2025 AEMO Winter Gas Outlook

8 May 2025

We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan

AEMO Group is proud to have delivered its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

Read our RAP

Today's agenda

#	Time	Item	Speaker(s)
1	**1:00pm**	Welcome & Opening Remarks	Matthew Clemow
2	**1:15pm**	2024 Winter in Review	Hitesh Sampat
3	**1:45pm**	2025 GSOO and gas integration into the ISP	Alice McLaren
4	**2:15pm**	2025 Victorian Gas Planning Report	Luke Garland
	3:00pm	**BREAK**	
5	**3:20pm**	NEM Seasonal Readiness	Dalibor Balicevic
6	**3:40pm**	East Coast Gas Supply Update	William Baskerville Rob Dickie
7	**4:20pm**	Q&A - Slido	Patrick Chan

Winter 2025 focus

- Monitoring East Coast Gas System supply including supply from Queensland and storage inventories (Iona, Newcastle and Dandenong)
- Managing production and pipeline supply risks particularly capacity restoration around Moomba and the retirement of Longford Gas Plant 1
- Wind and solar generation outage uncertainties, coal generation outage risk
- Demand uncertainty – very warm April, continuing into May, reducing gas demand overall and increasing electricity demand

Longford plant retirements

- Gas Plant 1 and the Crude Stabilisation Plant retired during October 2024.
- Long Island Point ethane fuelled power station commissioned – Qenos Altona site permanently shut down.

Moomba Hub flooding impact

- Major flooding has impacted large areas of central Australia.
- Capacity of the Moomba Gas Plant and the Moomba to Adelaide Pipeline are reduced by approx. 20% due to flood damage. Capacity restoration likely to take weeks.
- AEMO held an industry conference on Thursday 24 April to inform the industry of the above events – minutes available here
- AEMO is continuing to monitor the situation with the asset owners and governments, but none of the constraints are currently impacting gas supply.
- AEMO is conducting supply demand modelling to further assess the risks and changing dynamics of the southern states gas flows that may result from an extension of the current constraints.

2024 Winter in Review

East Coast Gas Overview

Hitesh Sampat

Overview

- Domestic gas consumption flat in the DWGM even though there was periods of higher EDDs in Victoria (year on year)
- Increased GPG throughout June and early July due to periods of lower renewable generation
- Higher reliance on gas from northern states, reaching capacity on a few days on SWQP West
- Iona storage inventory heavily utilised throughout the winter period
- Record GSH and DAA volumes

Demand

- System Demand
- Gas Powered Generation
- Weather

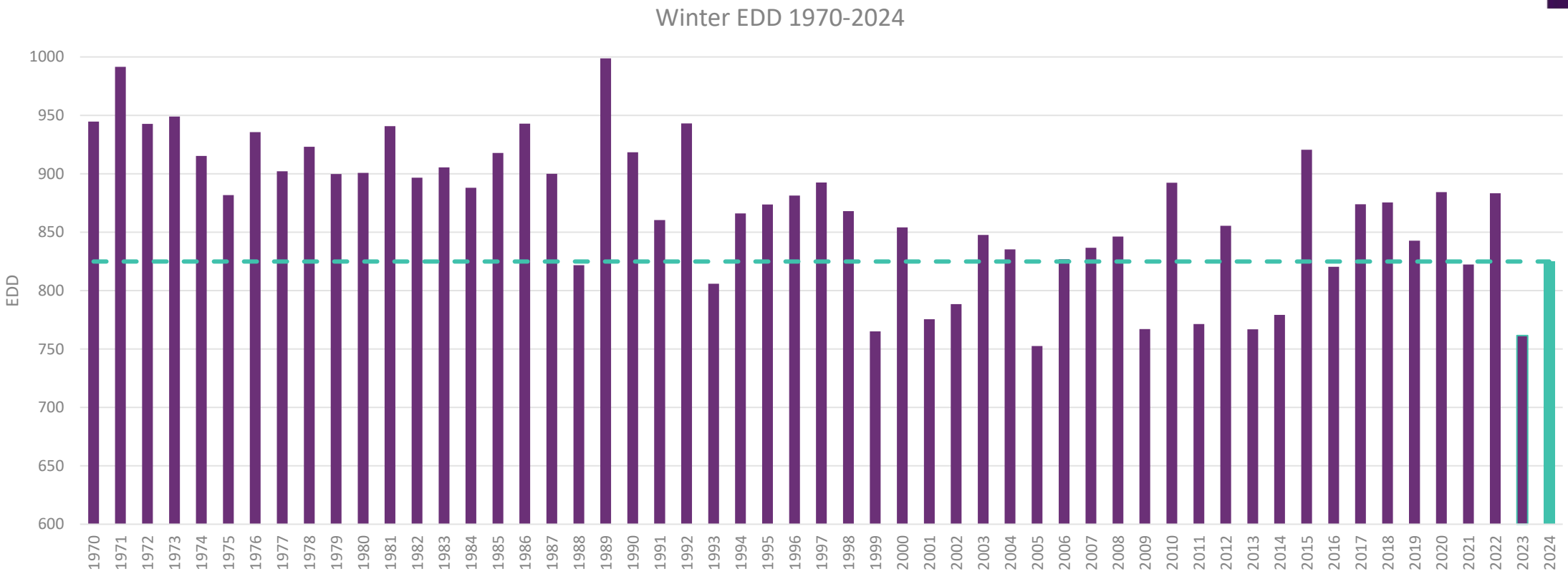
System demand

Demand Region	Winter System Demand (PJ)			Max Demand (TJ)	HDD and EDD			
	2024	2023	Move	2024	2024	2023	Move	
Brisbane STTM	4.6	4.6	1% ▲	61	194	176	10%	▲
Sydney STTM	23.3	24.3	4% ▼	290	454	452	0.4%	▲
Victoria DWGM	66.0	66.5	1% ▼	973	813	750	8%	▲
Adelaide STTM	5.8	5.9	1% ▼	82	523	505	4%	▲
Domestic Market Total	99.8	101.1	1% ▼					
QLD LNG	336.8	330.1	2% ▲	4,188				

- Victorian DWGM and Adelaide STTM system demand lower despite a colder winter than 2023
- This winter was amongst the ten warmest on record for South Australia, Victoria, New South Wales and Queensland*
- Second year in a row the highest daily DWGM system demand has not exceeded 1,000 TJ at least once during a winter since DWGM began (1999)
- QLD LNG demand highest on record for winter

* Source - http://www.bom.gov.au/clim_data/IDCKGC2AR0/202408.summary.shtml

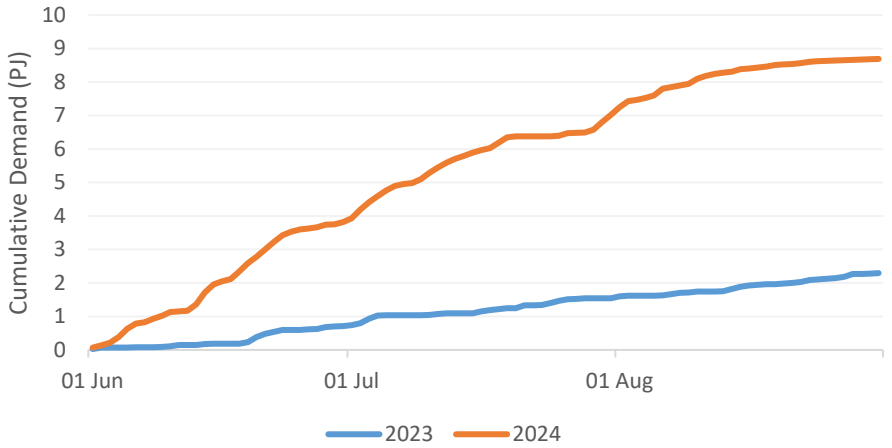
DWGM EDD

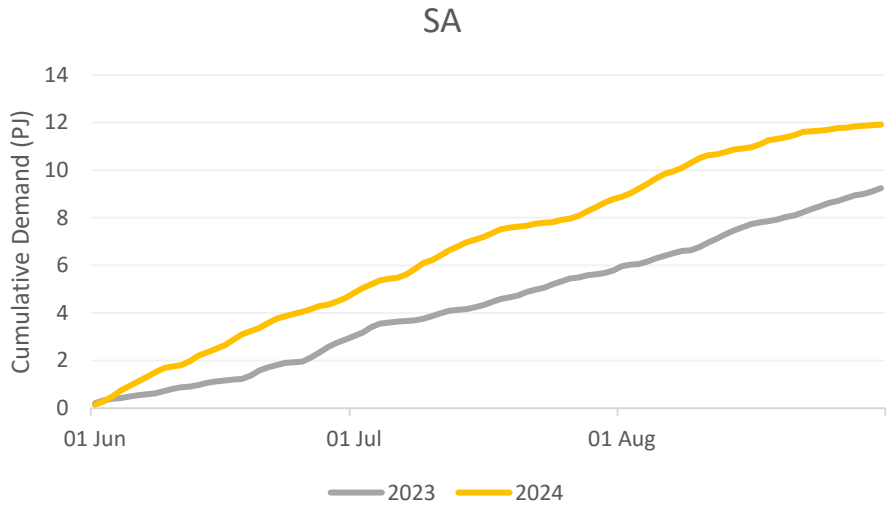


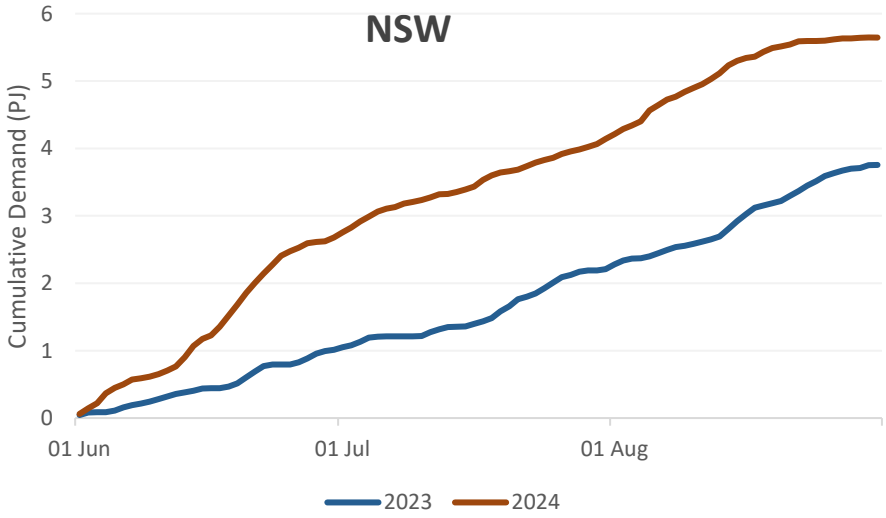
- Lowest August EDD aggregate on record but colder than average June and July led EDD aggregate to near 2021 levels
- The mean temperature for August was highest on record for much of Victoria, and very much above average (top 10% of all Augusts since 1910) for parts of the north*

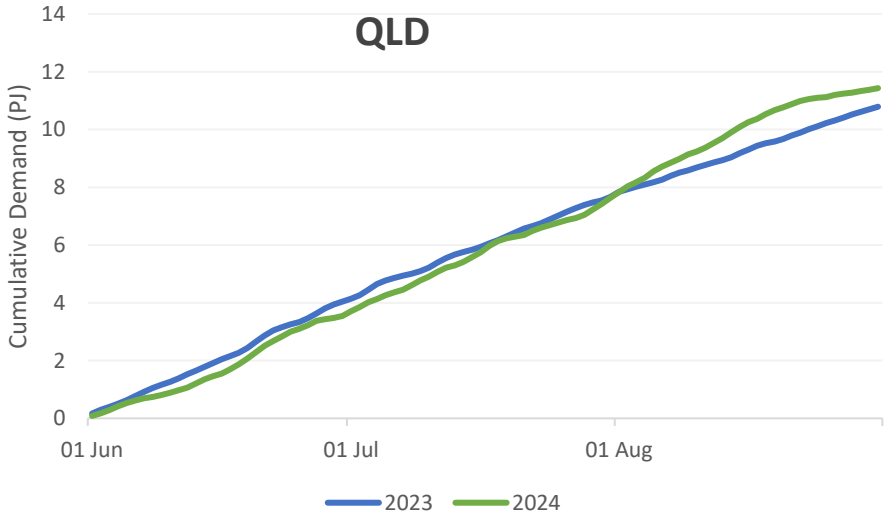
*Source: http://www.bom.gov.au/climate/current/month/vic/summary.shtml

