ACCR AGL Investor Webinar

24 June 2025

Stephanie Bashir- Founder and CEO

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Coal performance

Analysis by Nexa Advisory demonstrates the unreliability of our ageing coal power plants

Eraring is an indicator of poor performance of ageing coal

Eraring's units have experienced about 6,000 hours - equivalent to two months - of downtime annually.

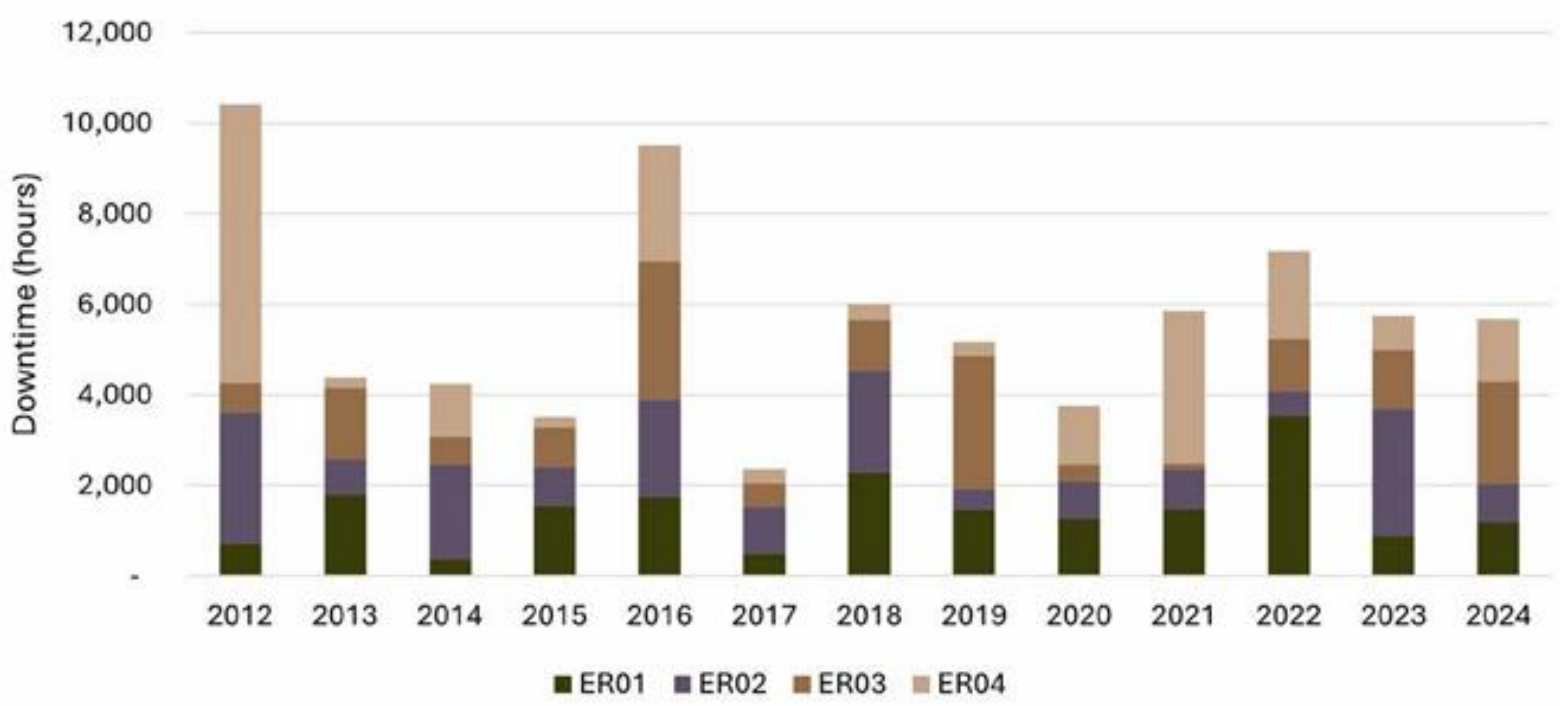


Figure 4 - Eraring's downtime over the years

Source: Nexa-Advisory-The-Case-for-Closing-Eraring-in-2027.pdf

- Eraring's four units have totalled approximately 6,000 hours of downtime on average each year over the last four years – peaking at 7,000 hours in 2022.
- This is equivalent to each unit being down for approximately two months each year. While there is variability across units each year, there has been a steady upward trend in overall downtime since 2017.
- The unplanned outage rate – when any unit is experiencing an unplanned outage in a given half hour – has remained above 2.5 per cent since 2019, spiking to 6 per cent in 2024.
- These outages and poor performance have impacted Eraring's availability when needed most, such as throughout 2024 during days of high demand (20 June) and tight demand-supply conditions (27 November).
- This unreliability is also reflected by the record 144 Lack of Reserve alerts issued by the Australian Energy Market Operator (AEMO) throughout the last quarter of 2024 – which typically coincide with substantial spikes in wholesale electricity prices.

Callide B – downtime and unplanned outages

Since 2020, average total downtime has been remained at around 4,000 hours. This is the equivalent of each unit remaining offline for 12 weeks / 3 months a year.

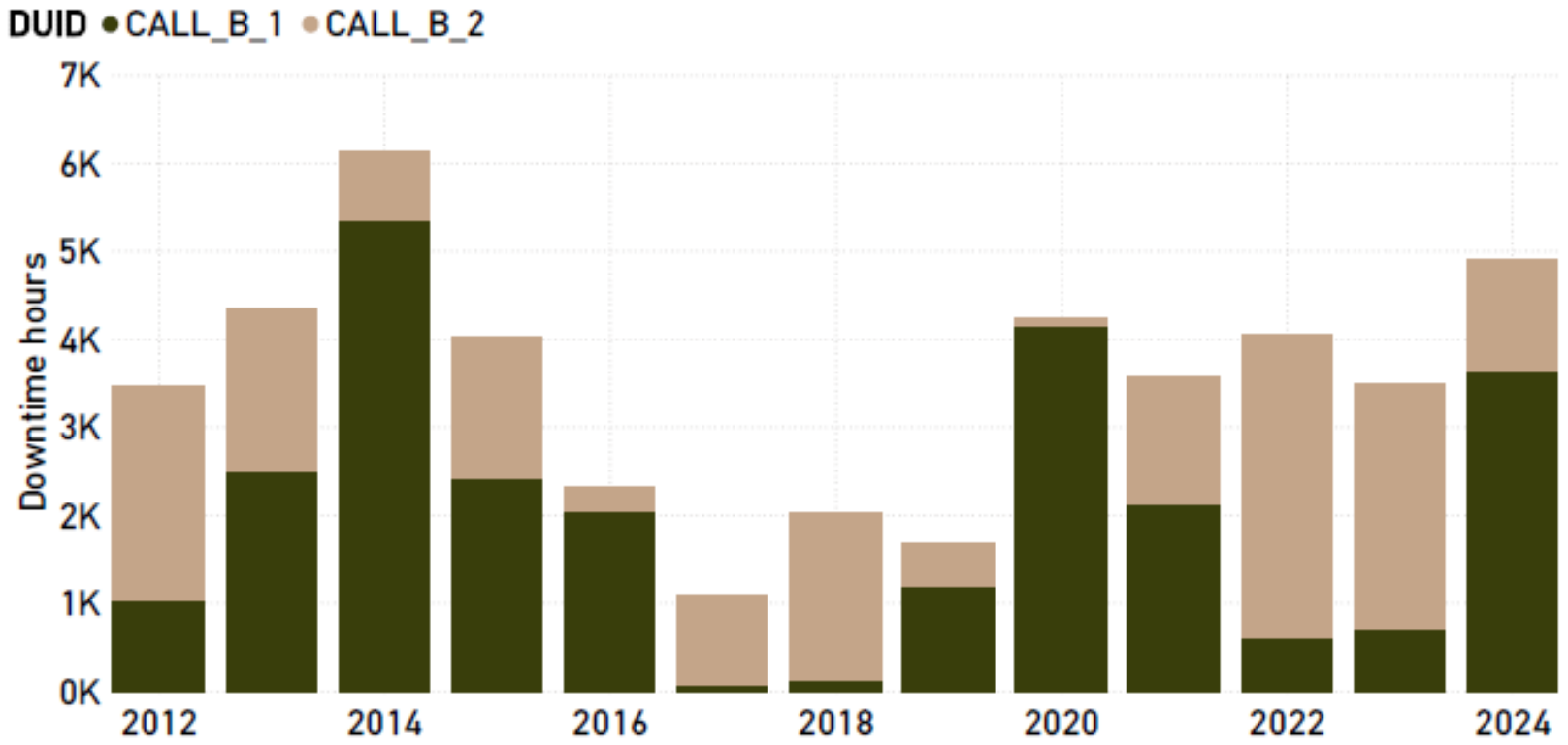


Figure 3 – Callide B downtime over the years

Source: Nexa-Advisory-Callide-power-station-case-study.pdf

- Callide B has high downtime and frequent unplanned outages
- Since 2020, the **average total downtime** across its two units has been around 4,000 hours - **equivalent to each unit being offline for 12 weeks a year**
- **Annual unplanned outage rate** spiked to **70% in 2014** following coal supply issues - and **42% in 2024** due to ongoing unplanned outages and maintenance
- **Callide B has emitted 3.6 Mt CO_2 on average each year** since 2020. At this rate, **it will emit a further 10.5 Mt CO_2 until closure** - valued conservatively at $342.3m[1]
- Closure of Callide B would contribute in the order of 5% of the progress still required to meet Queensland's 75% 2035 target

Source: Nexa Advisory

Callide C – downtime and unplanned outages

Callide C has exhibited a high rate of unplanned outages over the last decade, even prior to its major incidents, and should not be relied on for reliable electricity.

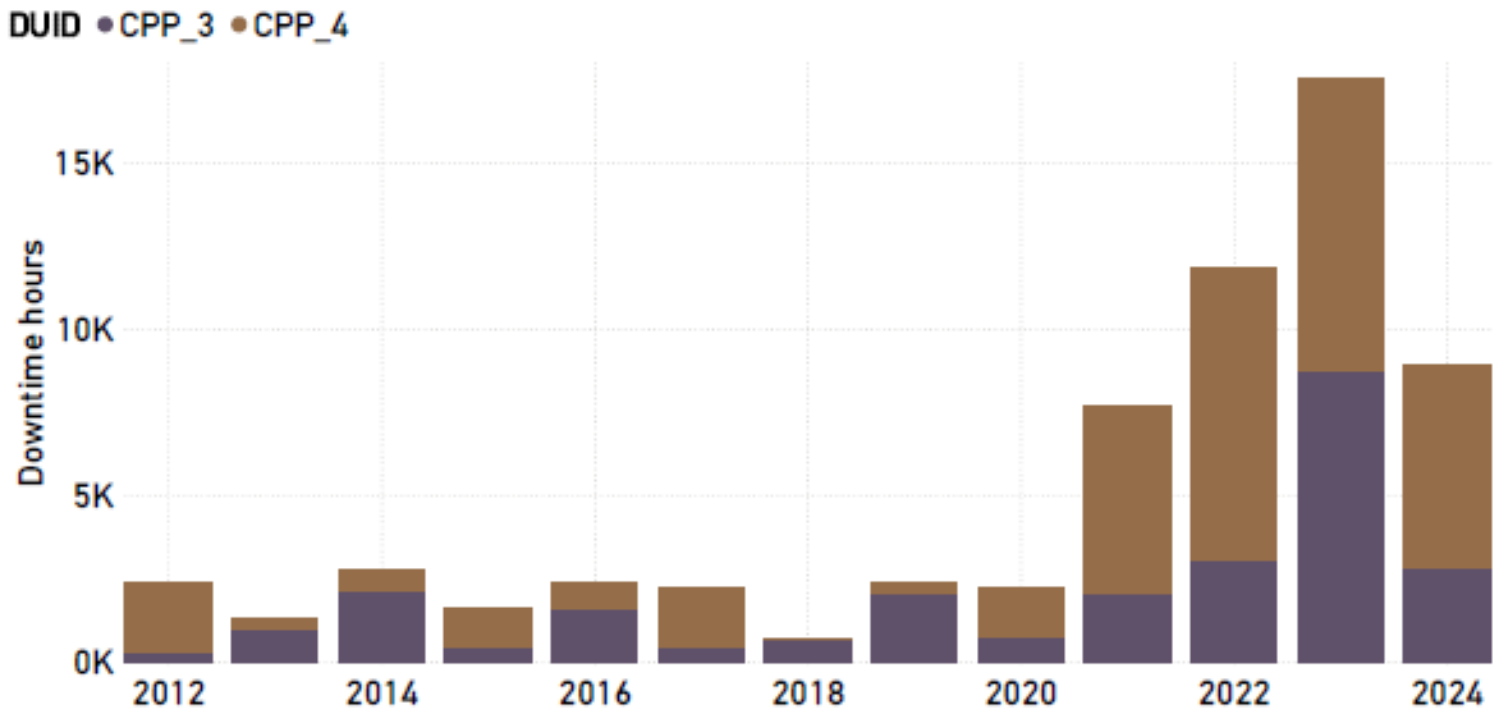


Figure 10 – Callide C downtime over the years

Source: Nexa-Advisory-Callide-power-station-case-study.pdf

- Callide C has faced significant outages since the catastrophic failure of one of its units in 2021, and the subsequent failure of the other unit in 2022. These remained offline until August and April 2024 respectively
- Even before these events, its two units experienced an **average total downtime of 2,000 hours annually** between 2012 and 2020 – **equivalent to about six weeks per unit each year**
- **Callide C averaged 5 Mt CO_2 of annual emissions until 2020**, prior to its major incident in 2021. This is valued at $163m annually[1]
- If Callide C returns to its previous operating levels, **this will counteract any emissions reduction associated with the closure of Callide B in 2028**

Source: Nexa Advisory

Yallourn performance

Yallourn has consistently faced age-related operational challenges should not be relied on to provide reliable electricity for Victoria.

