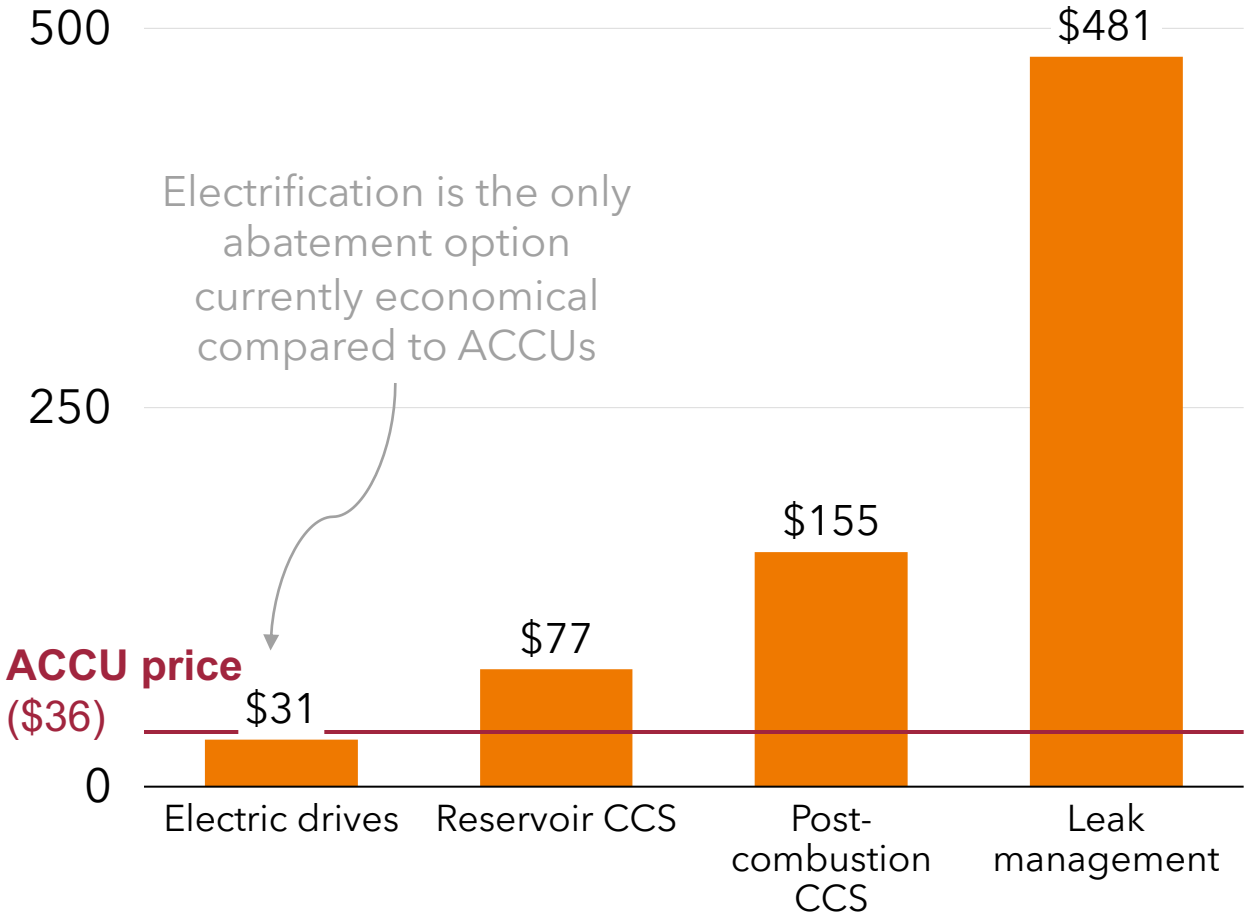
Australian LNG is relatively expensive to produce