GPG Demand Comparisons





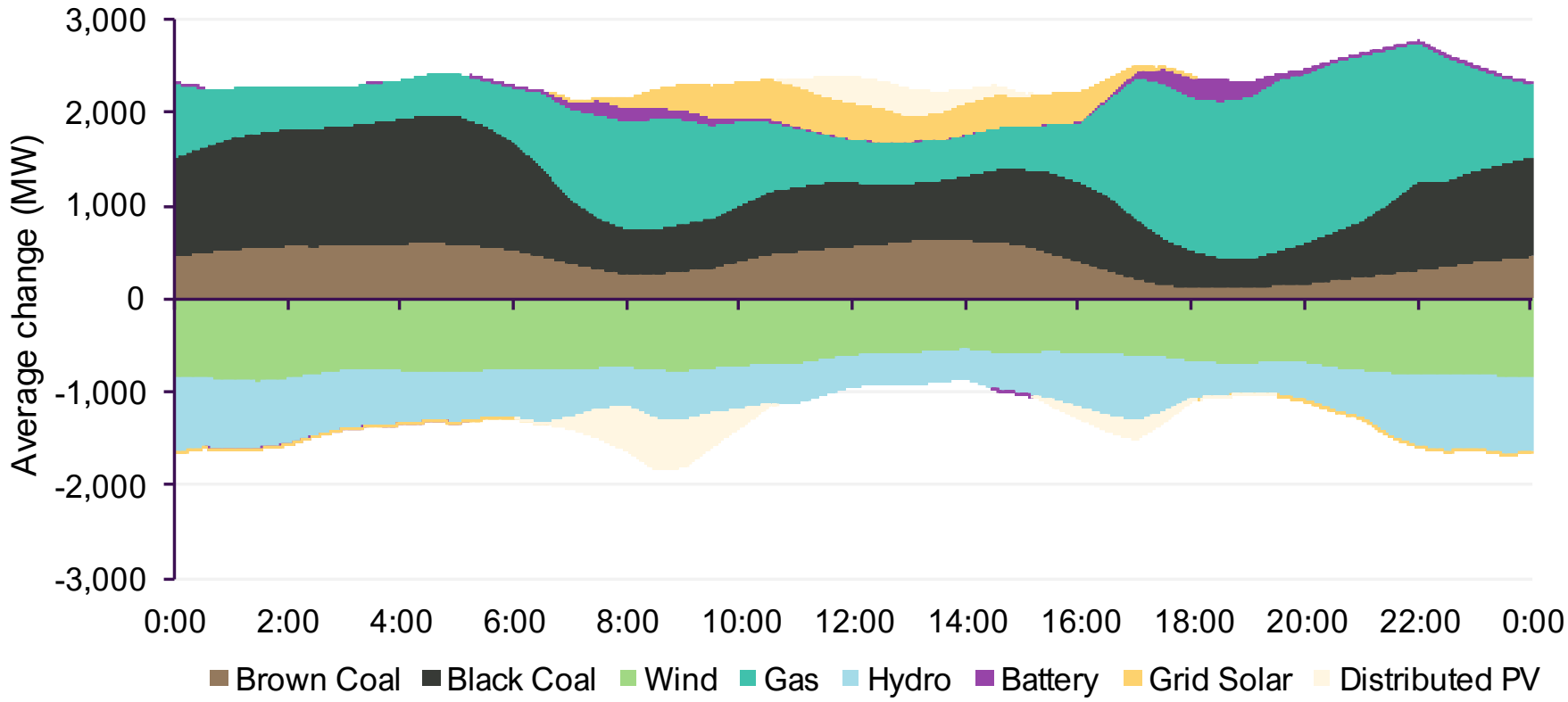




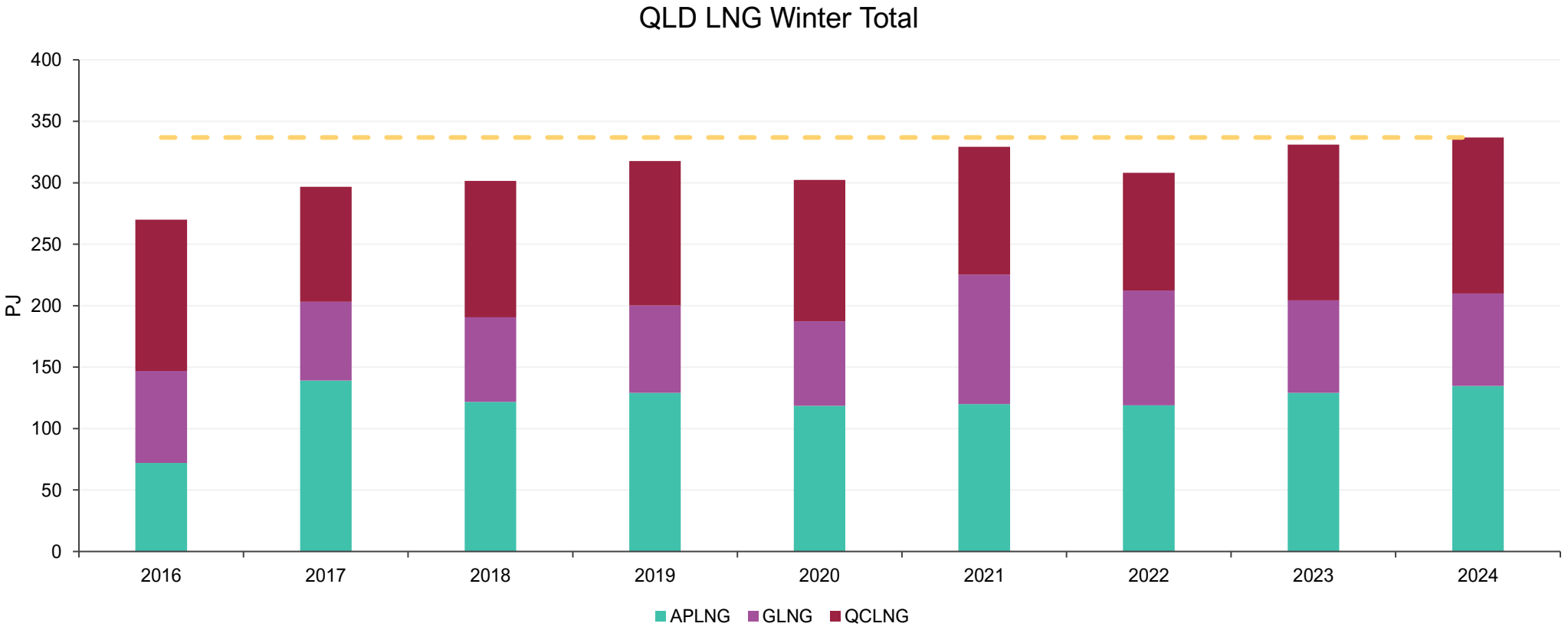
Notable changes:

- QLD – Braemar 2 (+1.3 PJ), Swanbank E (-1.0 PJ)
- NSW – Uranquinty (+0.9 PJ)
- SA – TIPS (+2.1 PJ), Osborne (+0.9 PJ)
- VIC – Mortlake (+2.4 PJ), Newport (+1.6 PJ), Laverton (+1.2 PJ)
- TAS – Tamar Valley CCGT (+2.8 PJ)

NEM fuel supply mix
June & July 2023 vs 2024



QLD LNG Demand



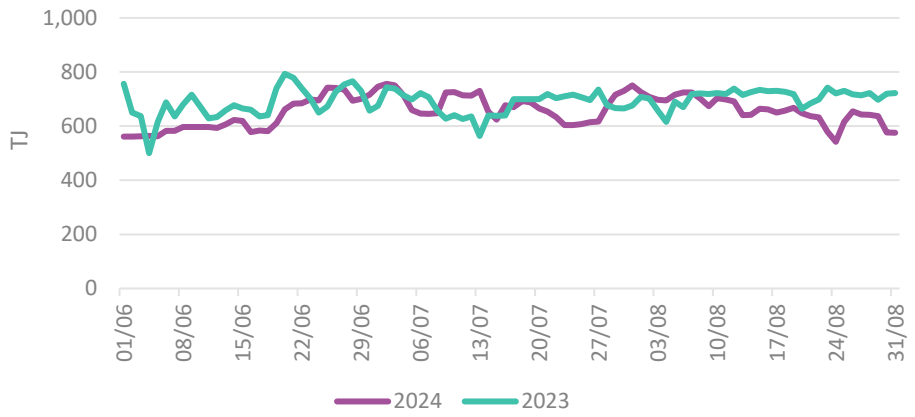
- Highest QLD LNG winter exports on record (337 PJ)
- APLNG recorded the bulk of the increase compared to winter 2023 (+5.6 PJ), while QCLNG increased by 0.3 PJ. LNG producers continue to seasonally shape their portfolio reducing exports from Curtis Island during the Australian winter period
- Total Curtis Island flows were up 6 PJ, production associated with QLD LNG projects was also up 11 PJ

Supply

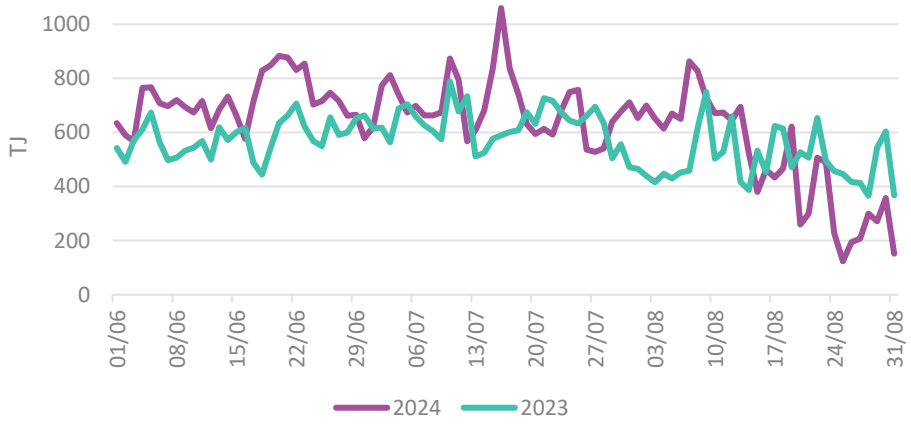
- Production
- Storage
- Pipeline flows

Supply

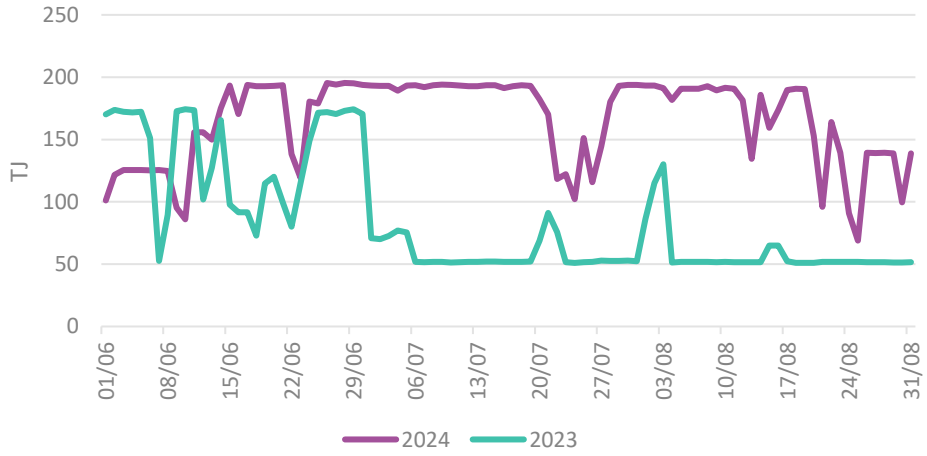
Longford Production



Net QLD Production to Dometic Mkt

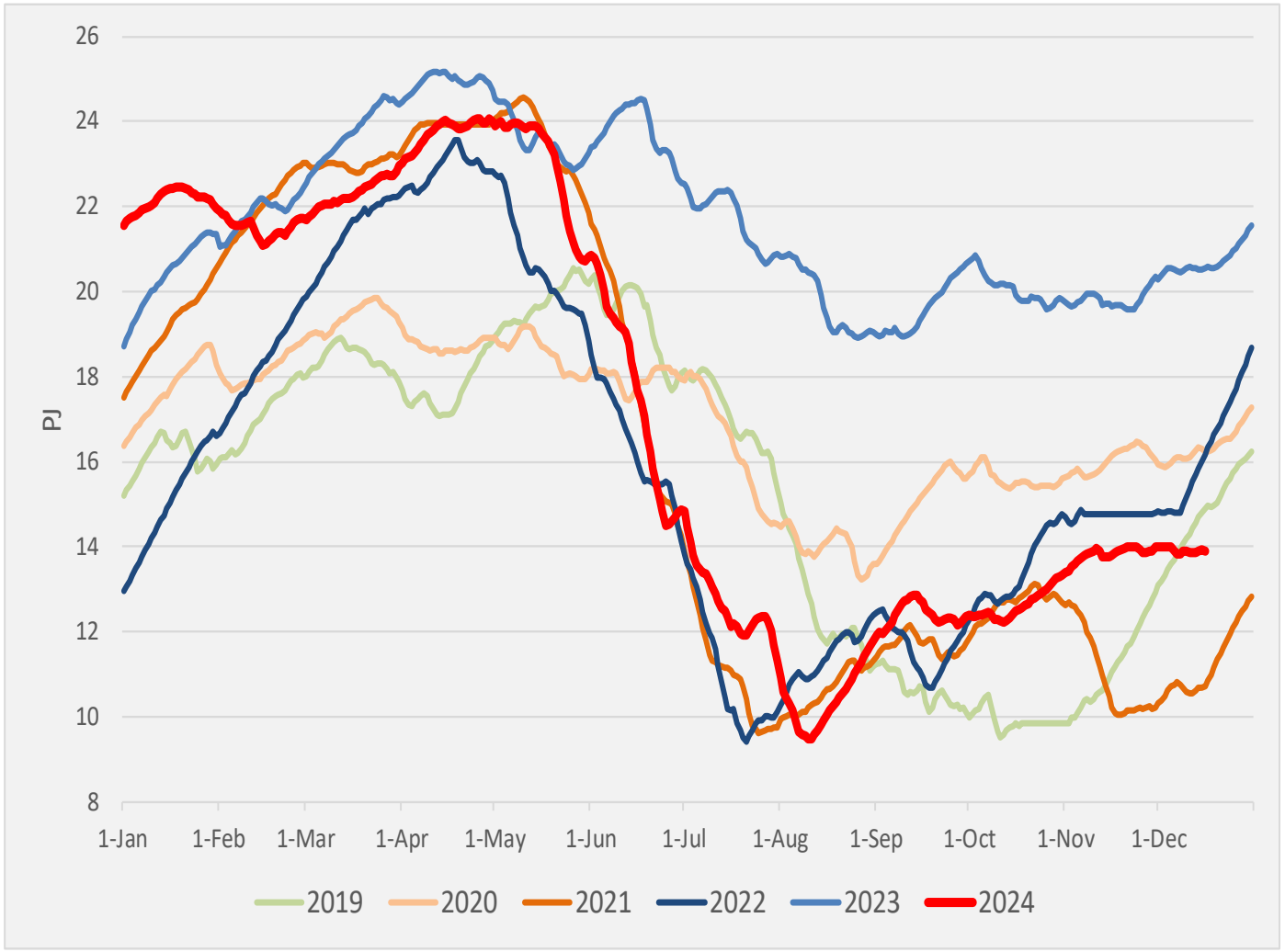


Otway Production



Longford production lower (-3.2 PJ)
Otway production higher (+7.5 PJ)
Bass Gas slightly lower (-0.2 PJ)
Orbost production higher (+0.9 PJ)
Moomba production slightly lower (-0.3 PJ)
Net QLD production to domestic market higher (+6.0 PJ)
Northern Territory supply to QLD lower (-2.4 PJ)