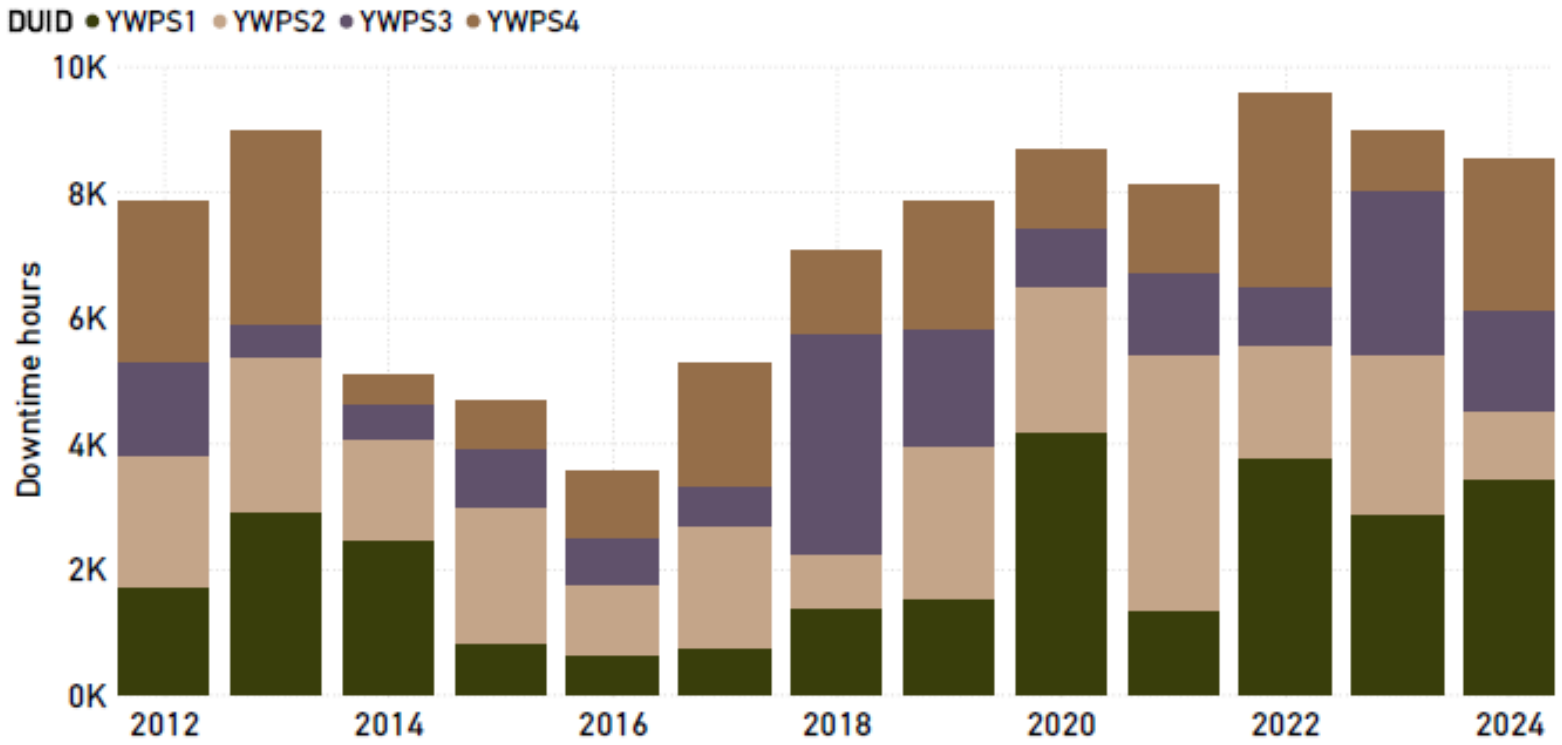


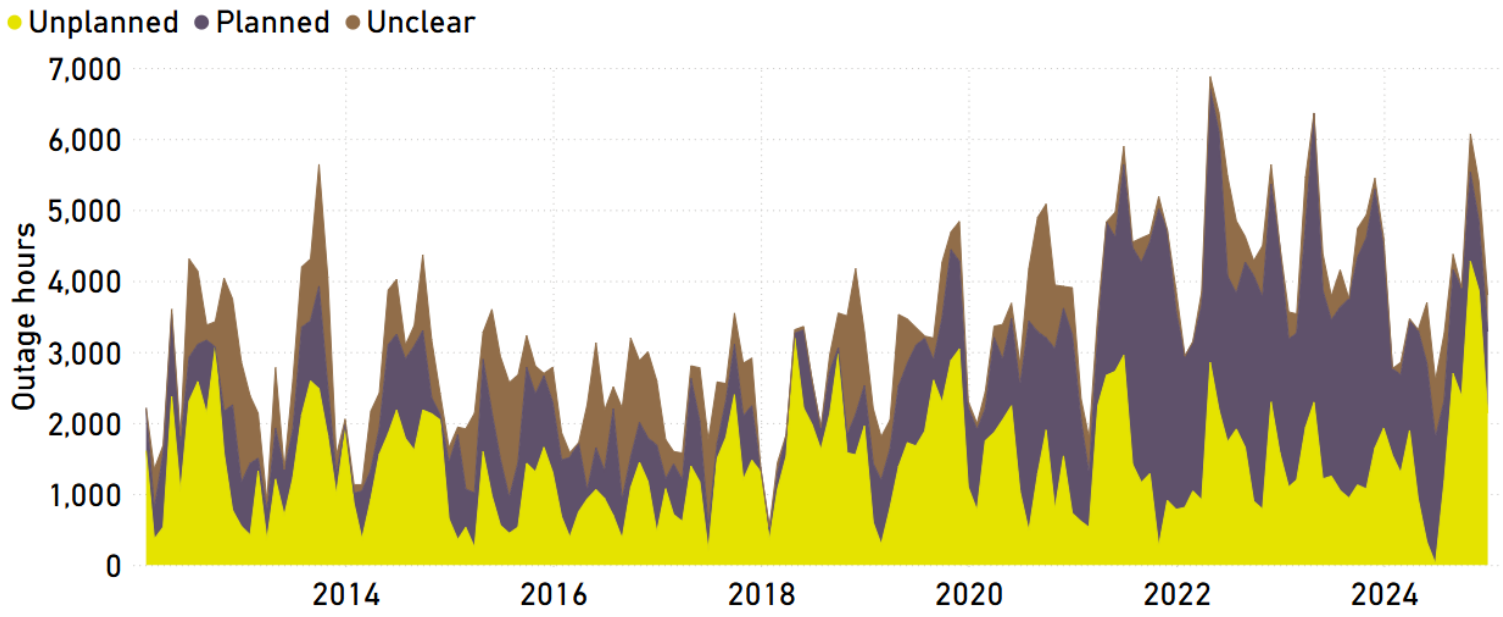
Figure 3 – Yallourn downtime over the years

- Since 2020, it has seen **over 8,000 hours of average total downtime** across its four units - **equivalent to each unit remaining offline for over 12 weeks each year**
- It has also exhibited elevated **unplanned outages** over the last decade – with an **annual unplanned outage rate** of **32%** in 2024.
- **Annual unplanned outage rate** spiked to **70% in 2014** following coal supply issues - and **42% in 2024** due to ongoing unplanned outages and maintenance
- Yallourn also stands at odds with the state's 2030 emissions reduction target - and has **emitted 12 Mt CO_2 annually** in recent years - conservatively valued at **$391.2 million**[1]
- We estimate that **this comprises around half of the remaining emissions reduction effort still needed to meet the 45-50% interim target by 2030.**

1: Based on current ACCU price

Bayswater performance

As the second largest coal-fired generator in New South Wales, Bayswater has also faced environmental and operational challenges.



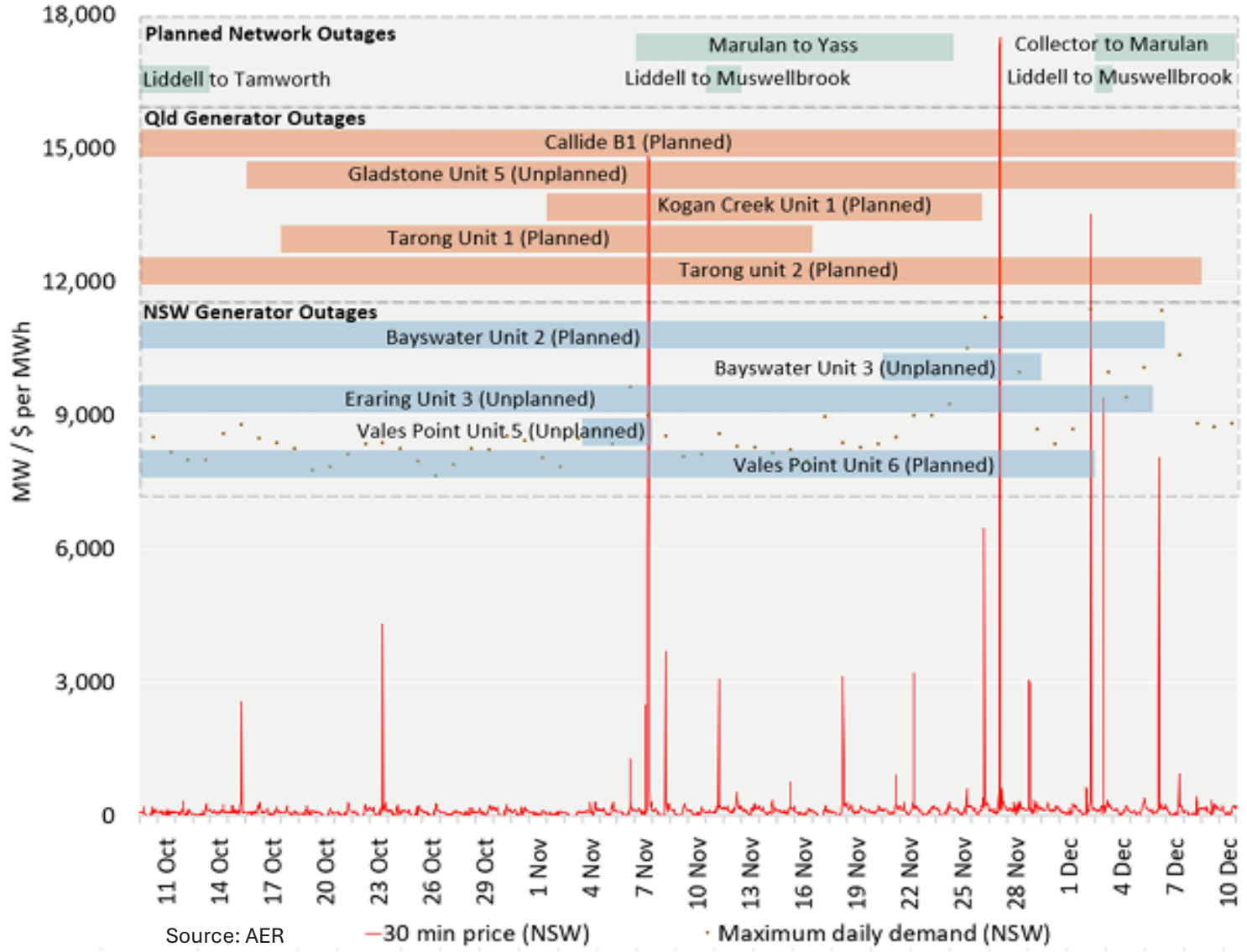
- Bayswater has high downtime and frequent unplanned outages. It has exhibited elevated unplanned outages over the last decade – with an annual unplanned outage rate 38 per cent in 2024. Between 2018 - 2022, the average total downtime across its four units remained over 6,000 hours - equivalent to each unit being offline for over two months each year.
- The AER has found that the bidding behaviour of Bayswater and other coal-fired generators has previously put upward pressure on prices by rebidding a lower capacity during periods with coincided with some other coal-fired 'baseload' generators experiencing outages.
- Bayswater has emitted 13.6 Mt CO2 annually since 2018, which can be conservatively valued at $471.2 million.[1]
- Unplanned outages averaged 1,400 hours – or almost half of all outages – each year between 2012 – 2020.