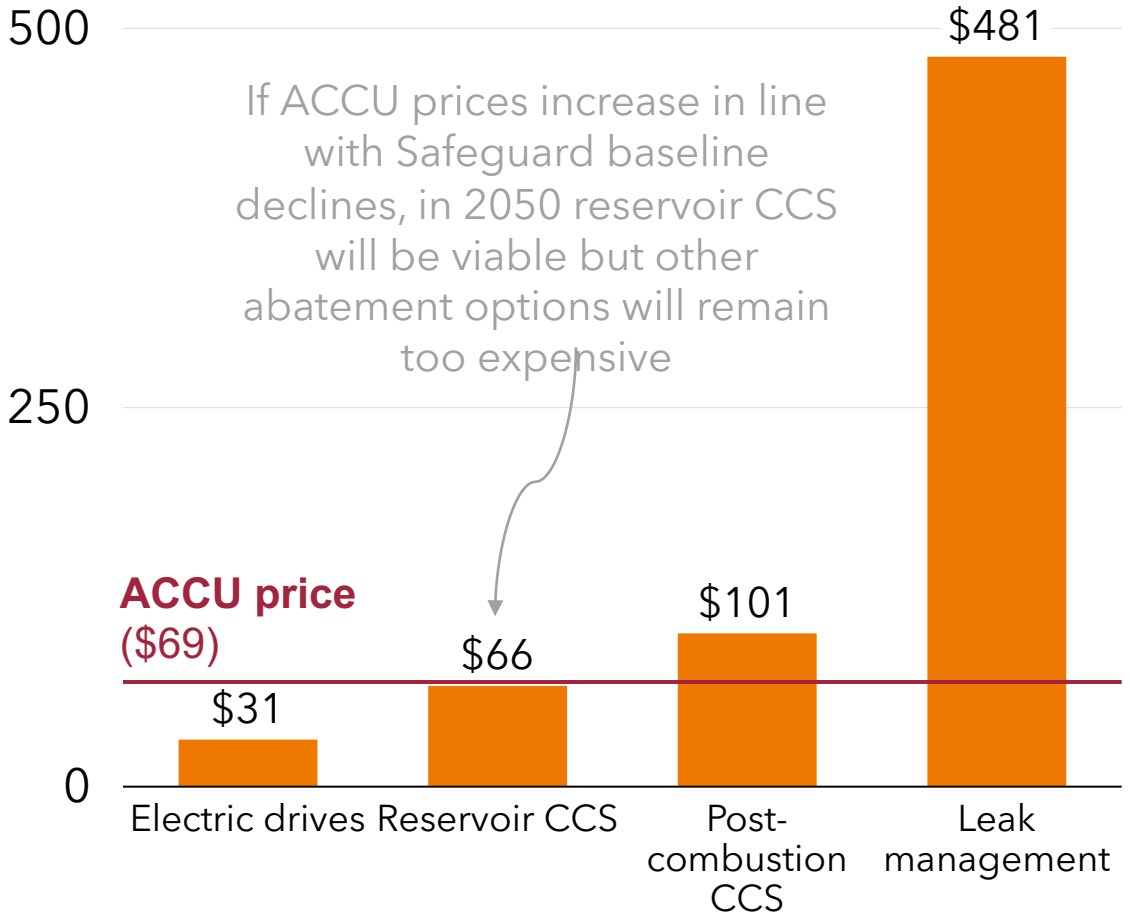


Notes: GJ = gigajoule. Variable costs include labour costs as well as other variable inputs, for example energy.
Source: DISR 2024.

Most options to reduce emissions from LNG cost more than Australian carbon credit units

Estimated costs of abatement and forecast ACCU prices, $/tonne of Co2-e, 2030 (left) and 2050 (right)