Iona Gas Storage



- Iona storage was heavily utilised from mid-May until early August. Key reasons as follows:
  - Unplanned maintenance issues delaying Longford production capacity to the forecasted amount of 775 TJ/day.
  - High GPG demand and the early onset of winter weather
  - SWQP West (from Wallumbilla to Moomba) was fully utilised by shippers on some days
- Storage levels increased in August as GPG system demand decreased as a result of record high August temperatures across the country

Pipeline Flows Winter 2023 vs 2024

QLD – Increase in SWQP flows towards Moomba and Mt Isa. Highest ever SWQP westerly flow of 558 TJ on 22 June and record monthly flows for June. Record winter flows to Curtis Island. QGP flows restricted following March incident

NT – NGP unable to flow to Mt Isa due to continuing upstream production issues in NT

SA –Increases on MAP and SEA Gas reflective of higher GPG demand

NSW – Increase in NSW demand met solely by increase in MSP flows with a small decrease in EGP flows, reflective of lower Longford production and increase in QLD supply

VIC – Decrease in Longford-Melbourne flows reflective of lower Longford production. Greater reliance on Iona storage as well as Otway production to meet demand. Record SWP flows with the commissioning of the WORM and the second Winchelsea compressor (both operating)

TAS – Increased flow due to GPG demand

Markets

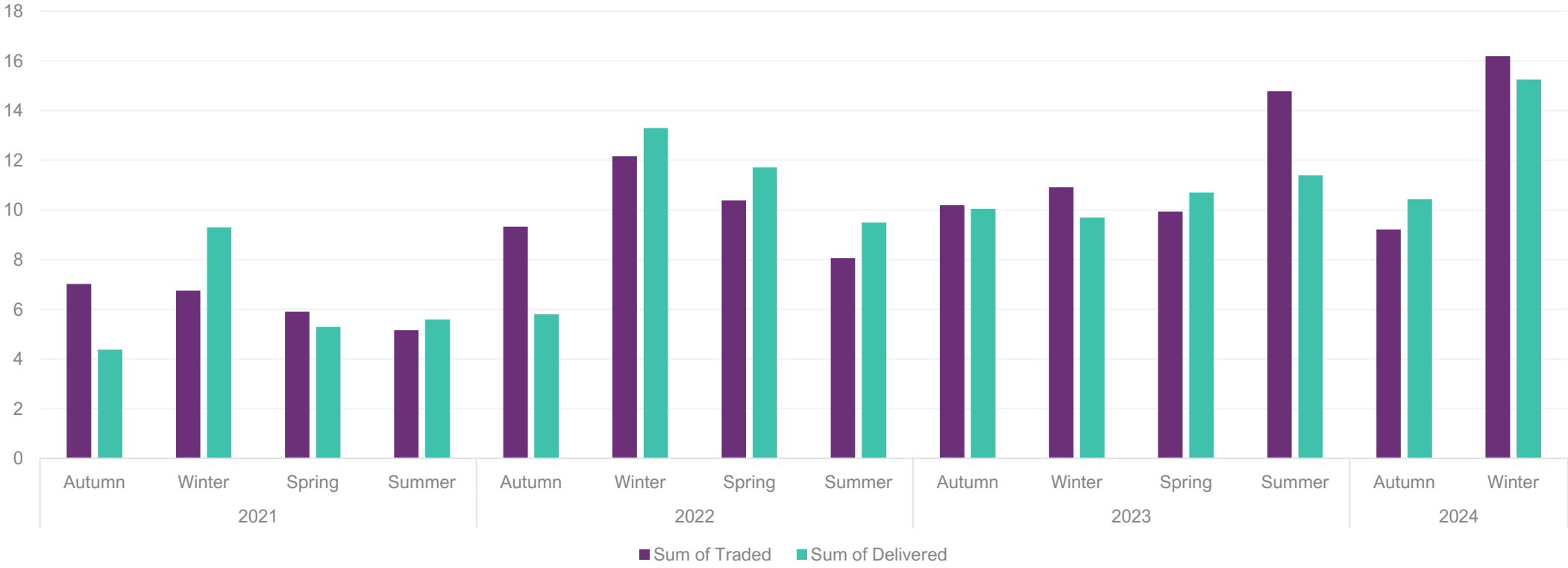
- Gas market prices
- Gas Supply Hub
- Day Ahead Auction

Gas market prices

	Average Price ($/GJ)		Movement
	Winter 2024	Winter 2023	
DWGM	13.66	11.33	21% ▲
ADL STTM	14.11	11.88	19% ▲
SYD STTM	14.02	11.48	22% ▲
BRI STTM	13.73	11.30	22% ▲
GSH	14.16	11.14	27% ▲

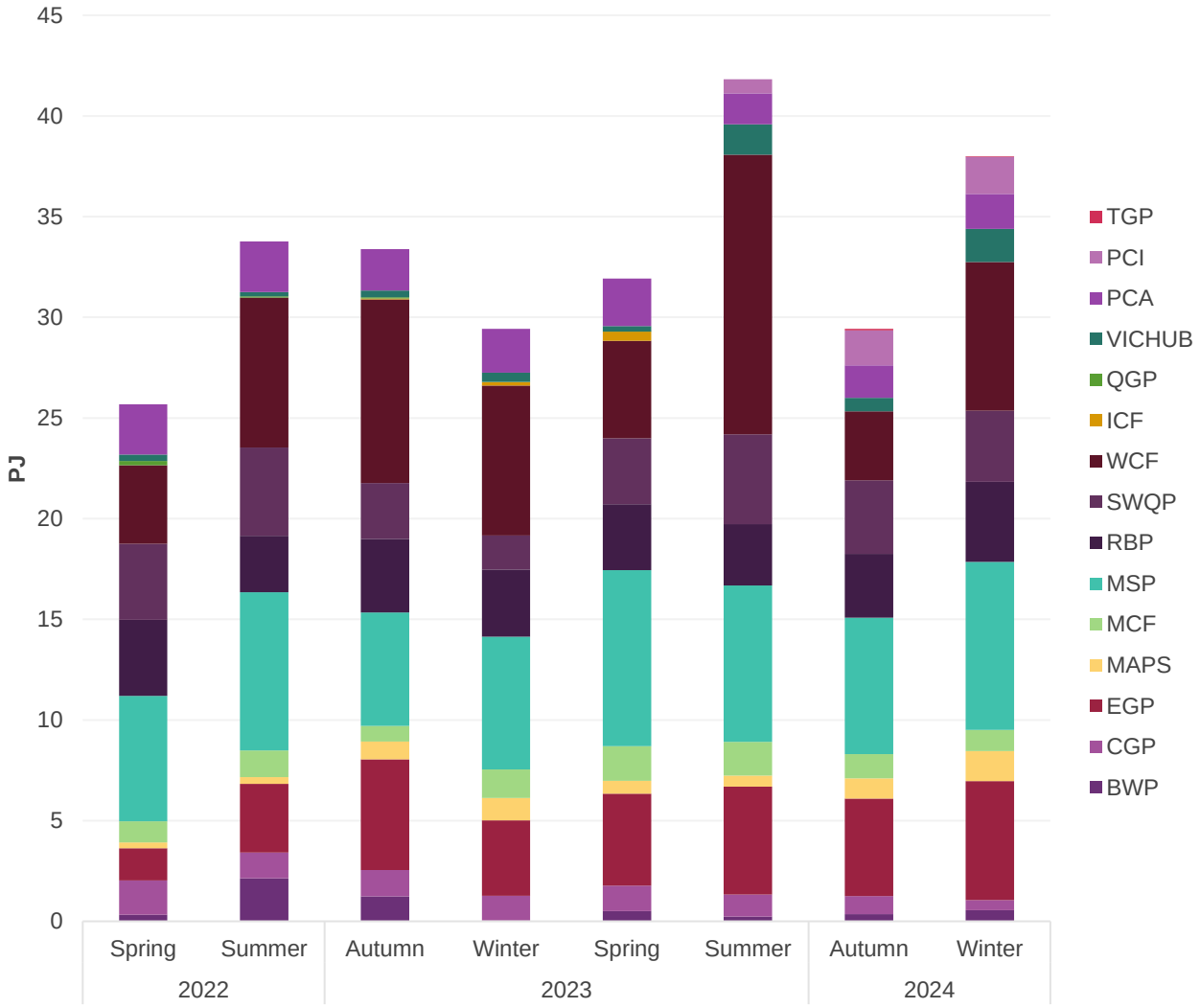
- Increase in price due to southern Australian peak day demand and increased GPG
- DWGM BoD average price for 2nd half of June 2024 was $17.51/GJ

Gas Supply Hub



- GSH traded volumes highest winter volumes (and for any season) on record
- 16.2 PJ was traded across winter, with 15.2 PJ delivered

Day Ahead Auction



- Record auction volumes for winter
- Increase driven mainly the following facilities:
  - EGP (+2.2 PJ)
  - VicHub (+1.2 PJ)
  - SWQP (+1.8 PJ)
  - MSP (+1.7 PJ)
  - Average auction clearing prices were at or close to zero for most pipelines, the highest being CGP North ($0.43/GJ), RBP West ($0.15/GJ) and SWQP West ($0.15/GJ)
  - On GD 22 June 2024 – AEMO's DAA market for SWQP Westernhaul cleared at $1.75/GJ
- SWQP Amber LCA flag for multiple days during peak winter periods & no capacity on DAA on SWQP West on a few days at the end of June.

2024 winter review summary

- Lower Tariff V & D demand in the DWGM
- Final year of Longford having 3 gas plants available
- SWQP LCA was flagged as amber over multiple days highlighting the increased reliance on Queensland gas supply
- Increased demand for gas fired generation due to periods of dunkelflaute particularly in in Victoria (periods of minimal electricity generation from wind and solar)
- Threat or risk notice was in place most of winter, but no directions issued by AEMO
- Some elevated prices during June and some of July, mirroring periods of high GPG demand, however softened for the 2nd half of the winter as temperatures began to warmup

2025 GSOO and gas integration into the ISP

Alice McLaren

Agenda

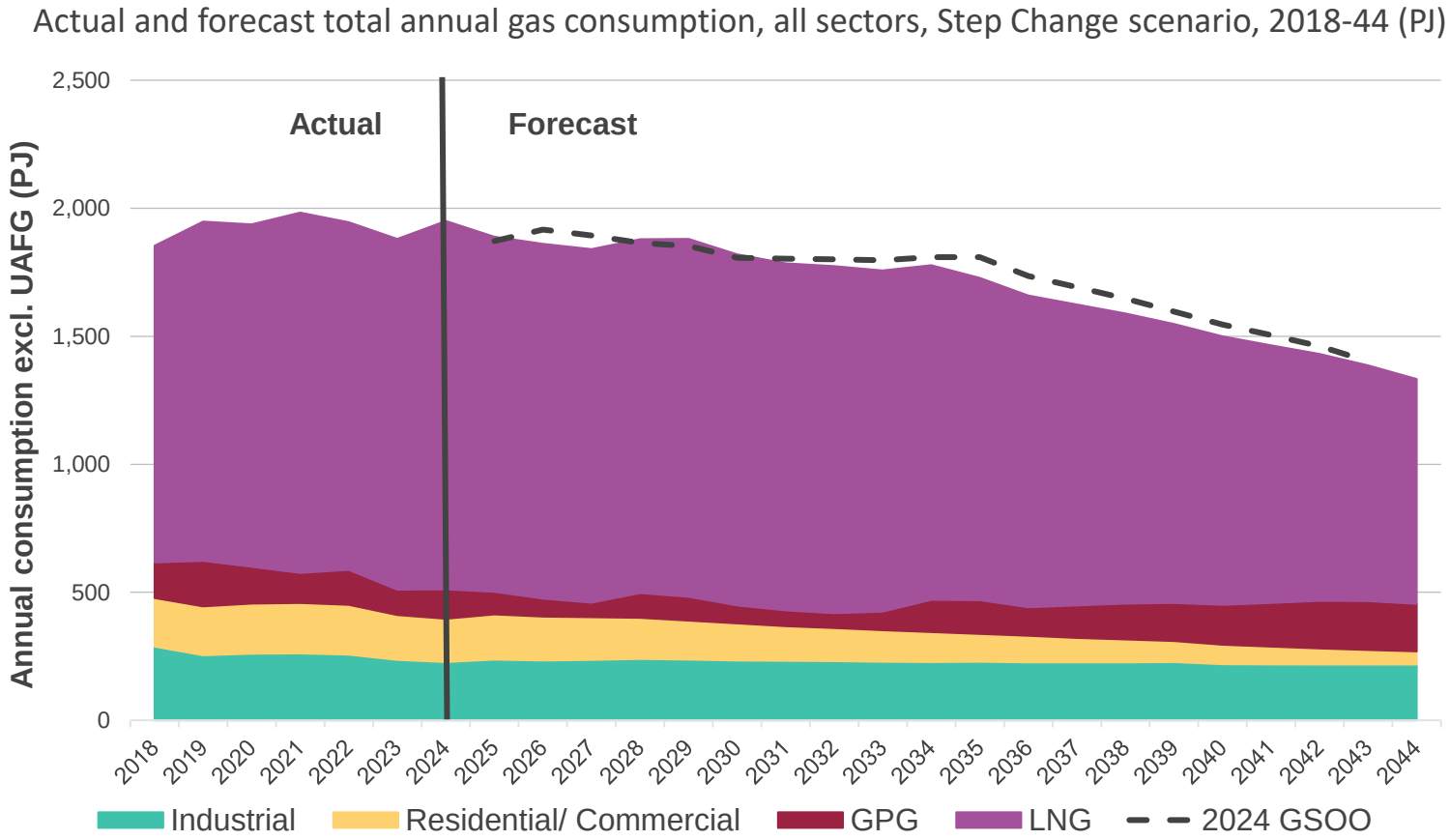
1. 2025 Gas Statement of Opportunities
    1. Gas demand forecasts
    2. Gas supply outlook
    3. Gas supply adequacy assessment
    4. Potential options to address adequacy challenges
2. Gas integration into the ISP