Unreliability of coal correlates with high prices

Significant coinciding drivers contributing to high prices

- In NSW, baseload outages meant that 2,700 MW of generally low-priced capacity was unavailable in in Oct / Nov 24.
- This was across Origin Energy's Eraring Power Station, AGL Energy's Bayswater Power Station and Delta Electricity's Vales Point Power Station

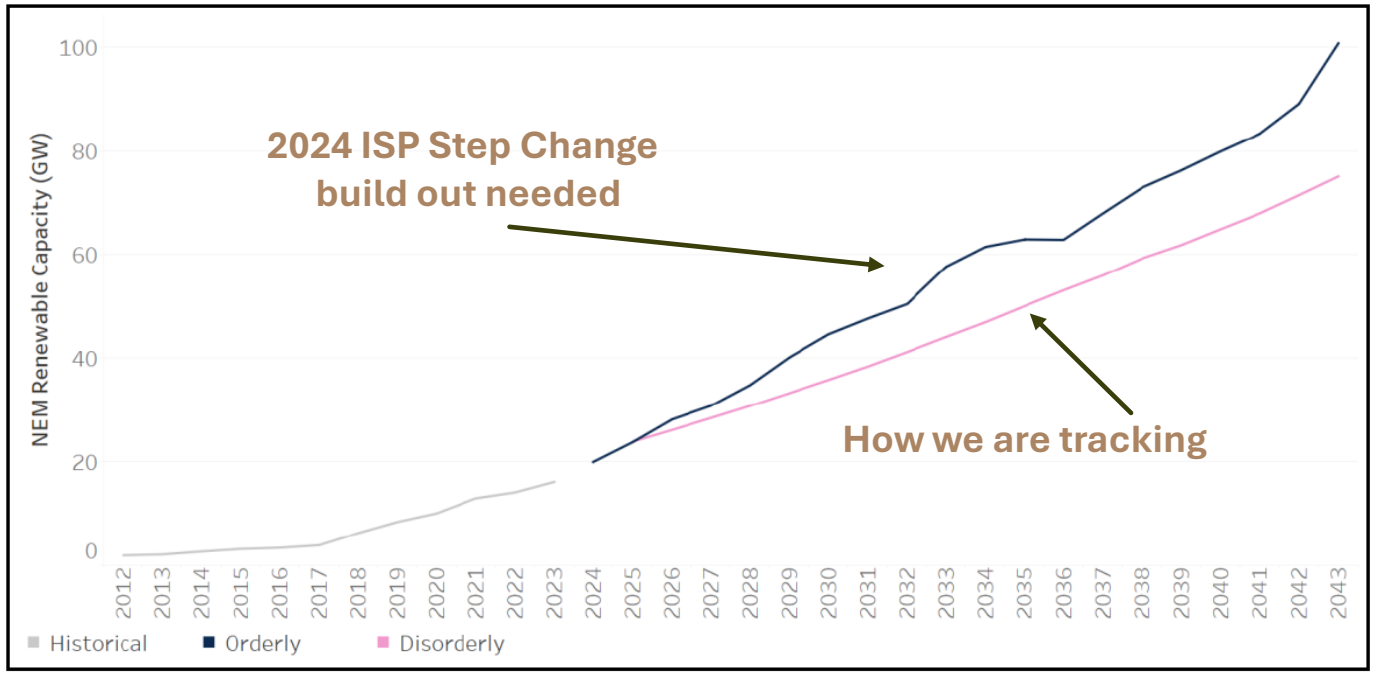
This is equivalent to having over 3m homes without power.



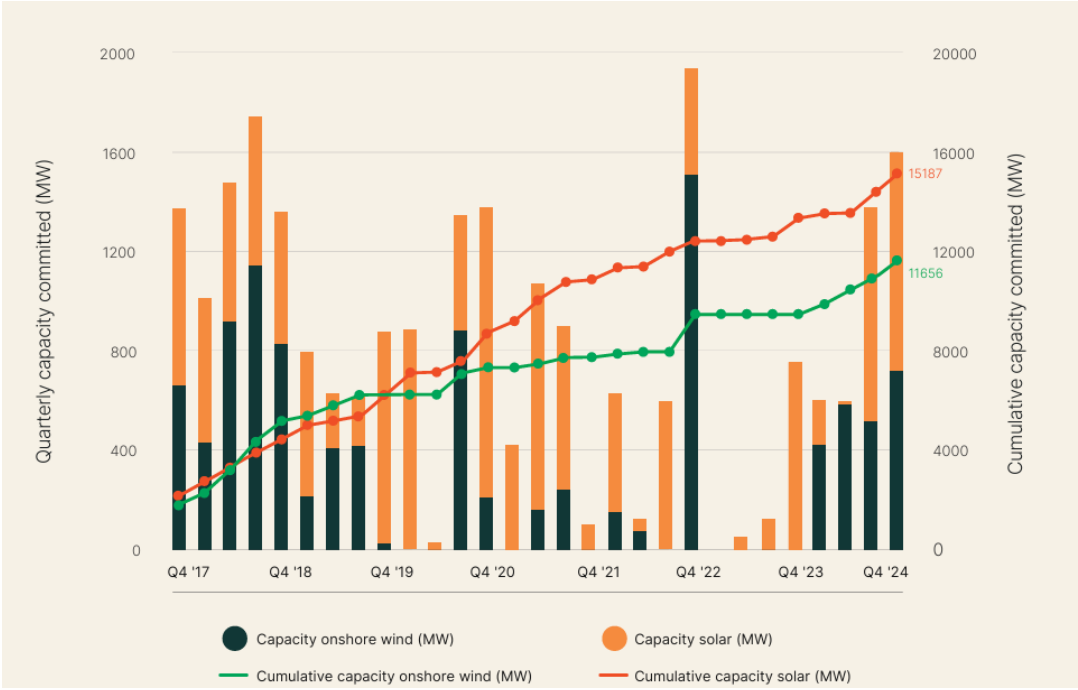
Source: AER

We are **still** not on track to meet our renewable build

We need to be building 6GW p.a. of new generation to replace coal as it retires.
We are only building ~2-3GW pa at best



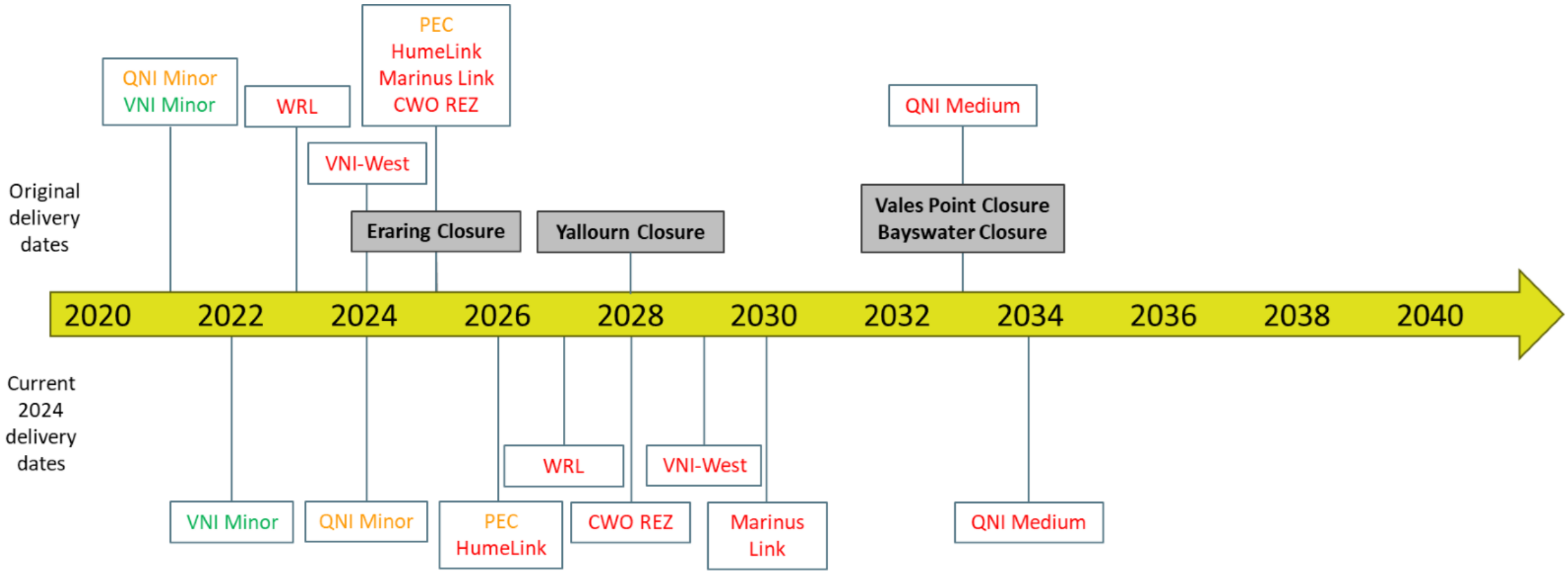
Source: ERARING CAN BE CLOSED ON TIME TO SAVE CONSUMERS MONEY - Nexa Advisory



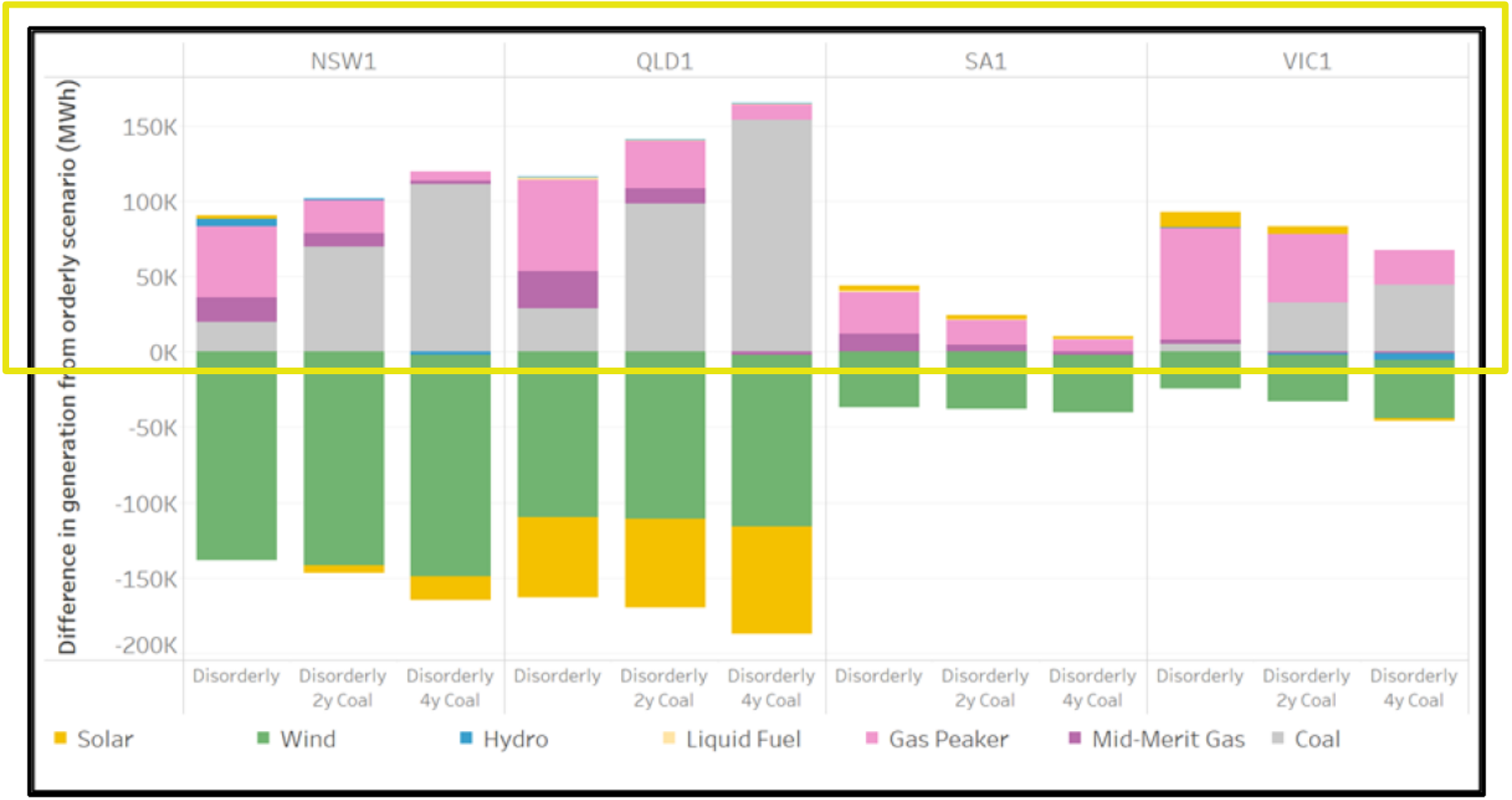
Source: clean-energy-australia-report-2025.pdf