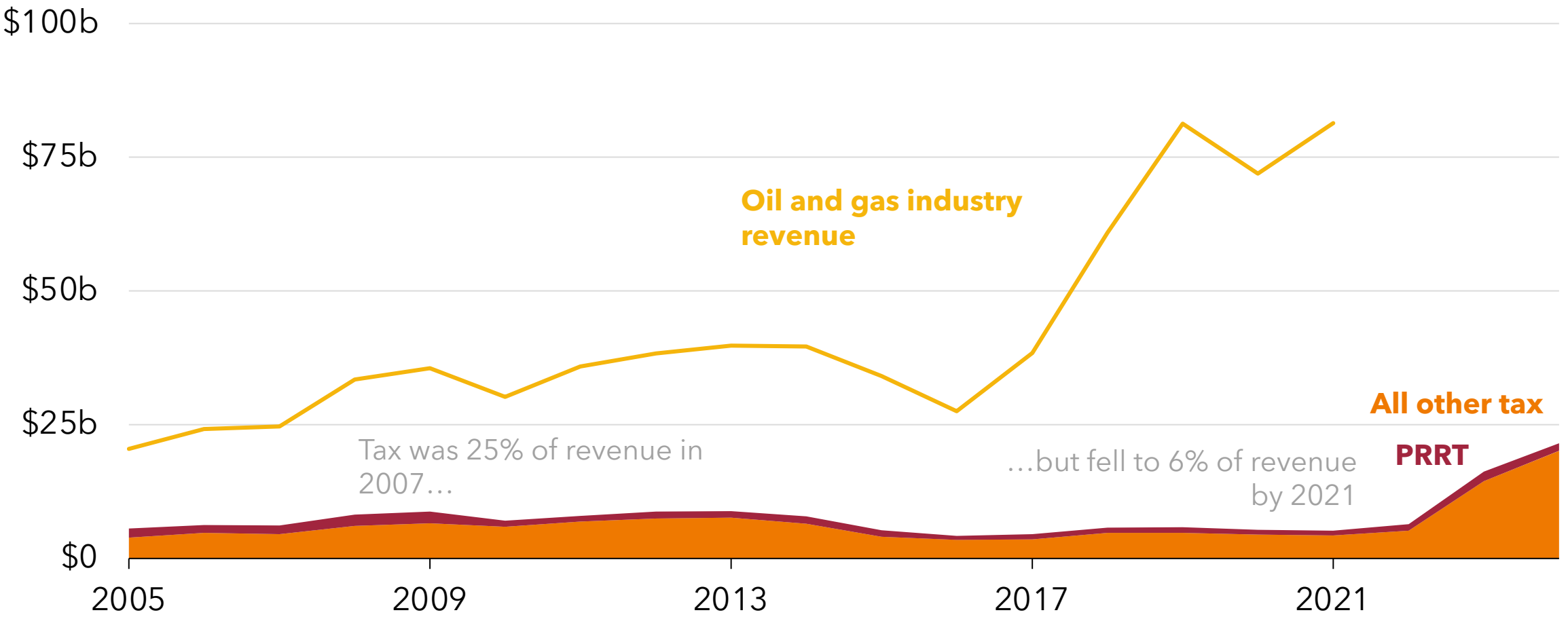
Notes: CCS = Carbon capture and storage. ACCU = Australian carbon credit unit. ACCU prices are assumed to rise at the same rate that Safeguard baselines fall. This assumes an ACCU price of $69 in 2050, far below the Australian Energy Market Commission's estimate of the potential social cost of carbon at this time.

Sources: Grattan analysis of Energy Transitions Commission (2023), CER (2025), DCCEEW (2025b).

Gas companies have not yet paid much tax despite large revenue increases

GRATTAN Institute

Tax paid and revenue earned by gas companies, dollars



Notes: PRRT = petroleum resource rent tax. The remainder of the taxes paid are royalties and company taxes.
Sources: APPEA 2021, ATO 2025.

Recommendation 7: Manage the LNG sector actively to maximise benefits and prepare for a post-LNG economy

- Reform the Safeguard Mechanism to drive emissions reductions from LNG facilities, including from greater deployment of carbon capture and storage.
- Commission a report from the Net Zero Economy Authority to assess the regional economic impacts of a declining LNG sector.
- Ensure the LNG industry pays sufficient tax by reforming or replacing the Petroleum Resource Rent Tax, and introducing a windfall profits tax.
- Ensure the gas reservation delivers sufficient gas to the domestic market in the short term, without locking in long-term demand.
- Use industry policy to build up new export industries that can replace the export income, economic contribution, and geo-strategic influence that LNG currently provides.
- Establish a national standard for decommissioning and remediating gas production facilities. Conduct a national survey of the likely cost of achieving this standard across all gas facilities, to inform further reforms.