Gas demand forecasts

Forecasting east coast gas market demand over a 20-year period

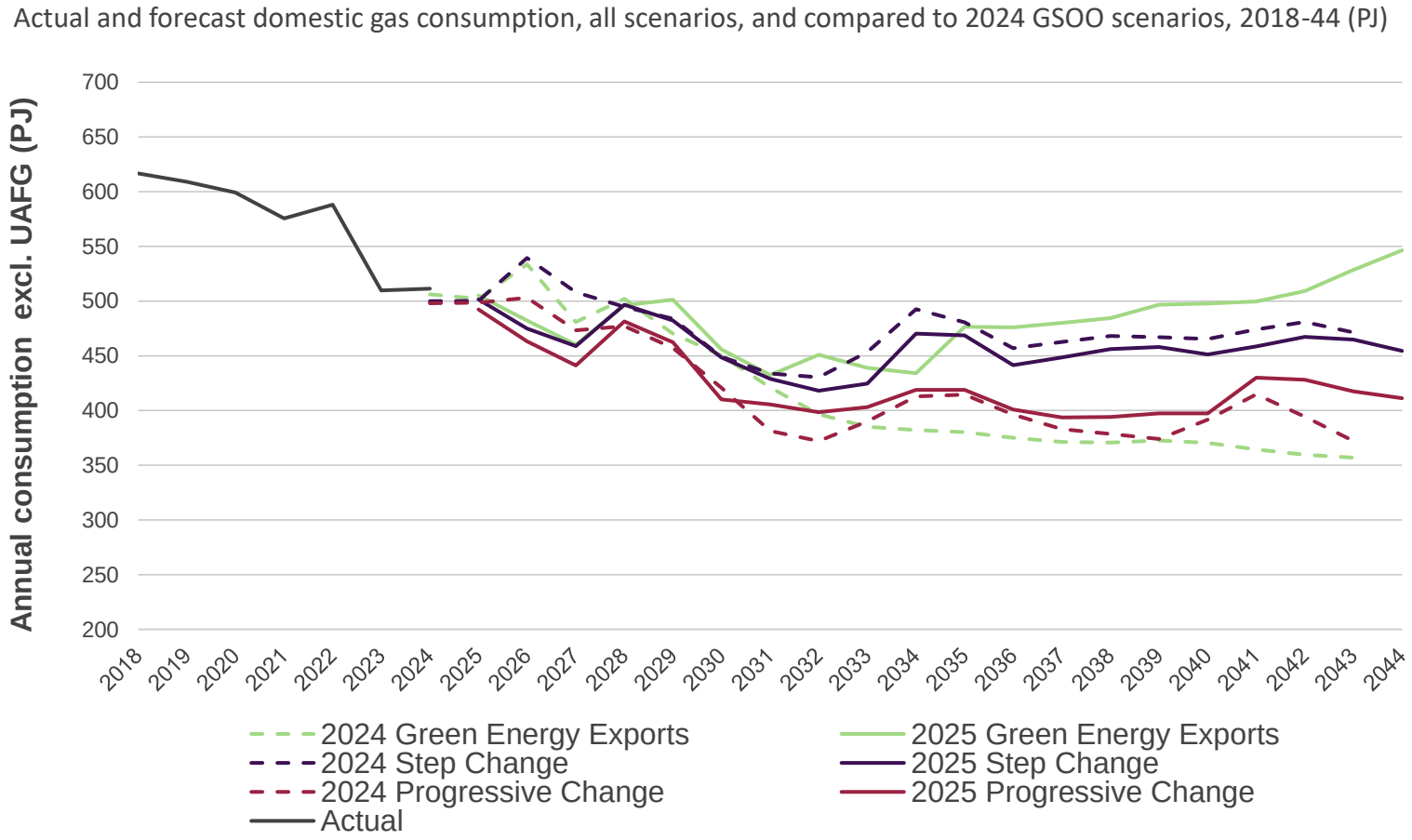
Gas consumption forecast

- Stable industrial demand following some closures
- Declining residential and commercial demand
- GPG increasing in the long-term with increasing firming role

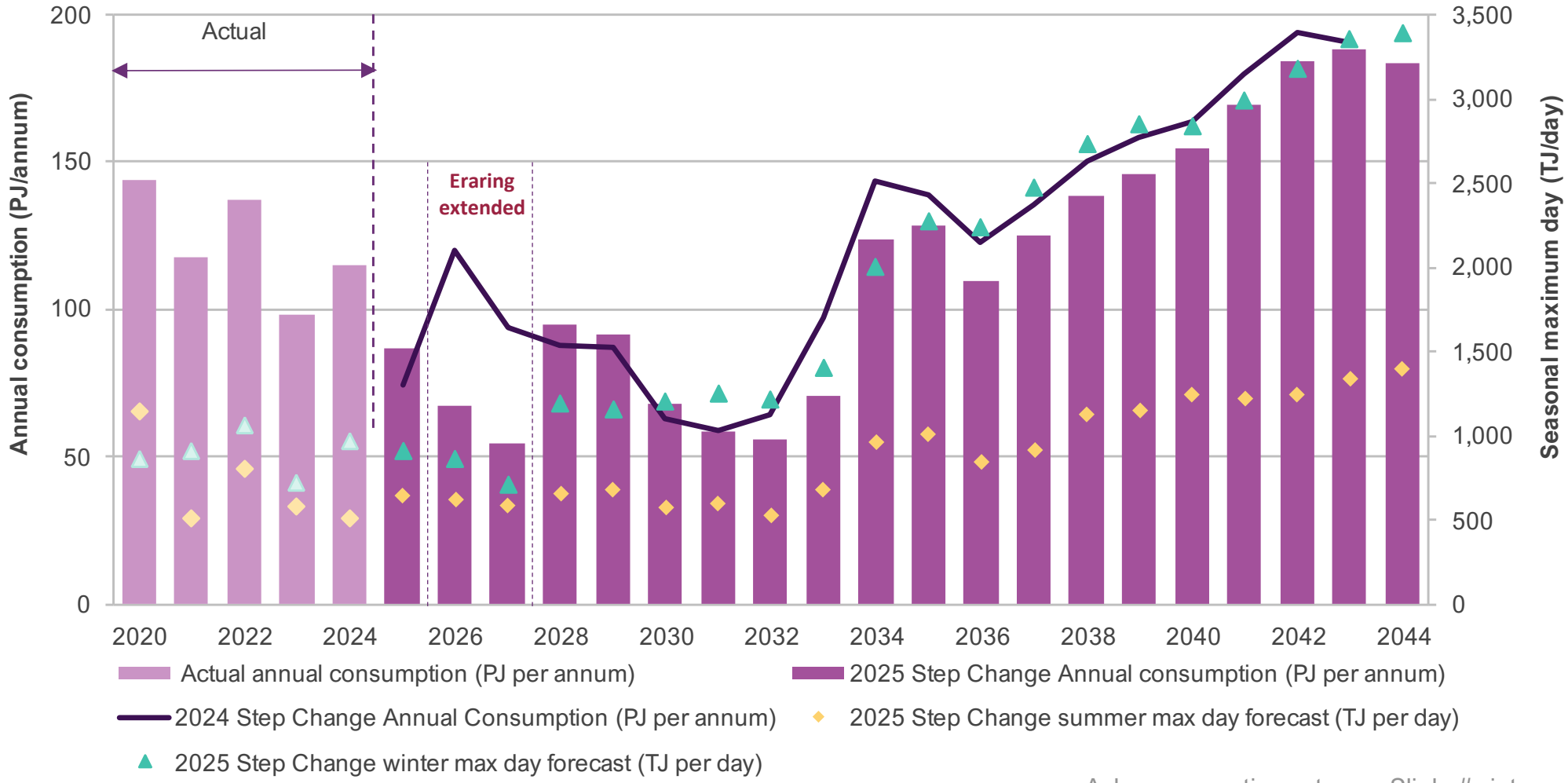


Domestic gas consumption forecast

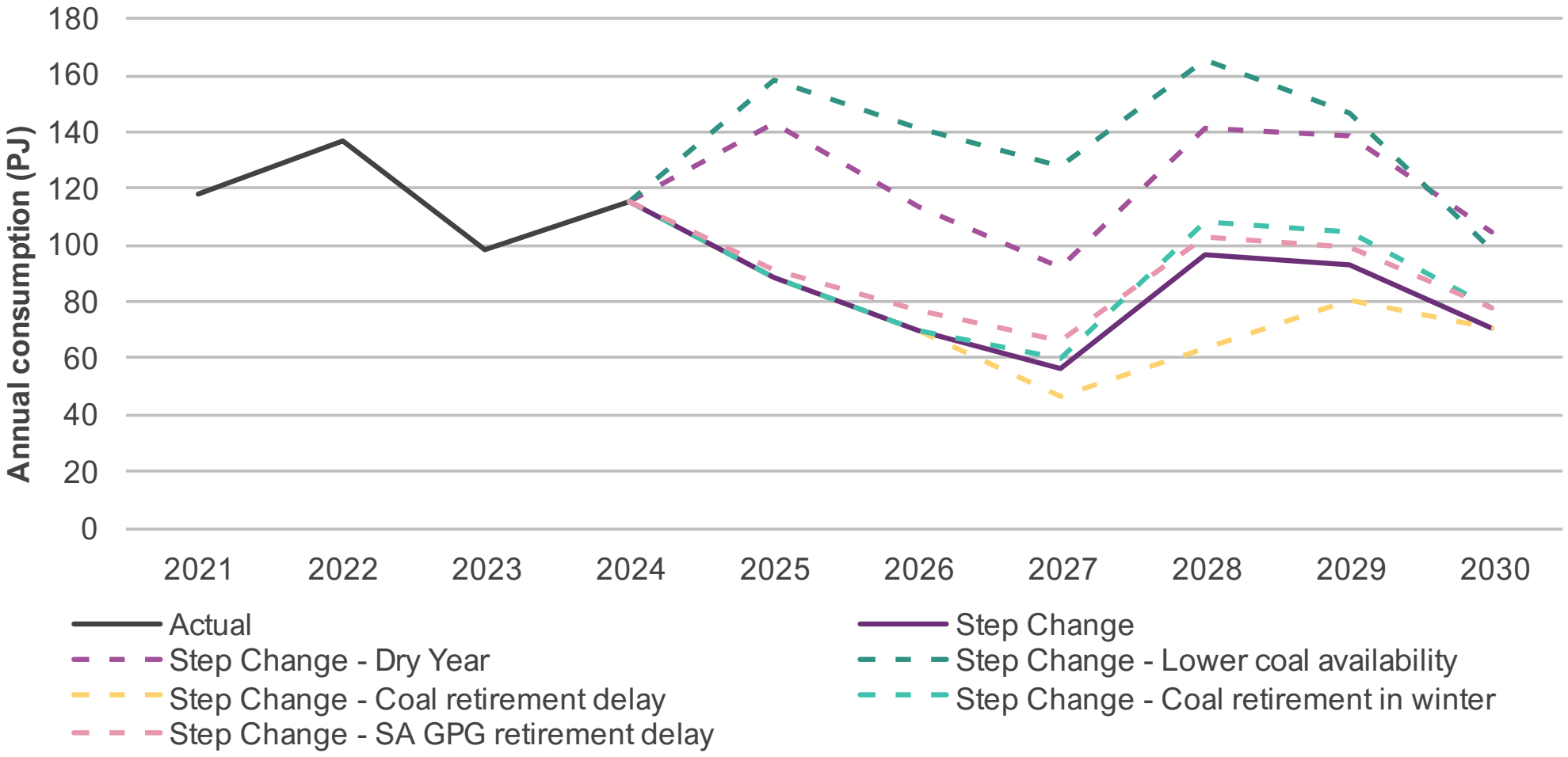
- Key drivers of the gas consumption forecast:
  - Economic conditions including population and economic growth
  - Industrial activity
  - Electrification of heating load
  - Gas price



Extended coal availability temporarily relieves gas powered generation (GPG) needs, but volatility forecast to increase