Transmission is the missing link

We plan, and then don't build - dates continue to slip and costs continue to rise



Reliance on gas and coal to keep the lights on is an expensive plan



Source: Nexa-Advisory-Eraring-can-be-closed-on-schedule-Report-24072023.pdf (nexaadvisory.com.au)

The reality is: we will need to rely on gas and coal if we don't build transmission, renewables and storage.

Delays in building transmission is costing consumers

We are not in year 3 delay

Region	1 year	2 year	3 year	4 year	5 year	6 year	7 year
NSW	3 %	10 %	21 %	36 %	53 %	72 %	88 %
QLD	0 %	1 %	4 %	5 %	7 %	12 %	14 %
SA	2 %	3 %	8 %	16 %	22 %	31 %	39 %
VIC	1 %	3 %	8 %	17 %	31 %	44 %	57 %

Table 2: Annual percentage electricity bill increases for residential customers

Region	1 year	2 year	3 year	4 year	5 year	6 year	7 year
NSW	6%	15%	23%	36%	50%	66%	78%
QLD	2%	5%	8%	9%	10%	14%	16%
SA	3%	7%	10%	17%	22%	30%	36%
VIC	3%	7%	11%	19%	31%	42%	52%

Table 4: demonstrates the average annual percentage impact on business electricity bills for 40 MWh annual energy consumption due to transmission delays over FY2027-2046 (real 2024 AUD, incl GST)

Transmission delays of 2-years result in business bills increasing across the NEM, over the 20 years study, ranging from an average of $4,843 for a 40 MWh per year electricity use to $484,300 for a 4 GWh business.

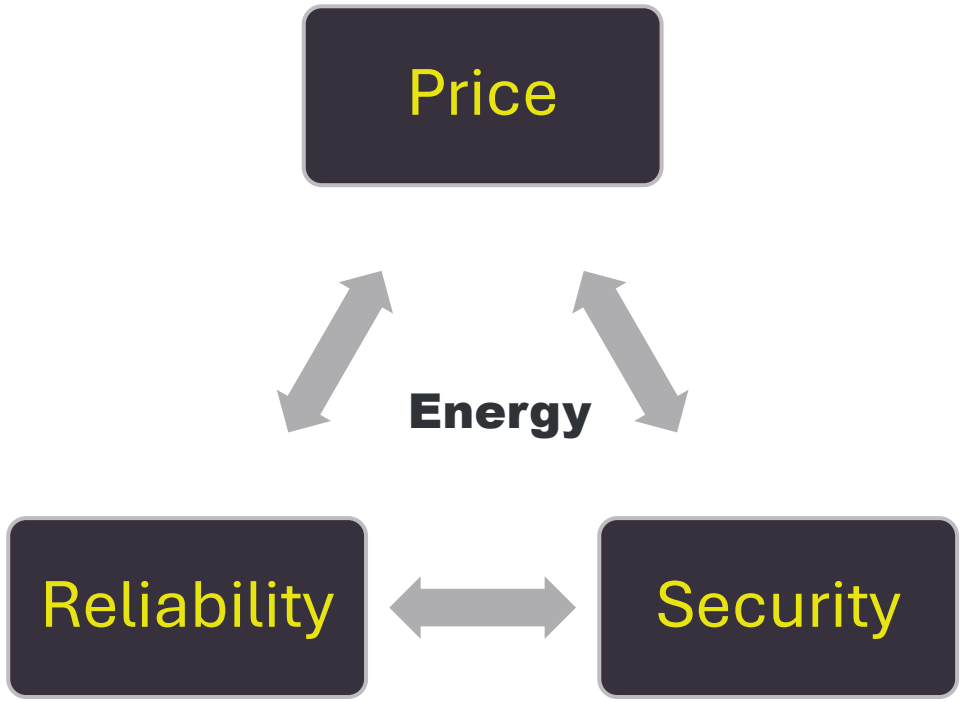
For a business using 4 GWh of electricity per year, that equates to a bill increase of $25K each year, for 20 years.

Businesses in Victoria are particularly impacted by delays in building new transmission.

Source: Delays in building new transmission infrastructure will increase consumers' bills. - Nexa Advisory

Predictability and/or investor certainty?

Blackouts are politically toxic: Energy ministers are under pressure to respond to rising prices, reliability concerns, and energy security



- Energy ministers are under mounting pressure to address rising electricity prices, which are straining households and businesses.
- Grid reliability is a top concern as aging coal plants become increasingly unpredictable.
- Energy security is now a national priority, especially as global supply chains and geopolitical tensions impact fuel availability.

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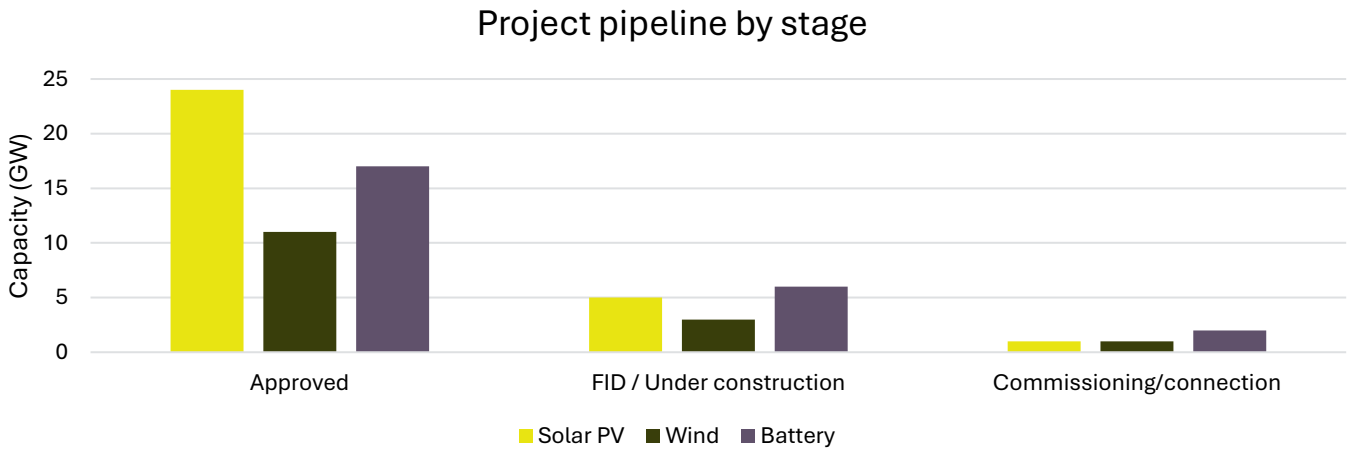
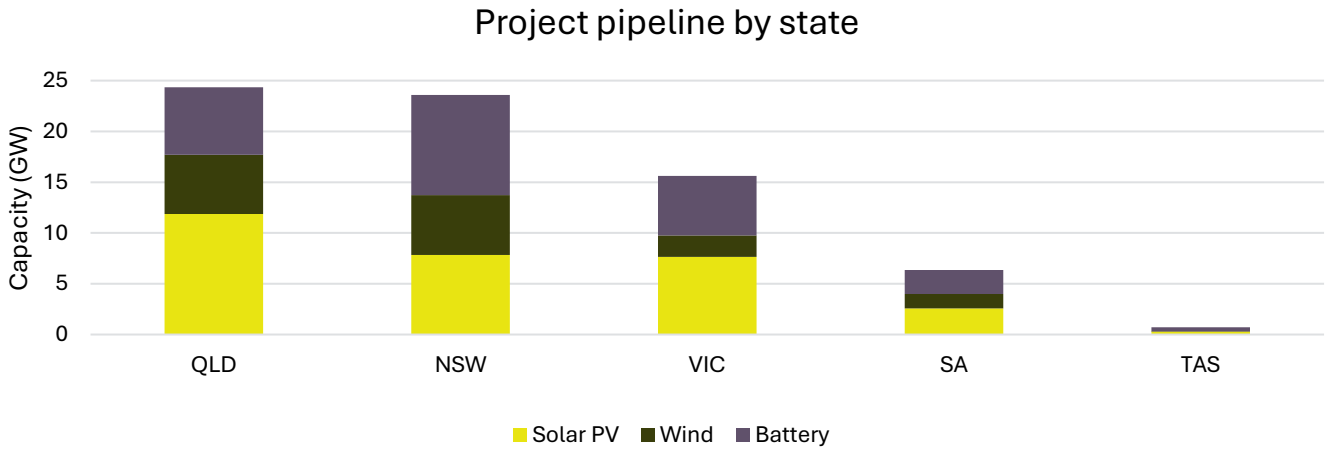
The clean energy transition presents opportunities

No shortage of investor appetite in renewables and storage

Strong investment pipeline

Australia has a 70 GW strong pipeline of near-term renewable and storage projects





- Shown left, there is currently 30 GW of solar, 15 GW of wind and 25 GW / 60 GWh of large-scale battery storage projects.
- The approved projects are those in early development stages which are considered somewhat progressed. However, these projects typically still need to undertake further development activities to progress to construction.
- A fraction of these have reached final investment decision (FID), with even fewer in the final stages of commissioning or grid connection.
- This bottleneck between project approval and execution highlights the risks posed by regulatory uncertainty, transmission delays and fragmented market signals.

Source: Altenergy, as at 6 June 2025

Consumer energy continues to be a battle for power rather than an opportunity to build value and trust

Consumers are leading with their rooftops

$20b already invested in rooftop solar PV between 2013-2020

- Solar PV panels are now on the roofs of over a third of households, totalling over 4 million installations.
- Rooftop solar PV generated 12 per cent of our energy in 20243.
- There is an estimated 260,000 EVs on the road today, which is expected to approach 4 million by the start of next decade.
- $1-1.5b already invested in behind-the-meter batteries between 2018-2023

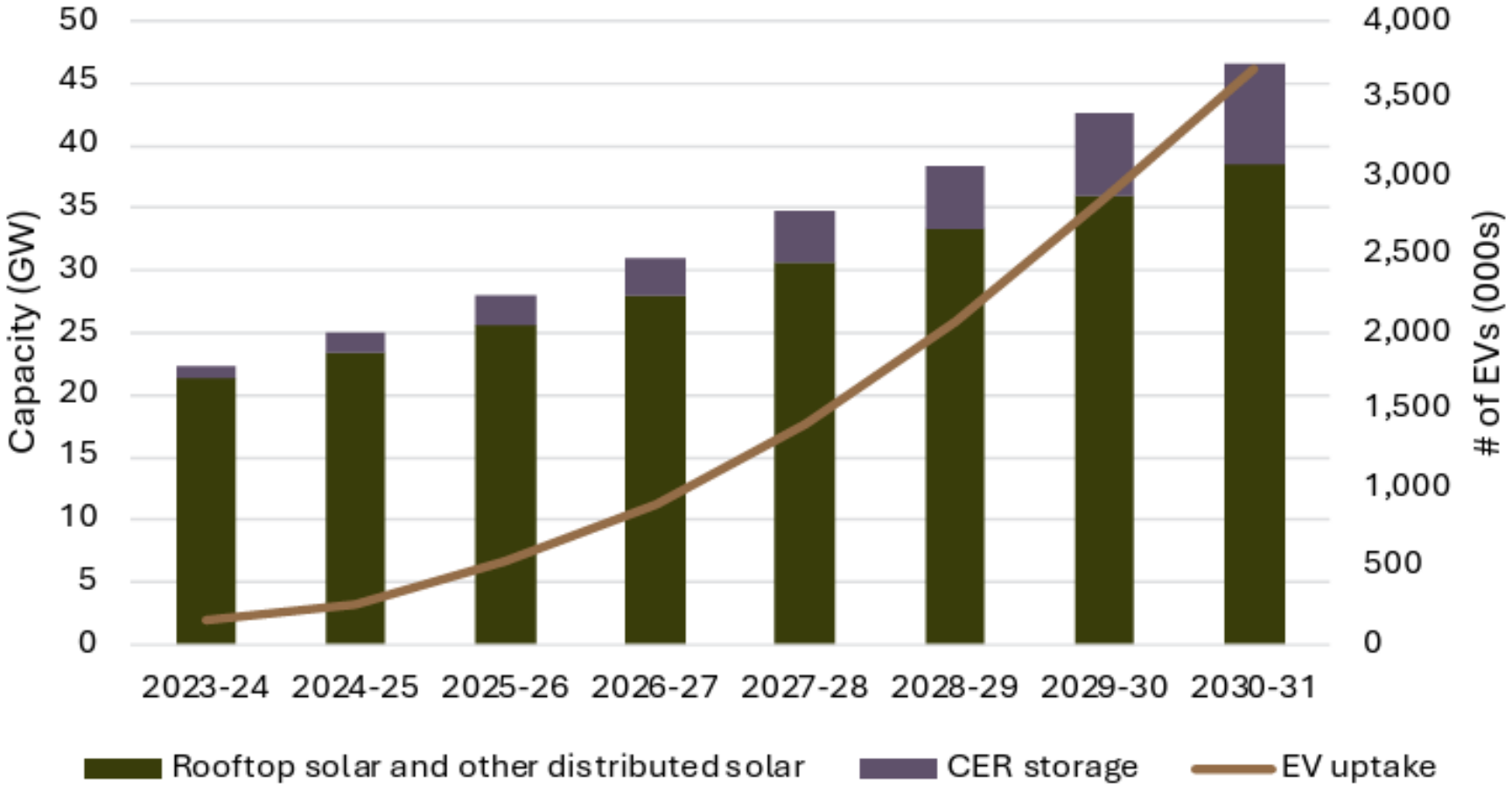


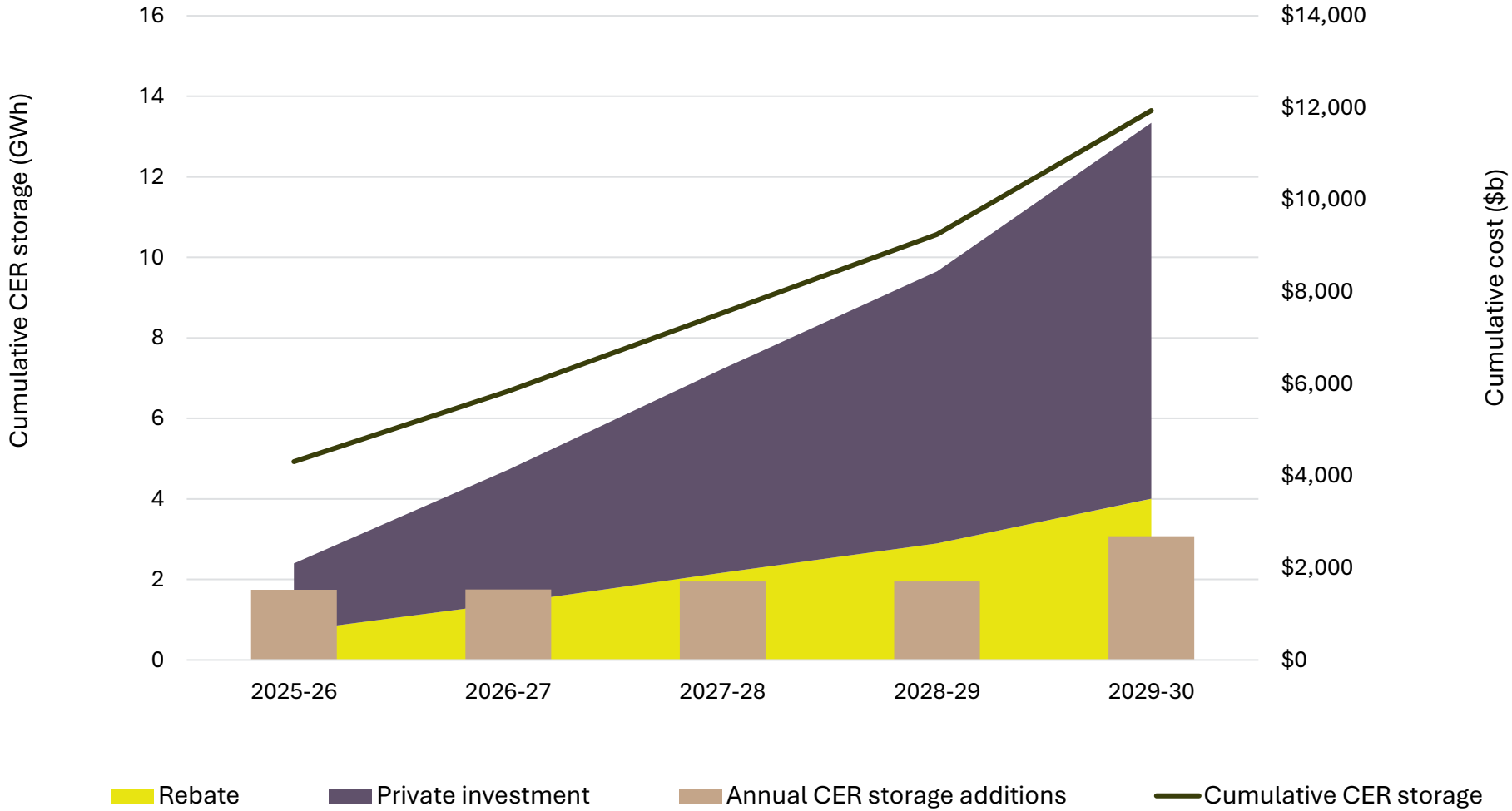
Figure 1 - CER uptake (batteries and Electric Vehicles[2]) - *AEMO, 2024 ISP, Step Change*[2]

Source: NEXA_Empowering-Consumer-Energy.pdf

Federal government's home battery scheme is a huge win

We estimate Consumers will invest another $11.7b over the next 5 years

The Cheaper Home Batteries scheme announcement will lock in private investment by homes and businesses to meet the 6.6GW/ 13.6GWh projected CER storage by the end of the decade.



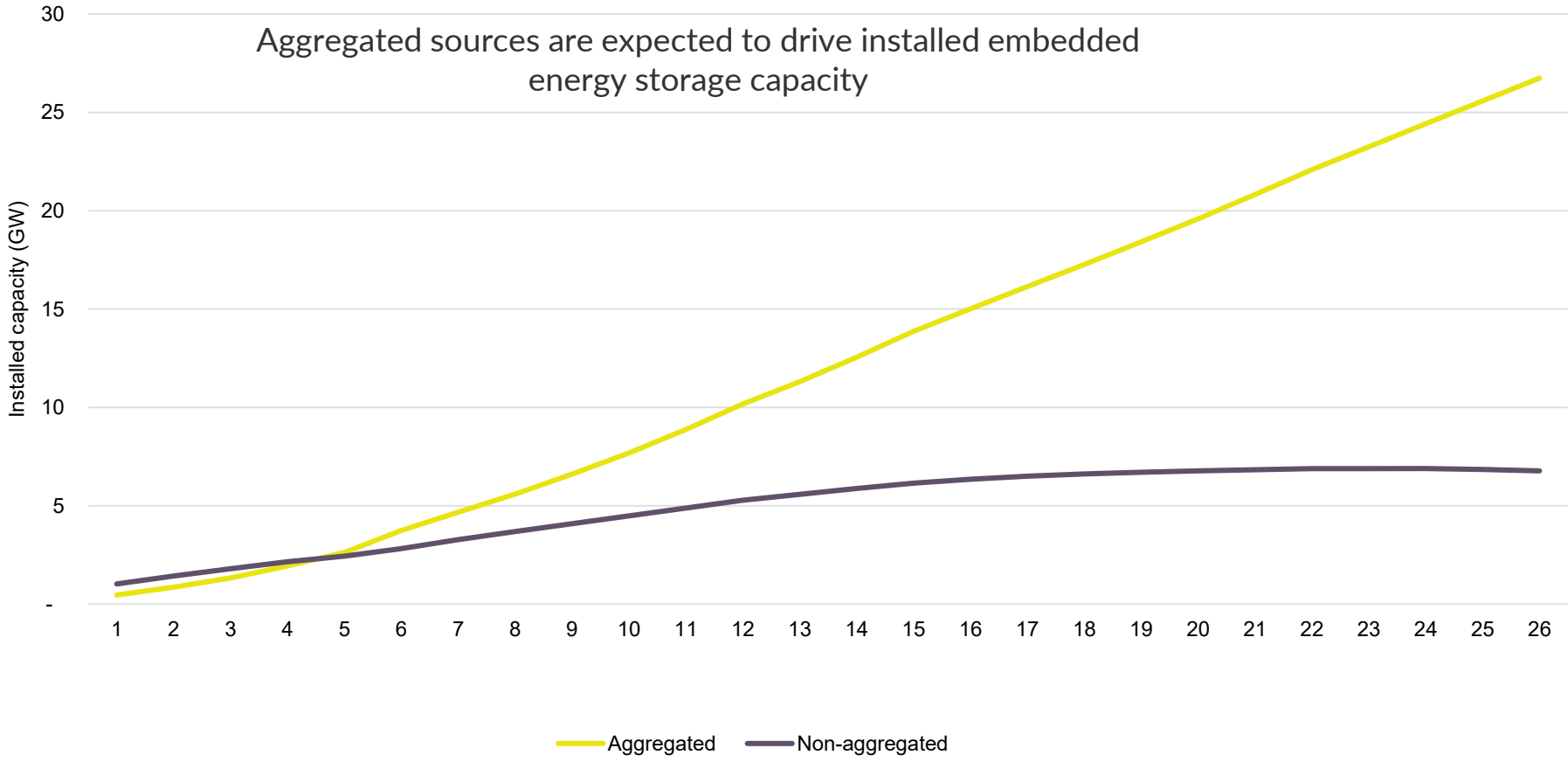
Source: Nexa Advisory

VPPs and embedded energy storage needs focus on building trust and value

Coordination of distributed energy resources – mainly behind-the-meter of residential, commercial and industrial connections – must be better supported.

Social acceptance is just as important as technical and commercial feasibility

- The social licence needed to orchestrate CER remains unsecured, and there is significant work needed to gain the necessary trust of consumers.