GPG may vary due to unexpected events

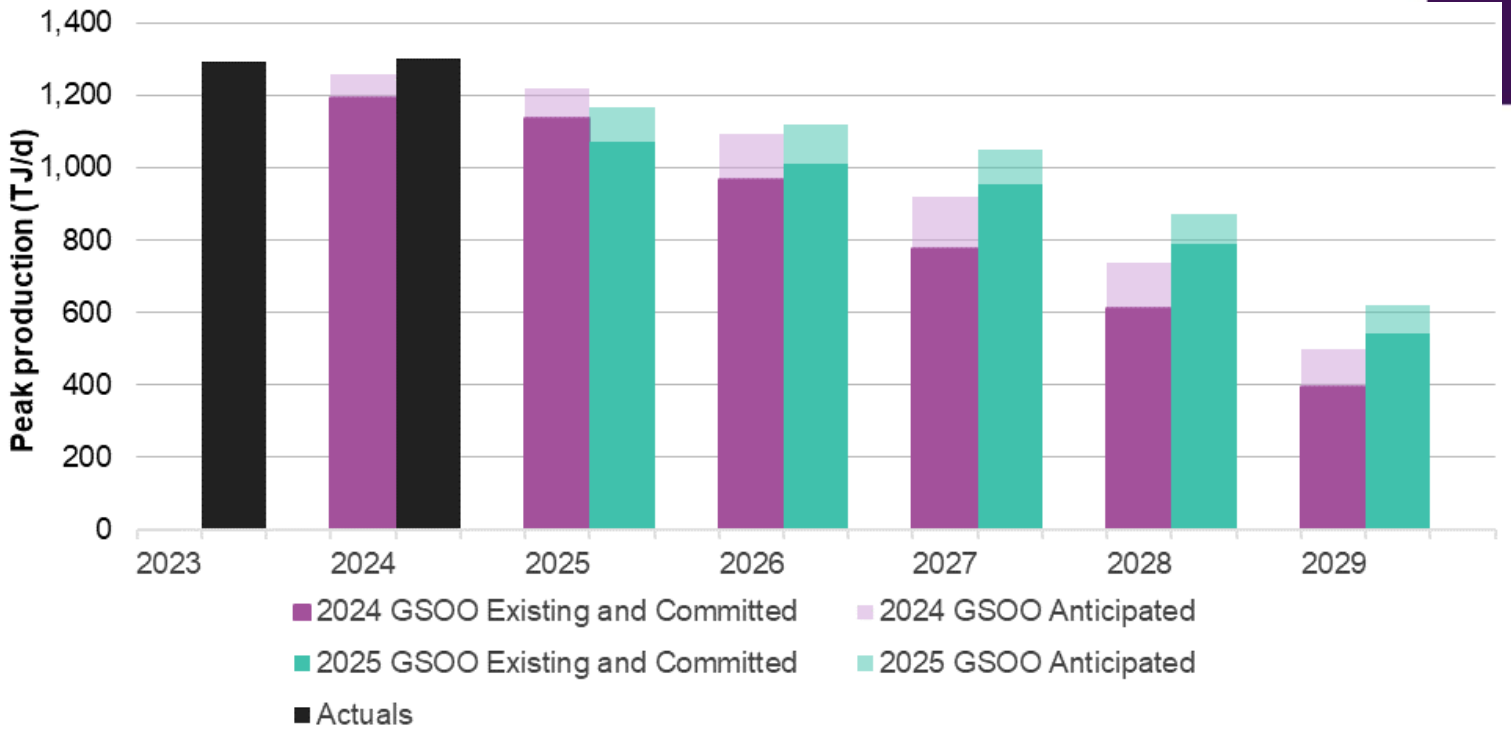


Gas supply outlook

Informed by gas producers of the East Coast Gas Market

Reprofiling of gas production improves short-term supply, but southern production still in clear decline

- Field production reprofiling and projects progressing to Committed status is increasing the maximum daily gas production capacity from 2026, relative to the 2024 GSOO.
- Existing, committed and anticipated production capacity is forecast to be approximately half the historical capacity by 2029, with reduced redundancy as plant capacity reduces.



Longford production decline and plant decommissioning

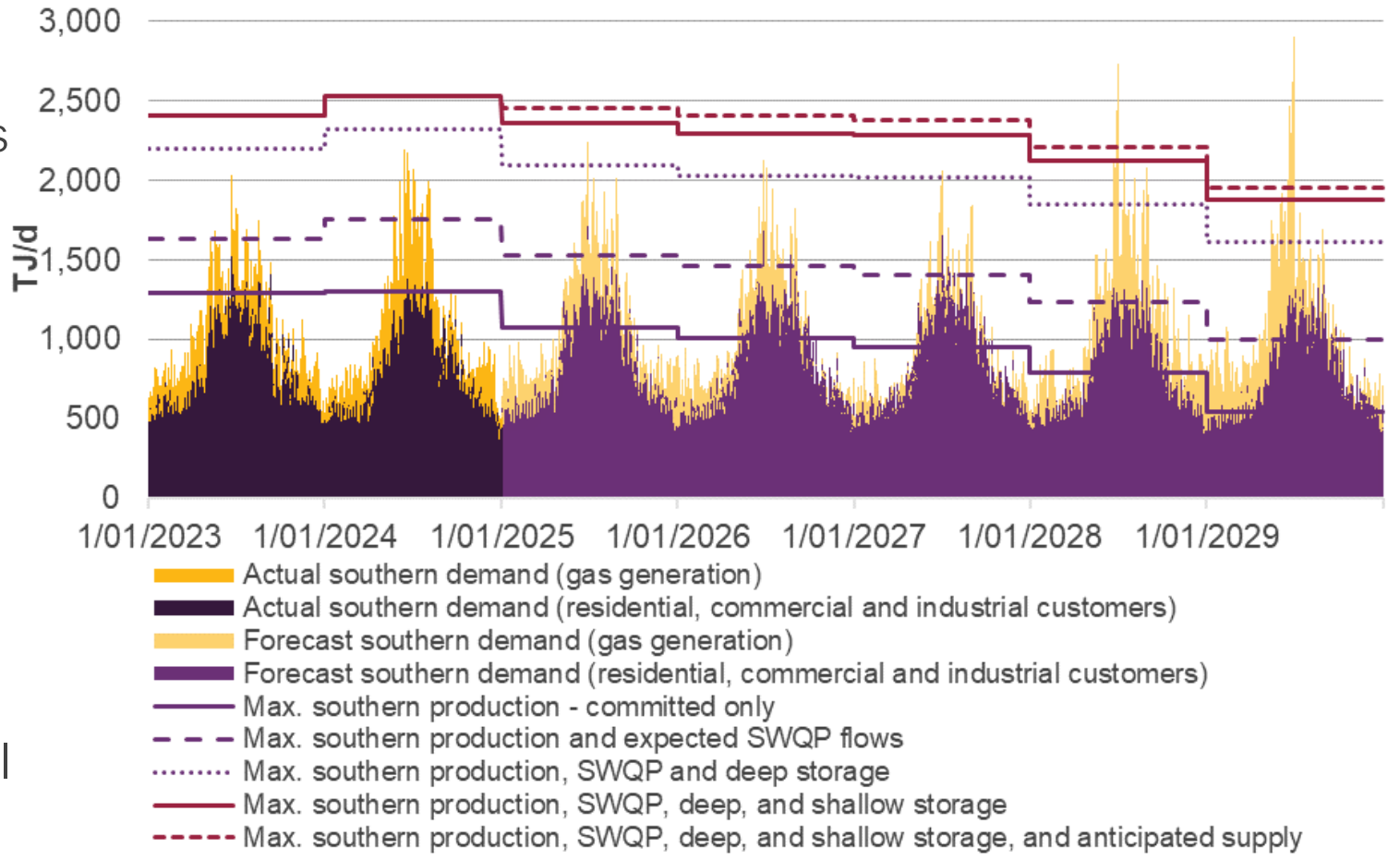
- Longford Gas Plant used to supply two-thirds of eastern Australia's domestic gas consumption.
- Production capacity for winter 2025 and 2026 is lower than the forecast in the 2024 reports, with more capacity available in 2027 and 2028.

Gas supply adequacy assessment

Identifying peak day gas shortfall risks, as well as emerging supply gaps across the 20-year GSOO horizon

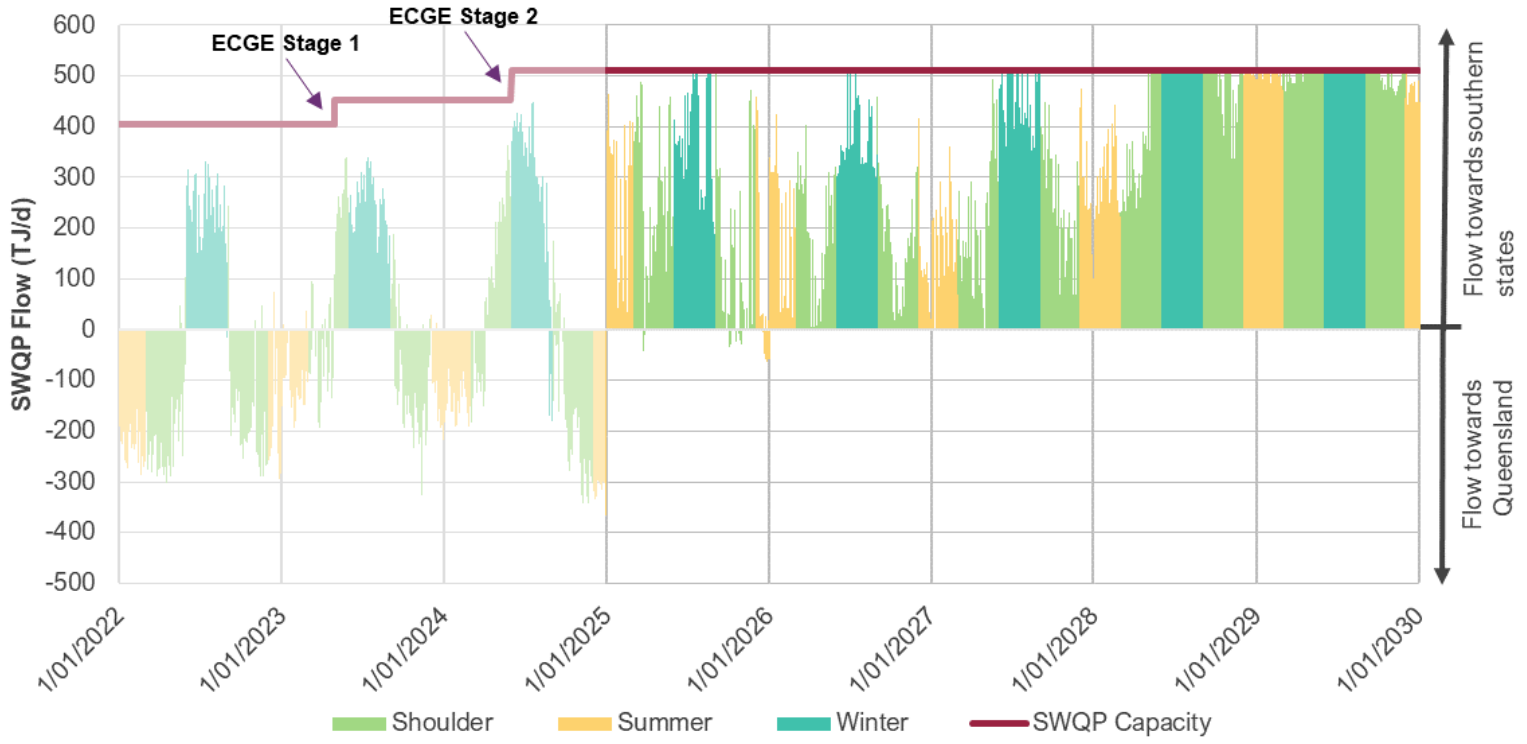
Risks exist for peak day shortfalls from 2028, and supply gaps emerge in 2028 and 2029

- The risk of peak day shortfalls from 2025 reported in the 2024 GSOO has eased in this year's forecast due to:
  - Lower gas consumption forecasts,
  - Temporary reduction in GPG with the extension of Eraring Power Station,
  - New southern supply developments.
- Peak day shortfall risks are forecast from 2028.
- Anticipated supply will reduce the magnitude of peak day shortfalls but not delay the risks.
- Deep and shallow storages are critical to meet peak gas needs.

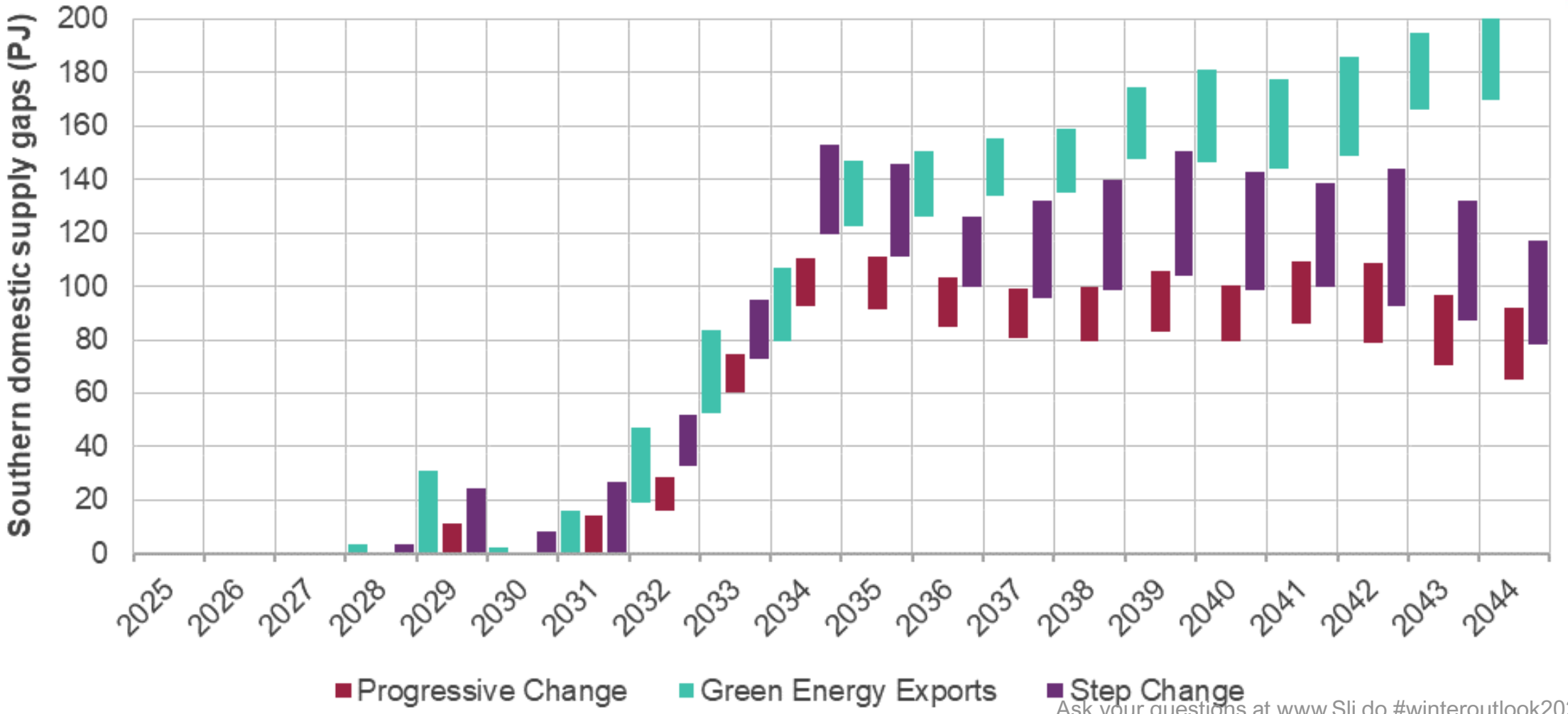


Forecast reliance on northern gas to meet southern demand

- There is continuing reliance on northern gas transported to southern states via the South West Queensland Pipeline (SWQP).
- The SWQP is forecast to increasingly reach capacity from 2025. This limits the amount of northern gas that can be used to supply the south.



A structural need for new supply is forecast from 2029



Potential options to address challenges

This extended physical assessment of ECGM gas adequacy does not consider factors such as costs, price impacts, regulatory approvals and other relevant factors for each option.

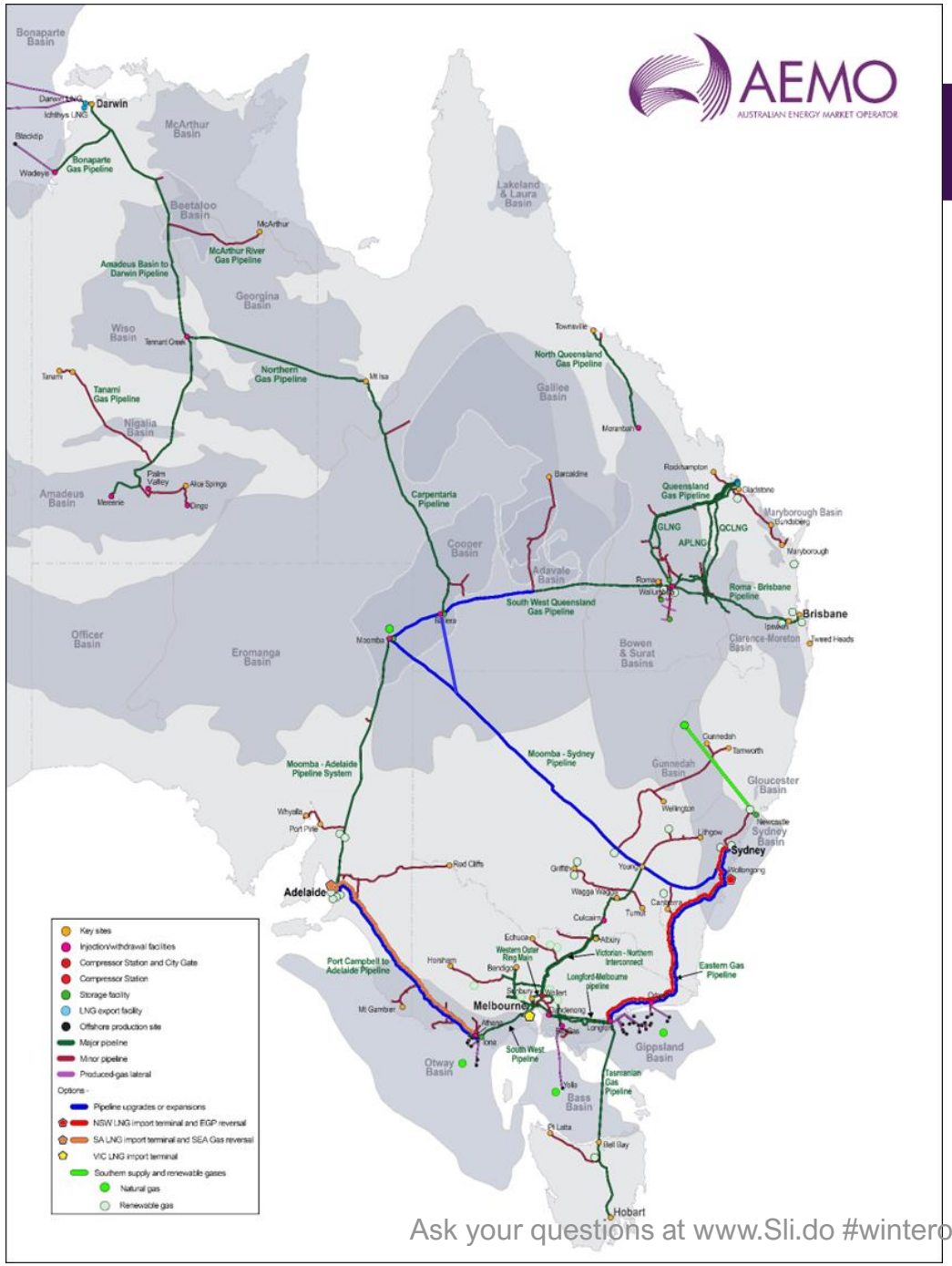
Several options exist to address supply gaps in the southern states

Options considered:

- Developing uncertain southern supplies
- Pipeline expansions and upgrades
- An LNG regasification terminal

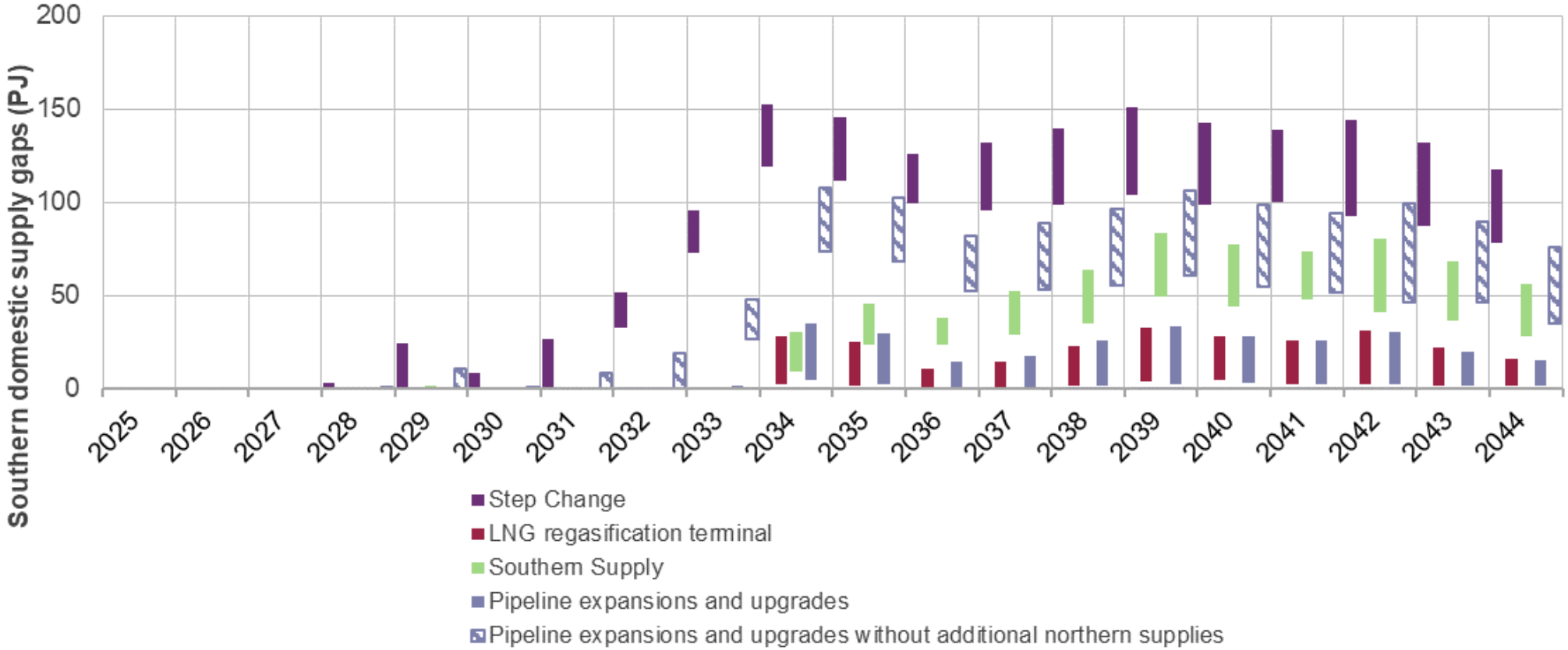
All options delay southern annual supply gaps until 2033 or 2034.

Beyond this time, a combination of storage and more field development will be required to ensure supply adequacy.

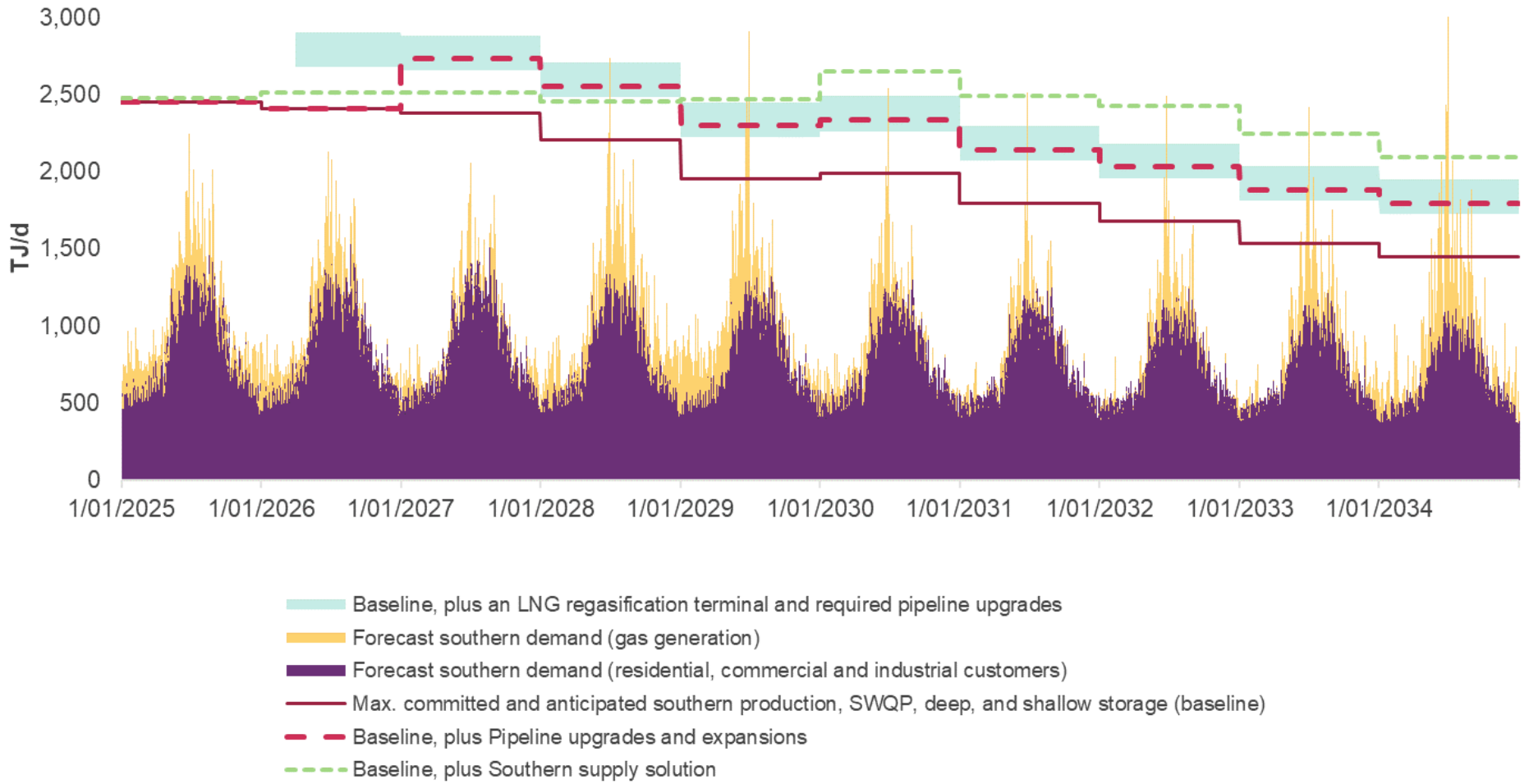


All options can delay shortfall risks and supply gaps to 2033 or 2034

- Pricing impacts of each solution are not considered
- A combination of infrastructure options is likely required to meet long-term requirements



Southern daily adequacy improves under all options



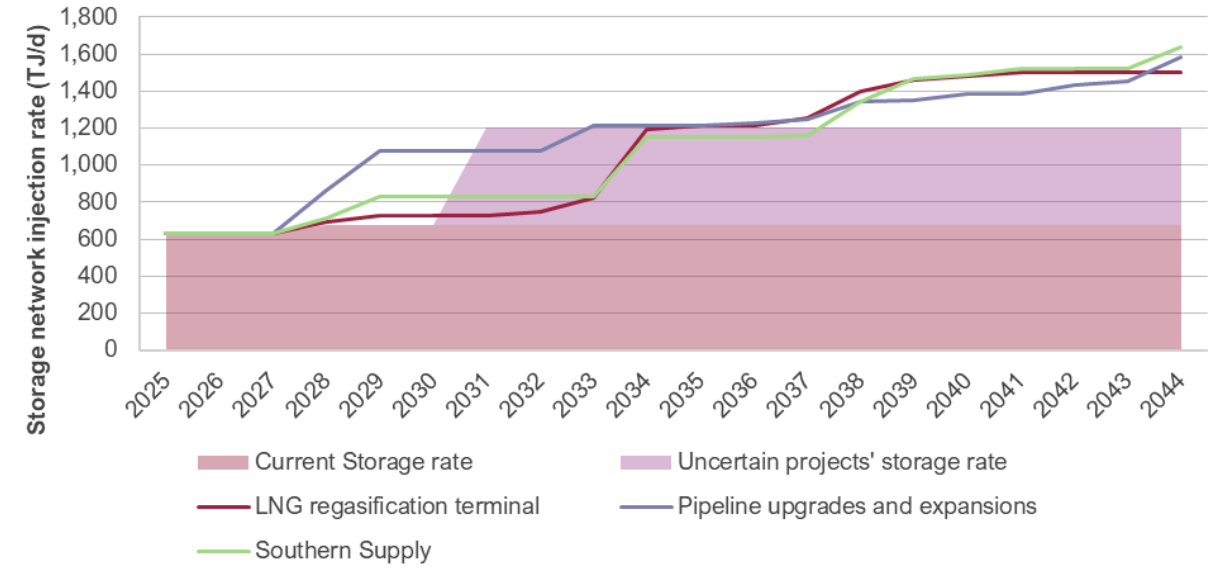
New storage and new northern supply is required in all options