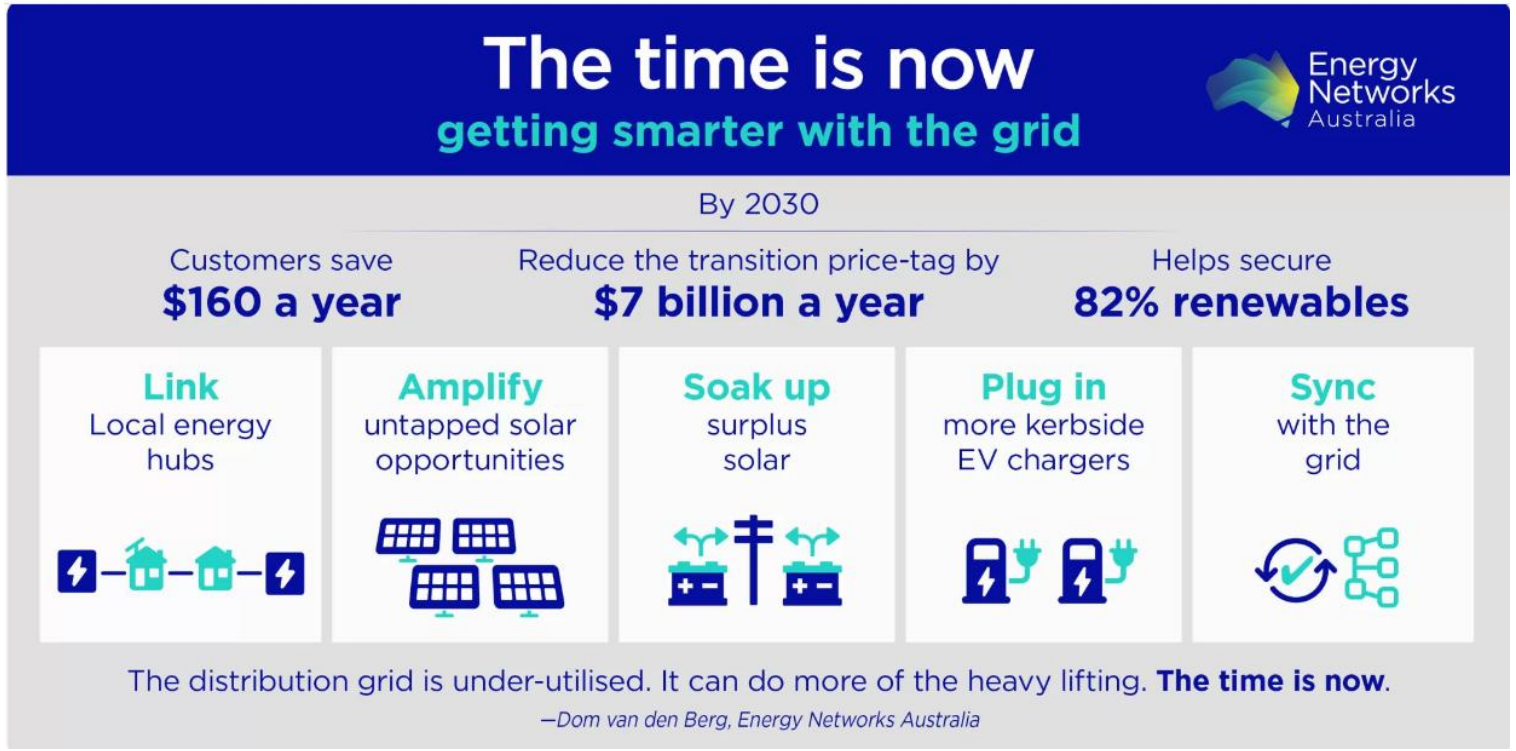
Source: AEMO, VPP Knowledge Sharing Report

Source: ISP, Step Change

Battle for control continues

Regulated monopoly distribution networks are moving into grid scale batteries, community batteries and EV charging, and have the backing of governments.

- Electricity networks are actively lobbying to get rid of ringfencing rules. This will impact competitive neutrality and make it hard for retail businesses and innovators to compete
- They want control of people's assets
- AER are not doing their job. CER and BTM services could be eroded by electricity networks
- Gentailers, Retailers, OEMs and CPOs are pulling together to push back



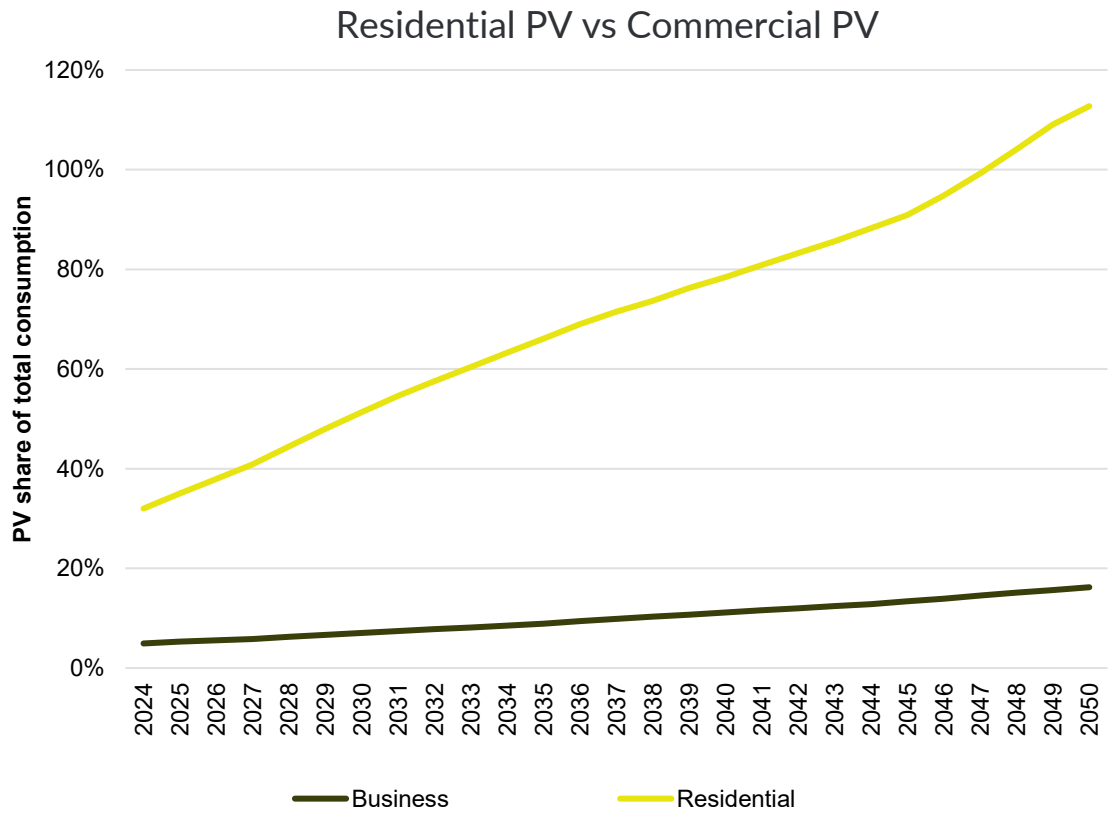
A key risk is the push to abolish ring-fencing measures by regulated monopolies. This poses a risk of distorting the innovative CER market and impeding service development and commercialisation

Source: ISP, Step Change

Untapped potential is C&I Consumer Energy

By harnessing this untapped potential, businesses can realise substantial energy cost savings, while providing flexibility and reducing network impacts.

- A significant share could be installed at C&I facilities such as warehouses, which have roof space that could generate power in excess of their actual need.
- This makes them ideal locations for the deployment of batteries - turning warehouses into small and nimble dispatchable power plants.
- This opportunity has already been recognised in the property industry, with early movers such as Dexus planning to deploy more than $25 million of batteries in its new warehouses



Source: ISP, Step Change

Risk of becoming irrelevant is real

Slow and incremental leadership vs ambition and value creation leadership

- Clean energy investment to replace ageing coal
- Consumer energy and batteries are the next big boom – homes and businesses
- Driving policy direction through predictability

Thank You

Contact us to find out how we can help

www.nexaadvisory.com.au | info@nexaadvisory.com.au

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About Nexa

Nexa is a full-service advisory firm.

We work with public and private clients including renewable energy developers, investors and climate impact philanthropists to help accelerate efforts towards a clean energy transition. We've been shaping the energy industry for over 20 years. With a proven track record across policy creation, advocacy, political risk assessment and project delivery, we're holistic in our approach and deliver solutions with commercial intent.

The Nexa Advisory team is a collaboration of passionate energy specialists, all committed to the successful transformation of Australia's energy markets. The team is focused on helping clients grasp the unpredicted opportunities the energy transformation will bring with trusted and innovative thinking and advice.

Institute for Energy Economics and Financial Analysis

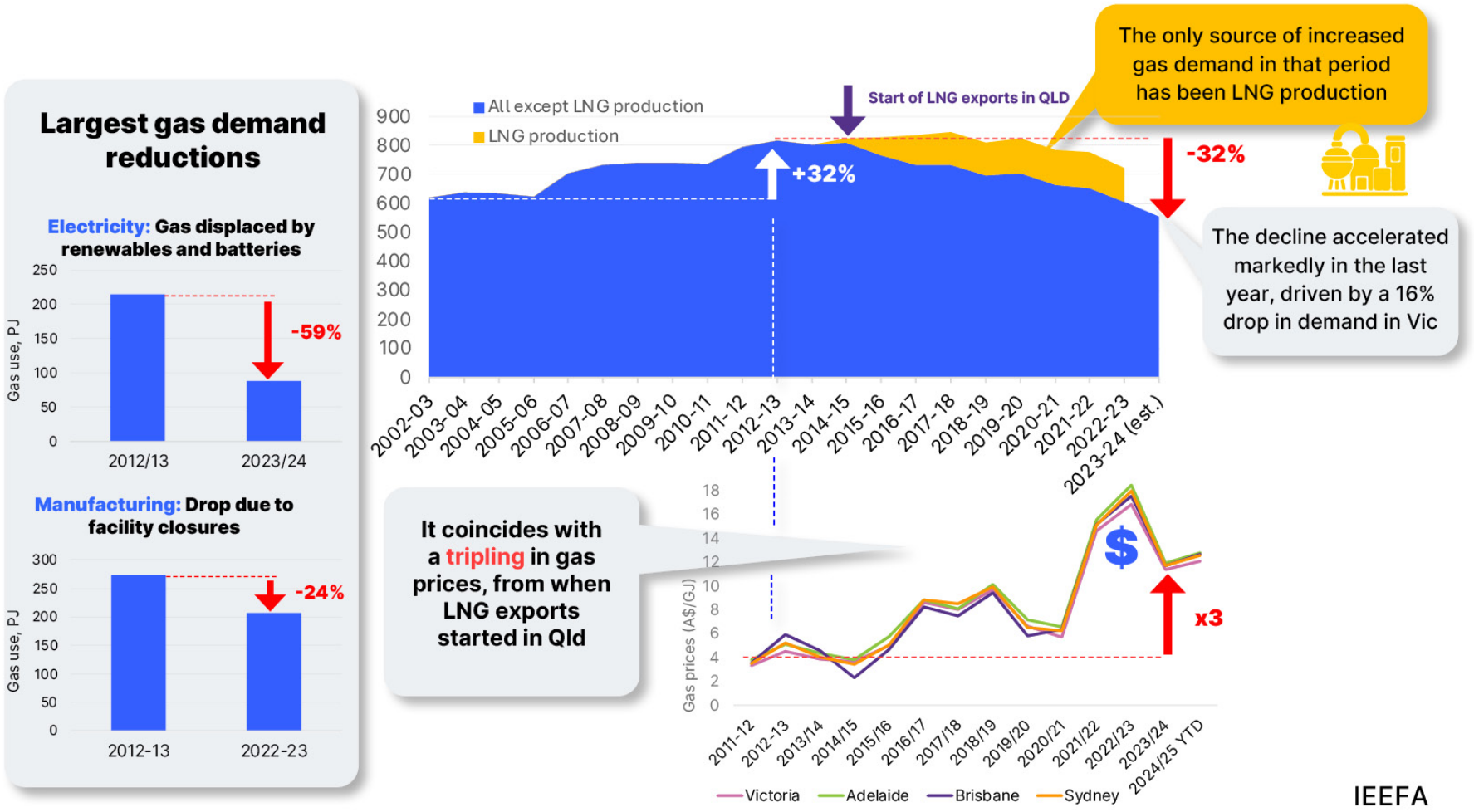
AGL and the Australian Energy Transition