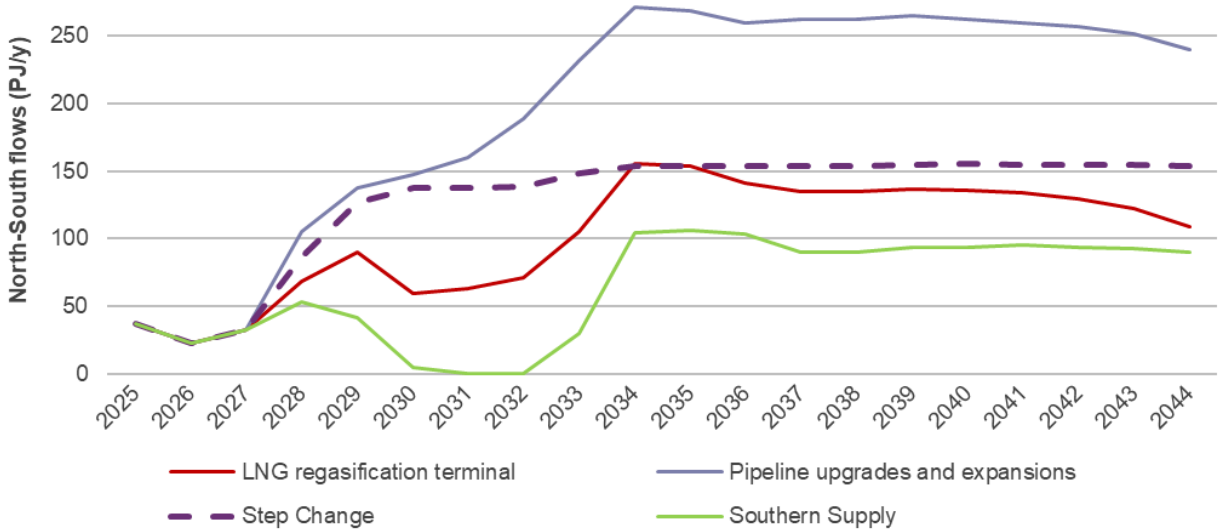
Storage

- Towards the end of the 2030s, all options will require 500-550 TJ/d of additional injection capacity from southern storages.

Northern supply

- All options require significant new northern supply to support forecast LNG exports and domestic northern demand.
- An additional opportunity for development of even greater northern supply exists to support southern states.





Gas integration into the ISP

An outcome of the ISP review

Review of the Integrated System Plan

- In April 2024, Australia's Energy Ministers responded to the Federal Government's review of the ISP with actions including:

AEMO should expand its consideration of gas market conditions in the 2026 ISP

- In December 2024, the AEMC published the final determination and rules that supported better integration of gas into the ISP:
  - Changes to the NER require AEMO to include gas development projections in the ISP
  - Changes to the NGR allow AEMO to use gas information for the ISP function

Purpose of gas integration into the ISP is to inform electricity ODP

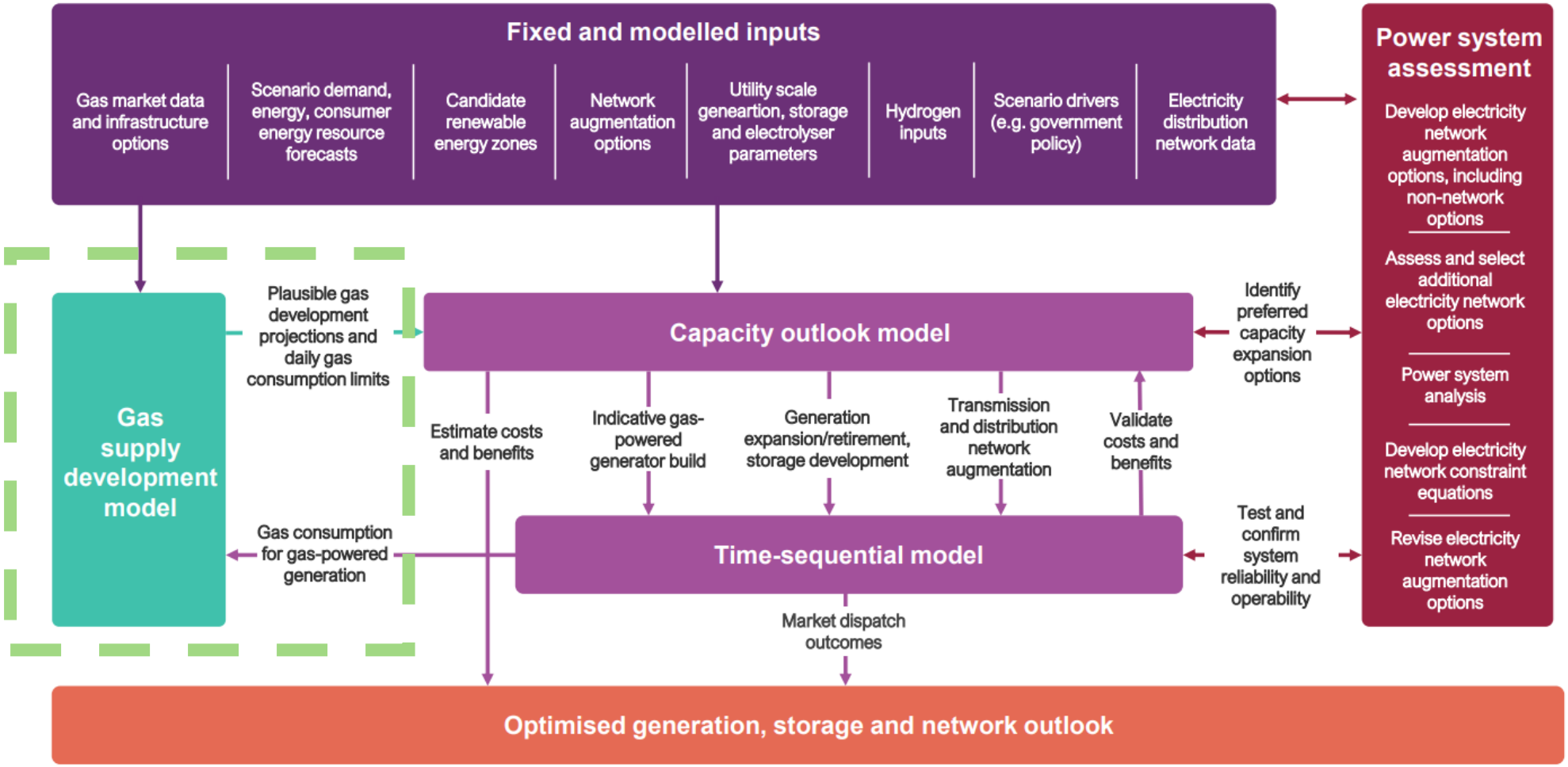
What **is** the purpose of integration into the ISP:

- Improve information and analysis on gas pricing, capacity and availability in the ISP
- Strengthen planning for GPG
- Support ISP modelling for the sole purpose of optimising electricity investments
- Improve transparency and consistency of gas information across AEMO's publications

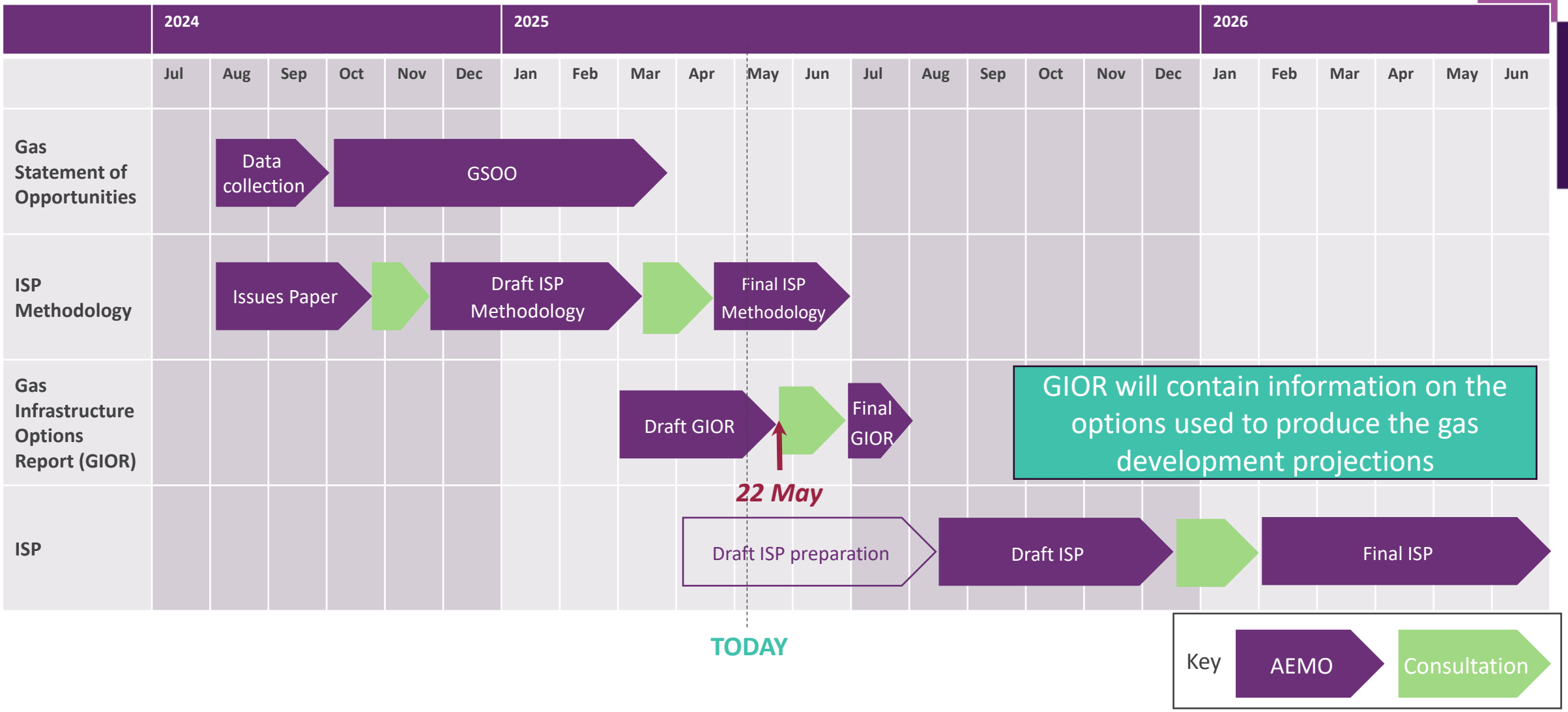
What is **not** the purpose of gas integration into the ISP

- Co-optimisation of electricity and gas planning
- Development of a gas Optimal Development Path
- Determination or signalling which gas developments should be invested in

Gas supply development model identifies gas limitations and gas development projections



Engaging with the Draft Gas Infrastructure Options Report (GIOR) and the 2026 ISP



Victorian Gas Planning Report 2025

Report Key Findings

Luke Garland

Agenda

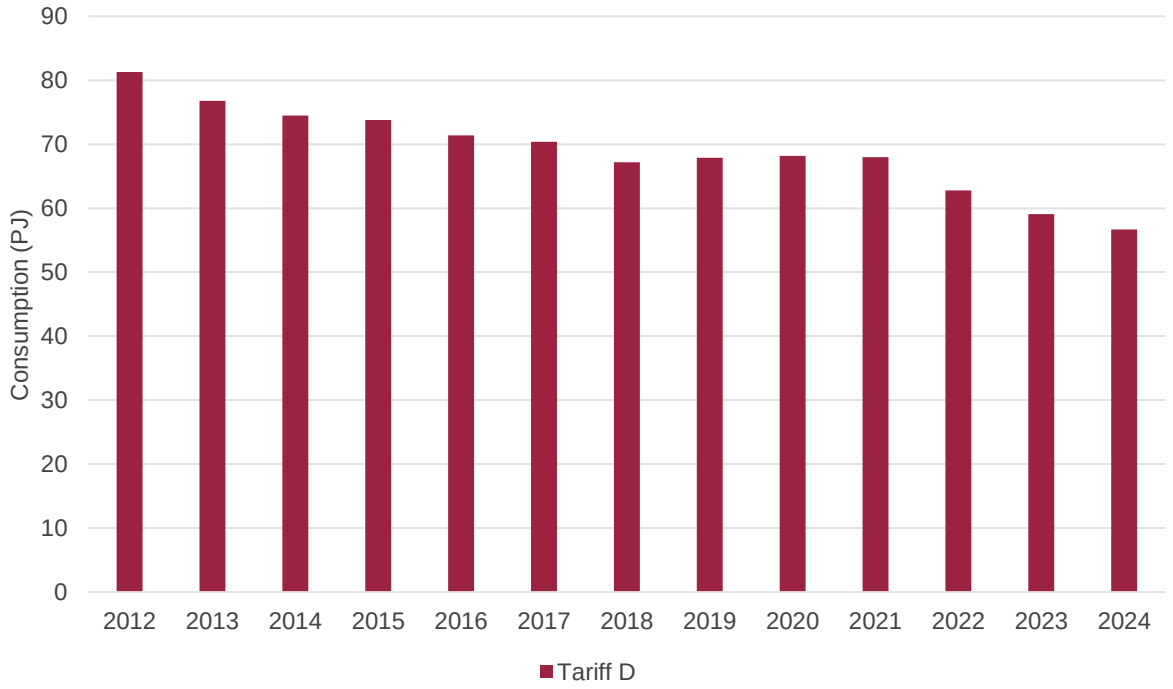
1. Actual Victorian Energy Usage
2. Victorian Demand & Supply Forecasts
3. DTS/VTS Network Interactions
4. Proposed projects and impact on the DTS/VTS
   - LMP / Gippsland
   - VNI / Northern
   - SWP / Western