Declining demand, weak supply, electrification cuts gaps

Kevin Morrison, Energy finance analyst, Australian Gas

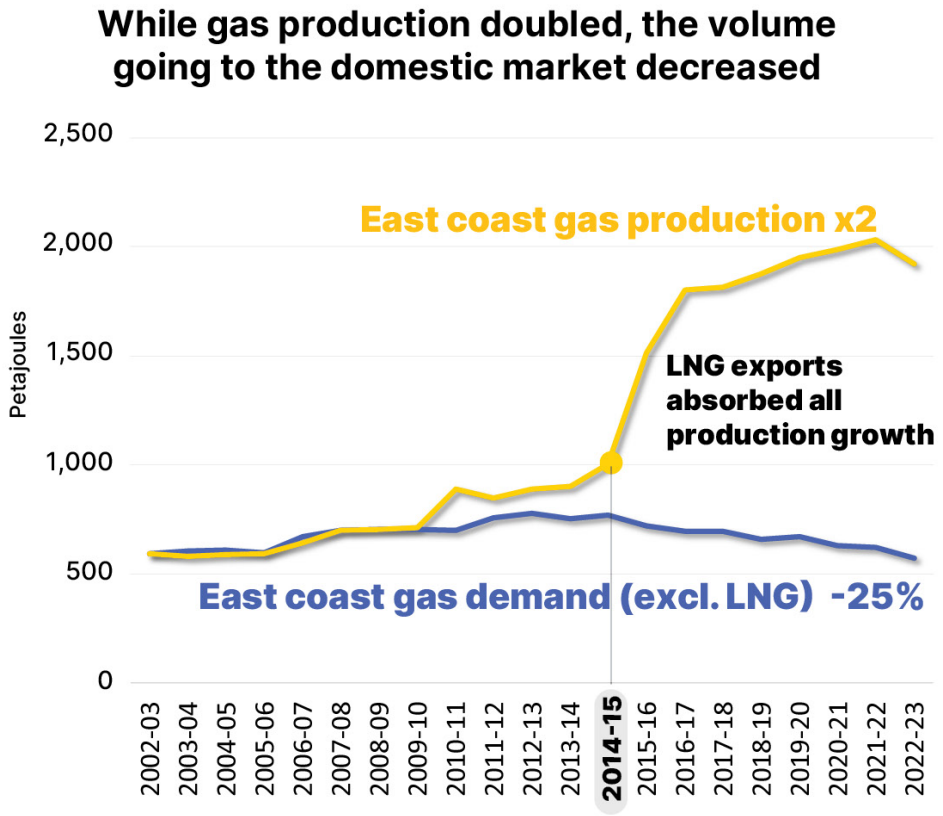
24th June, 2025

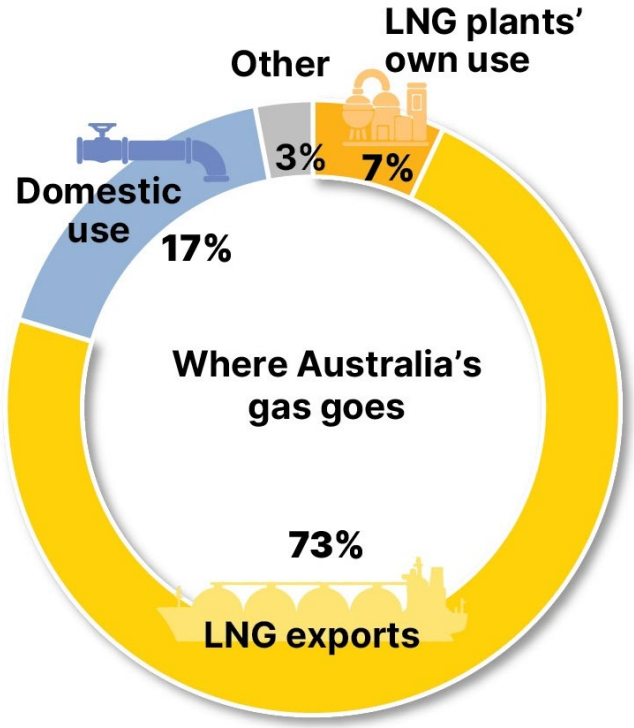
Eastern Australia gas demand slashed since LNG exports began in Queensland



Source: IEEFA, [LNG exports prompt fall in eastern Australia's gas demand]

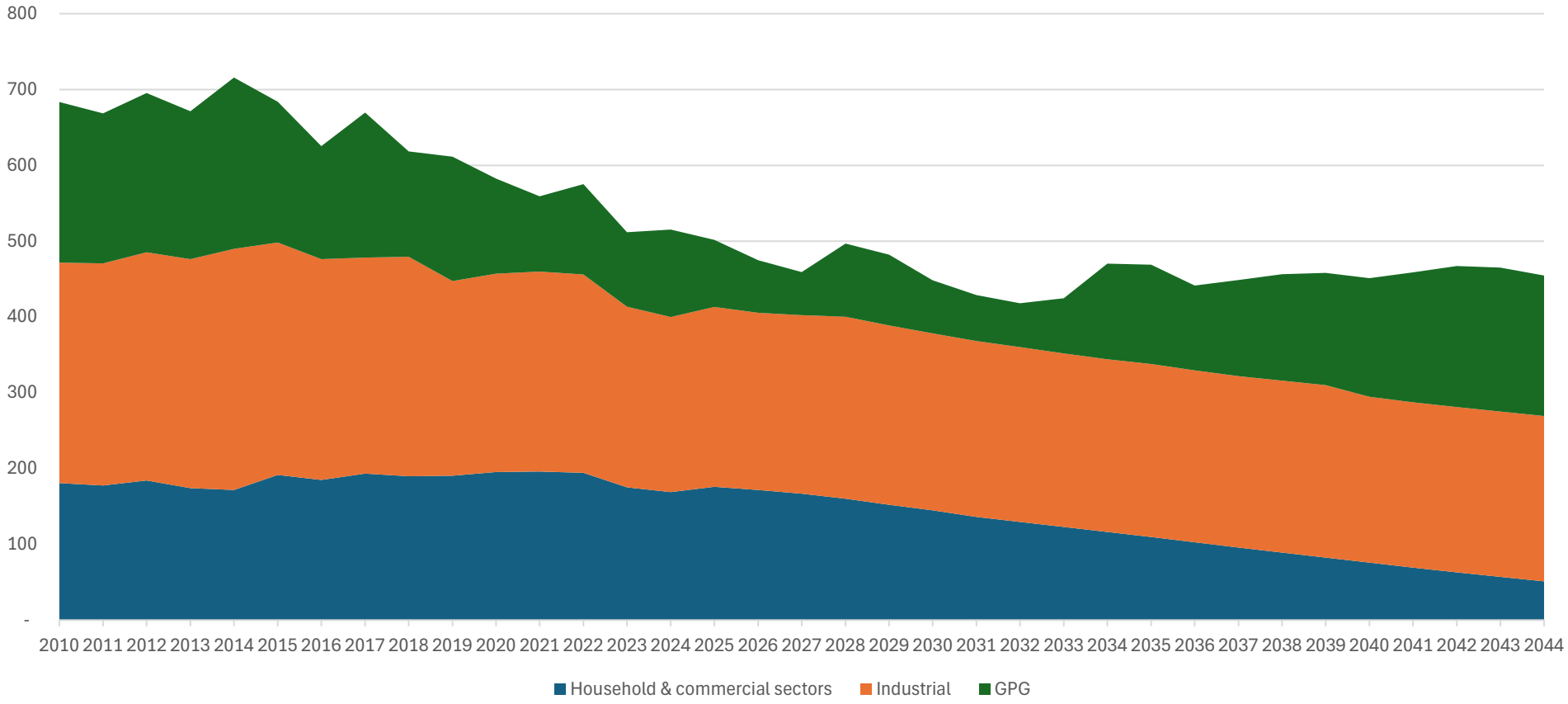
Increasing supply has not helped in the last decade



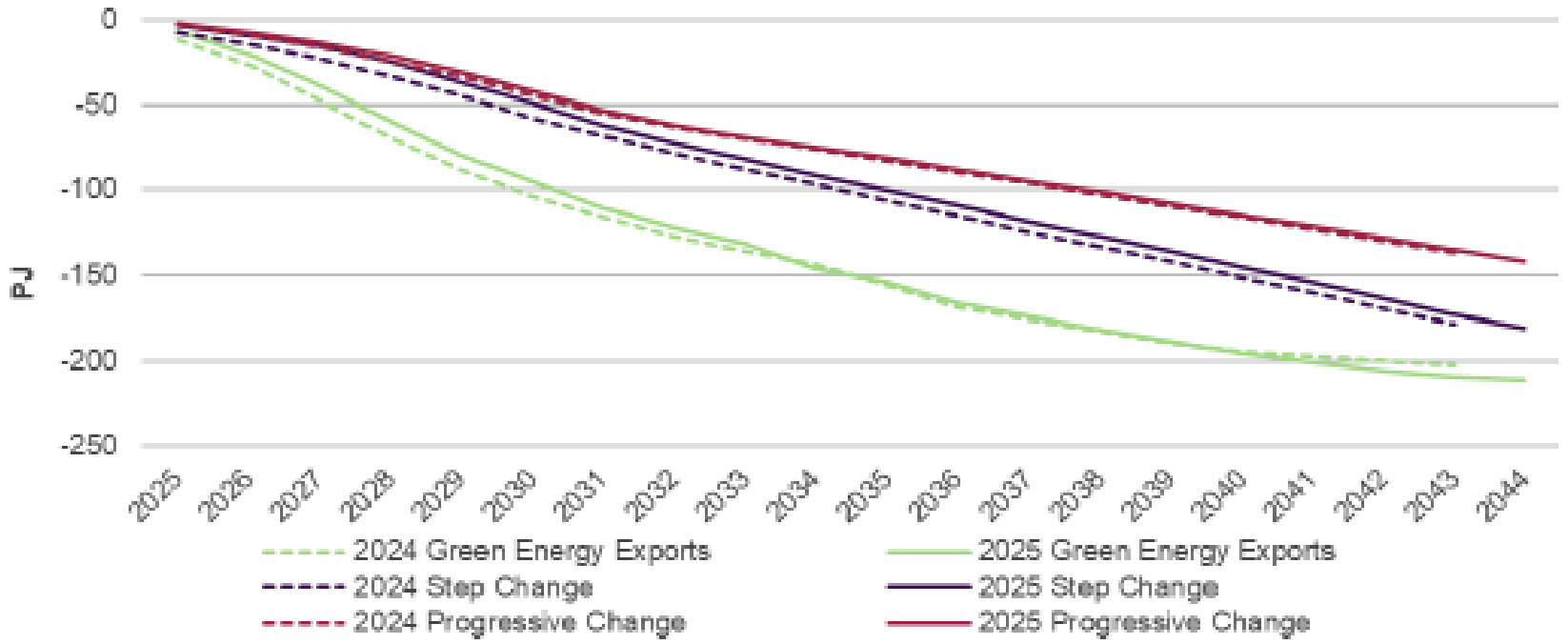


Source: IEEFA, [Australian gas users pay price as LNG exporters prioritise spot market windfalls]

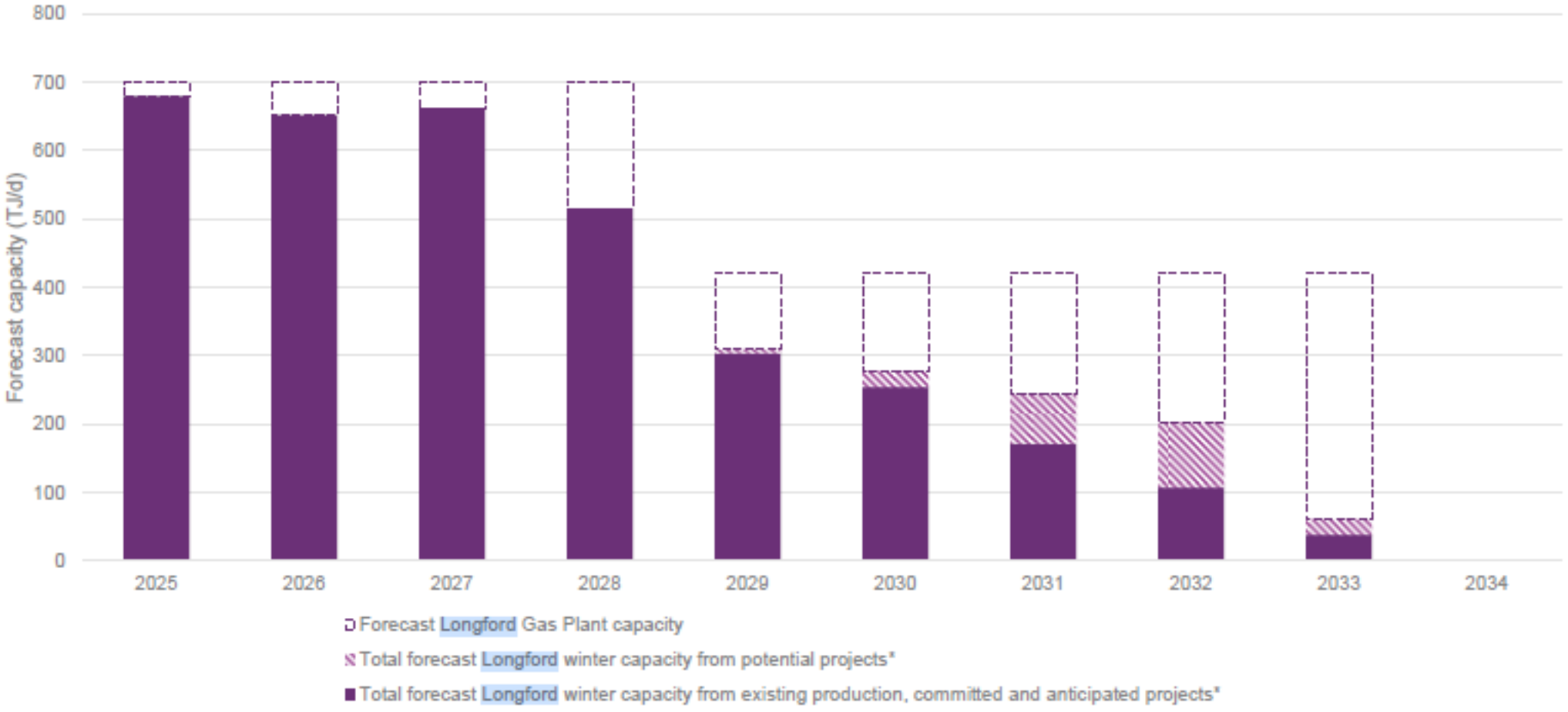
Eastern Australia household gas demand seen extending declines, measured bounce in GPG demand



Forecast changes in gas consumption from electrification by scenario, and compared to 2024 GSOO, 2025-44 (PJ) – source AEMO 2025 GSOO. Page 27



Forecast Longford Gas Plant winter capacity, 2025 to 2034 (TJ/d).

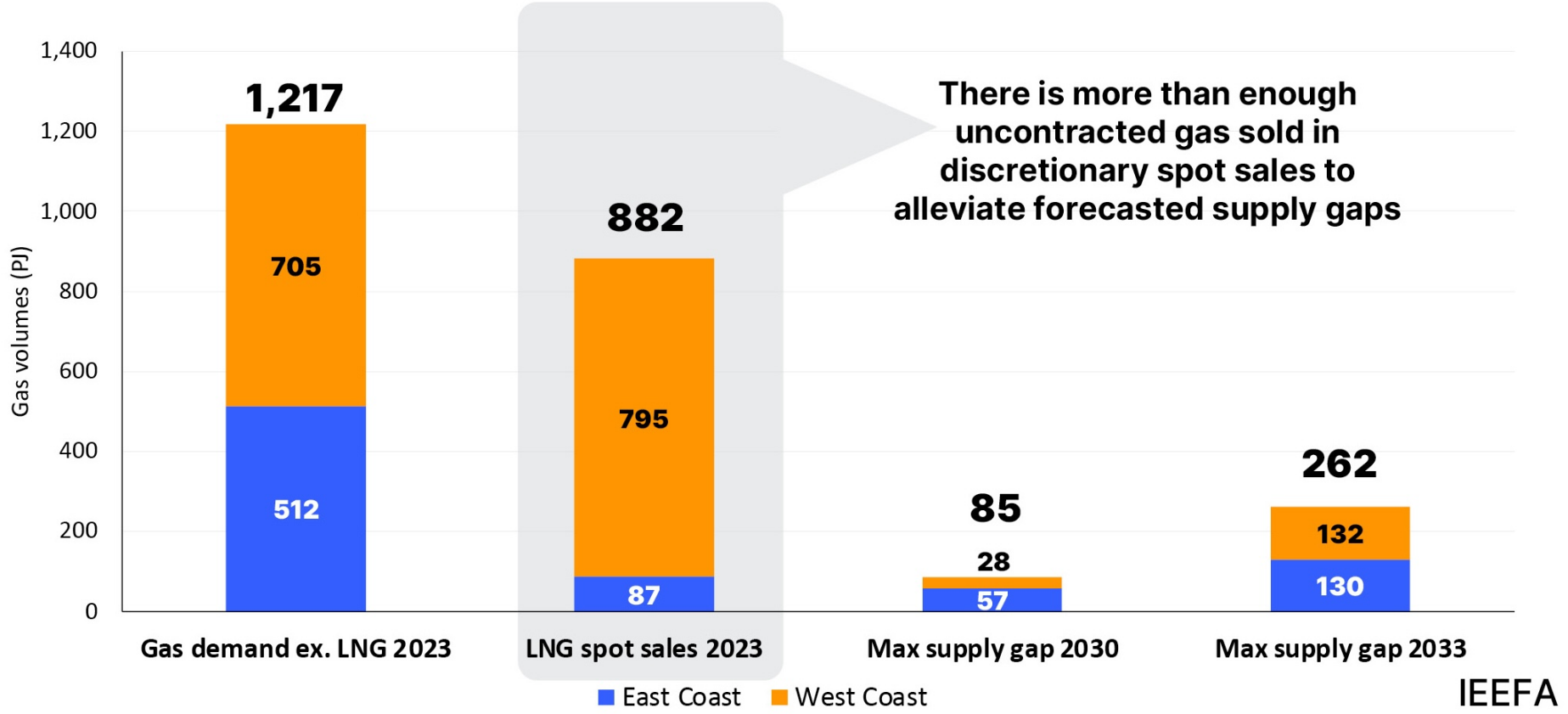


Options to fill remaining shortages

There is no shortage of gas in eastern Australia based on the 2P reserves, another 16 years of supply

- Possible more gas in Otway, Gippsland – exploration activity stepped up
- Victoria renewable gas target 4.5PJ, ACIL Allen sees potential biomethane of 100PJ/year
- Methane capture, estimated 80PJ of captured methane in Australia, possible 24PJ in east.
- High rates of electrification, electrify gas heat demand
- Electrification of LNG turbines, Gladstone plants consume around 120PJ of gas

Diverting LNG spot sales could alleviate shortages

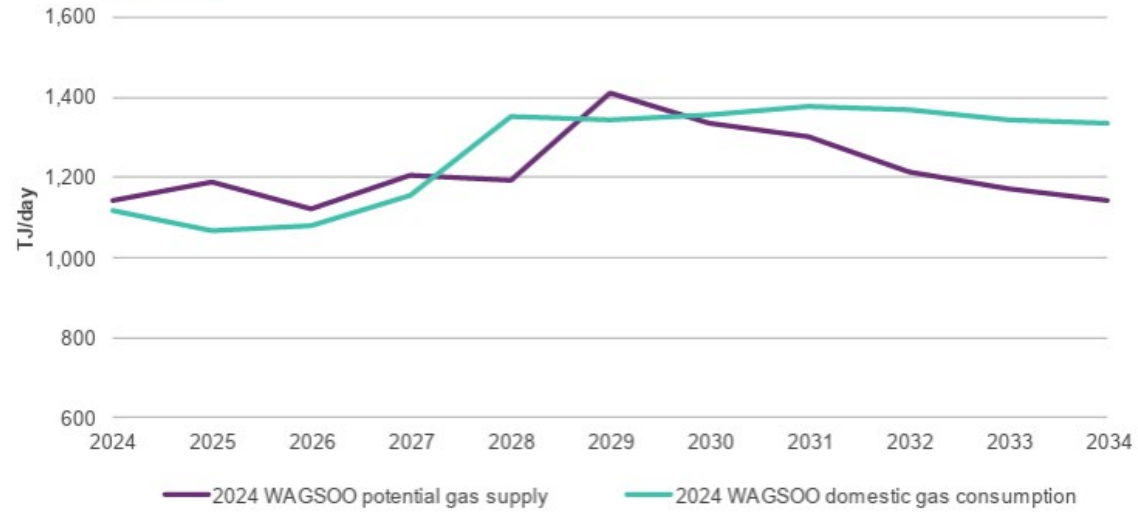


Source: IEEFA, [Australian gas users pay price as LNG exporters prioritise spot market windfalls]

WA is showing signs of heading in the same direction

Expected gas shortages from 2028

Figure 25 Forecast Western Australian domestic gas supply adequacy, *Step Change* scenario, 2024 to 2034 (TJ/day)



Gas prices are increasing

Figure 36 Western Australian spot gas prices from gasTrading, January 2015 to September 2024 (A$/GJ)

Source: Gas Trading Australia Pty Ltd – gasTrading Spot Market™ and Department of Energy, Mines, Industry Regulation and Safety.

Prices above $9-10/GJ would start reducing consumer operations

Source: AEMO, WA Gas Statement of Opportunities

Streamlined federal regulatory approvals unlikely to lead to new gas supply before 2030

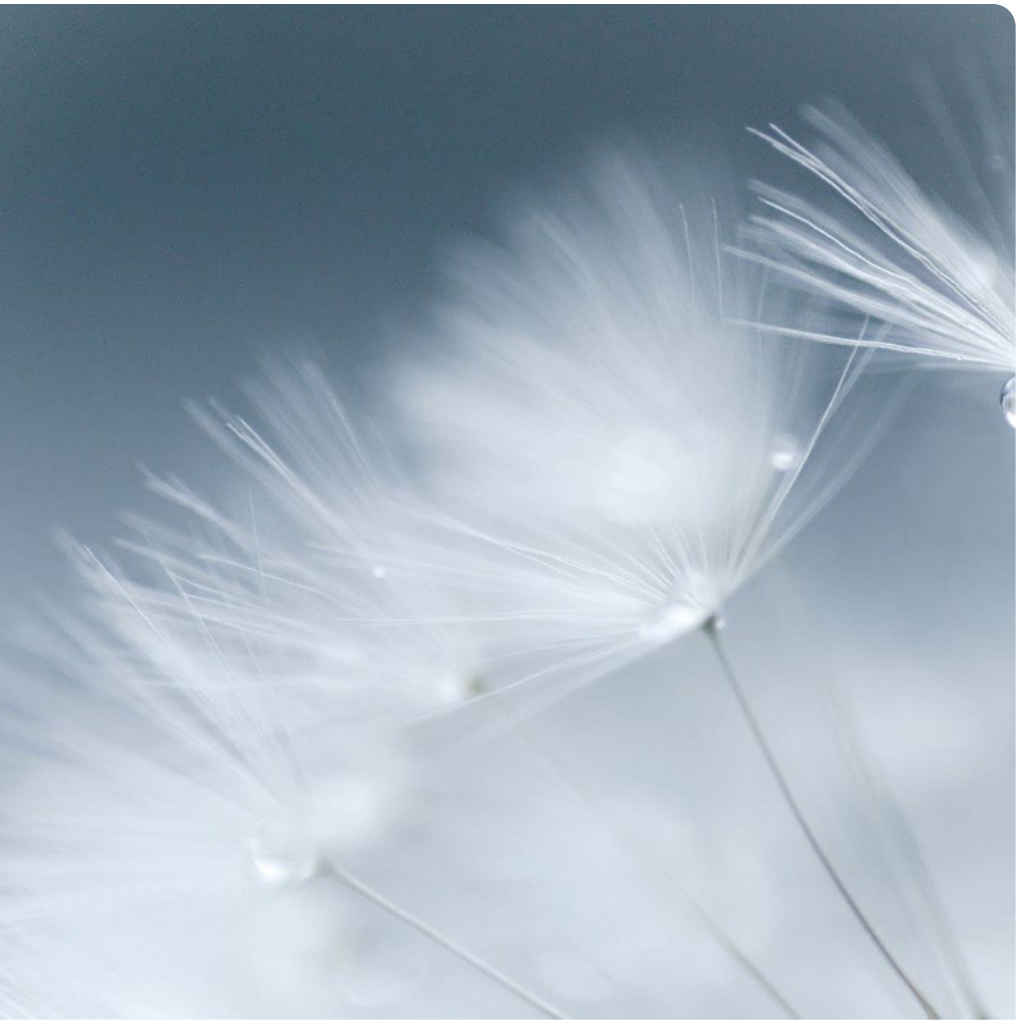
Western Australia

- **Limited number of projects** in offshore waters subject to Commonwealth approvals
- Woodside's **North-West Shelf** extension will be contingent on subsequent approval for Browse gas project; Woodside reporting suggests **2030 start date**
- Santos **Dorado** project has been deferred, with no guidance on when FID may be taken

East coast

- Multiple projects in offshore Victoria subject to Commonwealth approvals
- Only a handful of these projects expected to deliver **meaningful volumes of gas**
- **Regulatory approvals are not a barrier** to their development, with project developers telling the ACCC they face other risks, including commercial, exploration and appraisal, macroeconomic, financing and technical risks.

Source: IEEFA, Fast tracking federal approvals unlikely to increase gas supply this decade



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