Actual Victorian Demand

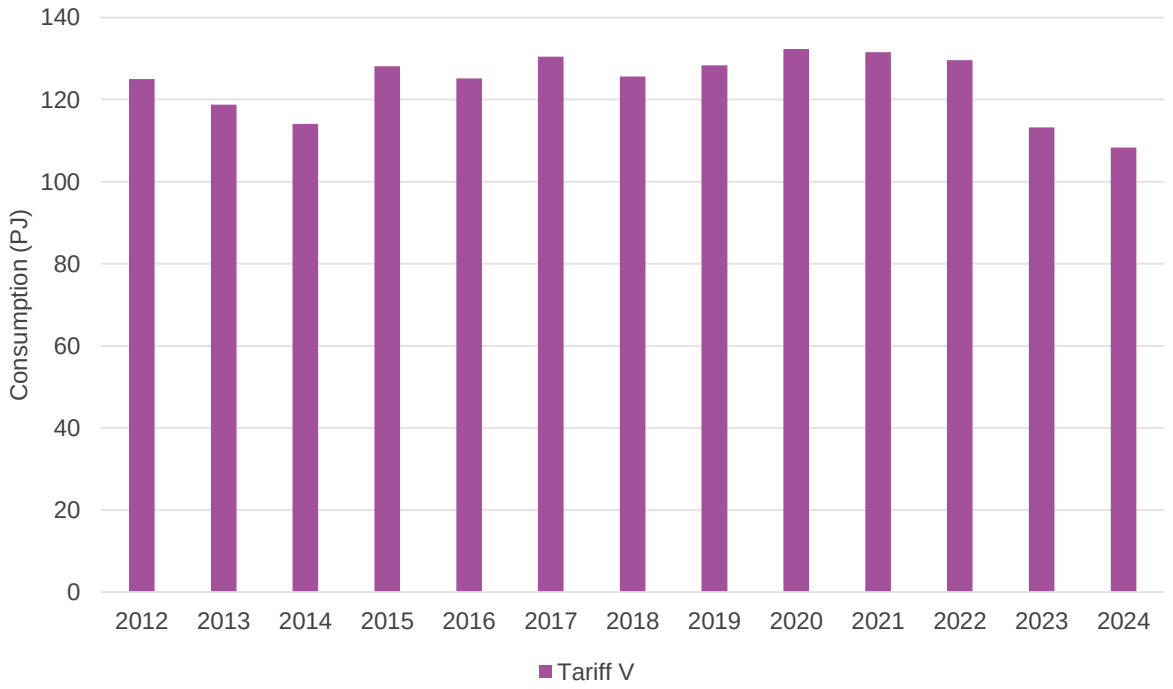
Historical Victorian Gas Demand

- Tariff D has been in constant decline since the 2009 GFC with a brief pause during COVID years
- Historical demand show a trend of Tariff V volatility dependent on weather, the drop in 2023 was due to warm winter however 2024 was cooler than 2023 and saw a further decrease.

Annual Tariff D consumption

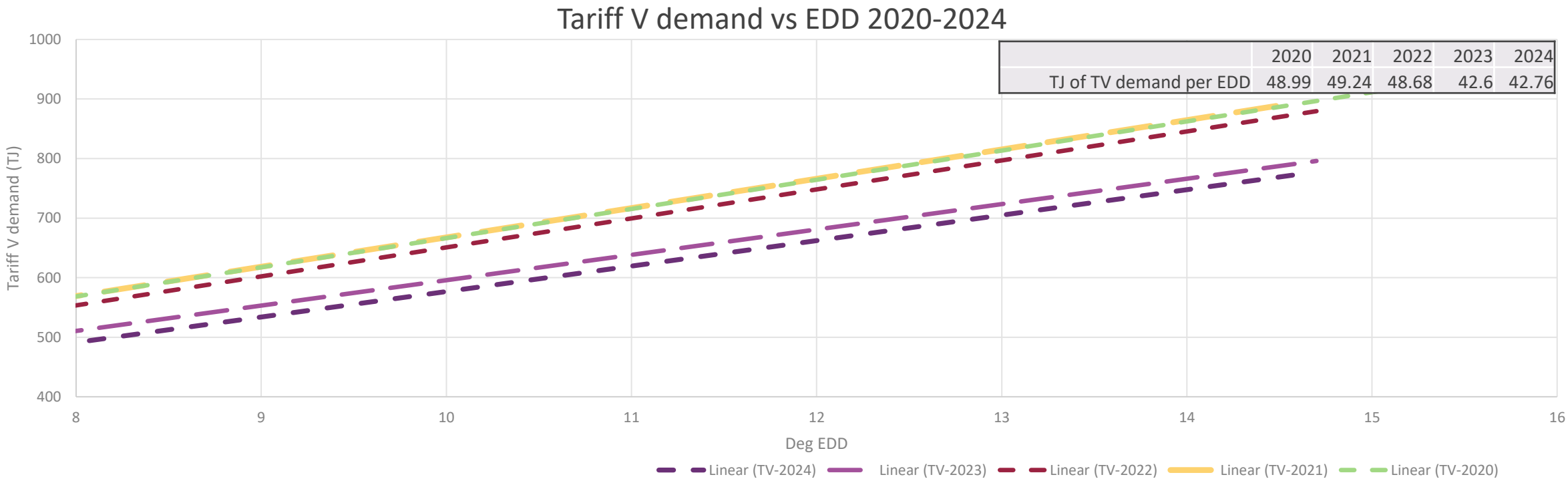


Annual Tariff V consumption



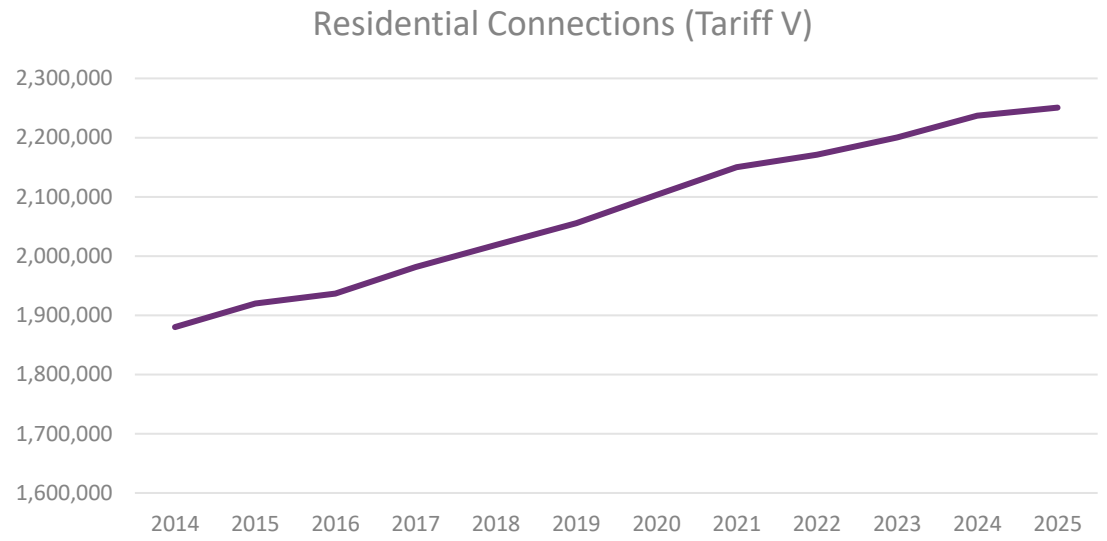
Historical Victorian Gas Demand

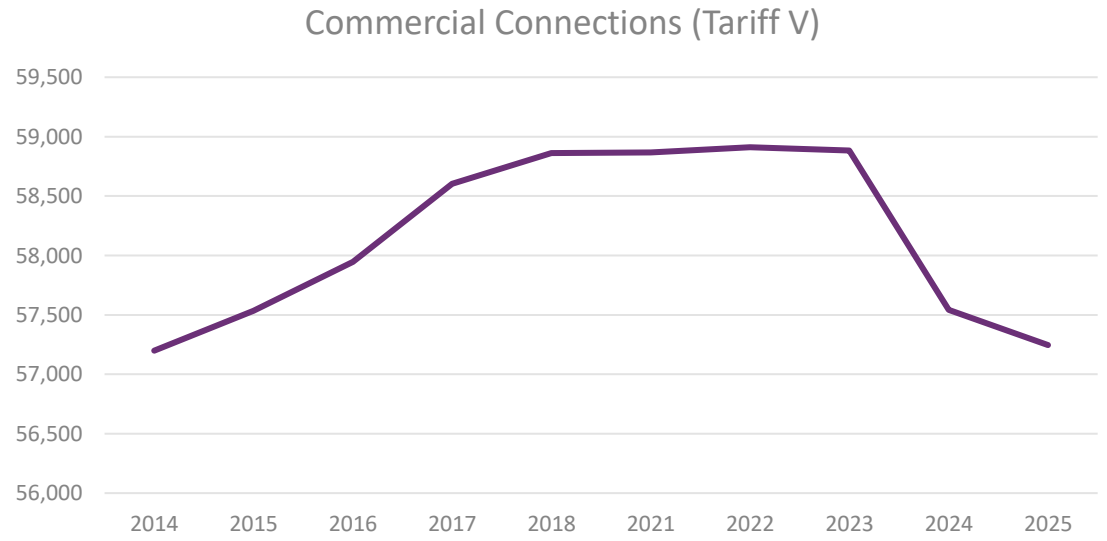
- Tariff V demand before 2023 was relatively consistent in terms of temperature sensitive system demand vs EDD.



Historical Victorian Gas Demand

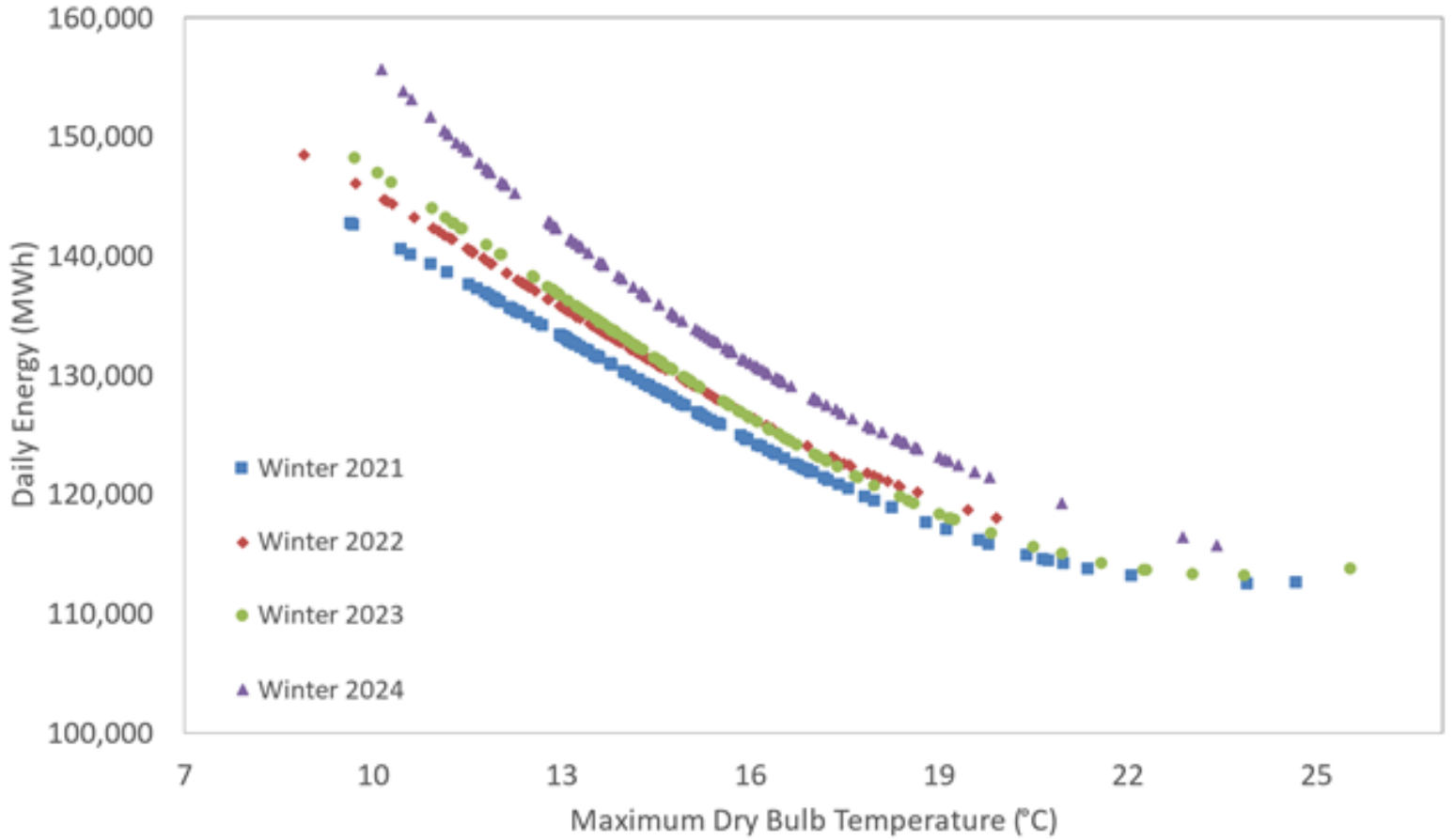
- New residential gas connection growth significantly slowed from 2024 to 2025 due to connection ban for new residential connections that did not already have planning approvals
- Significant decline in commercial customer connections from 2023 to 2025





Victorian Electricity Usage

- NEM forecasting report indicates that there has been an increase in winter daily temperature sensitive electricity usage over the last 4 winters
- This is likely from an uptake in electric vehicles but 2024 has a larger step change

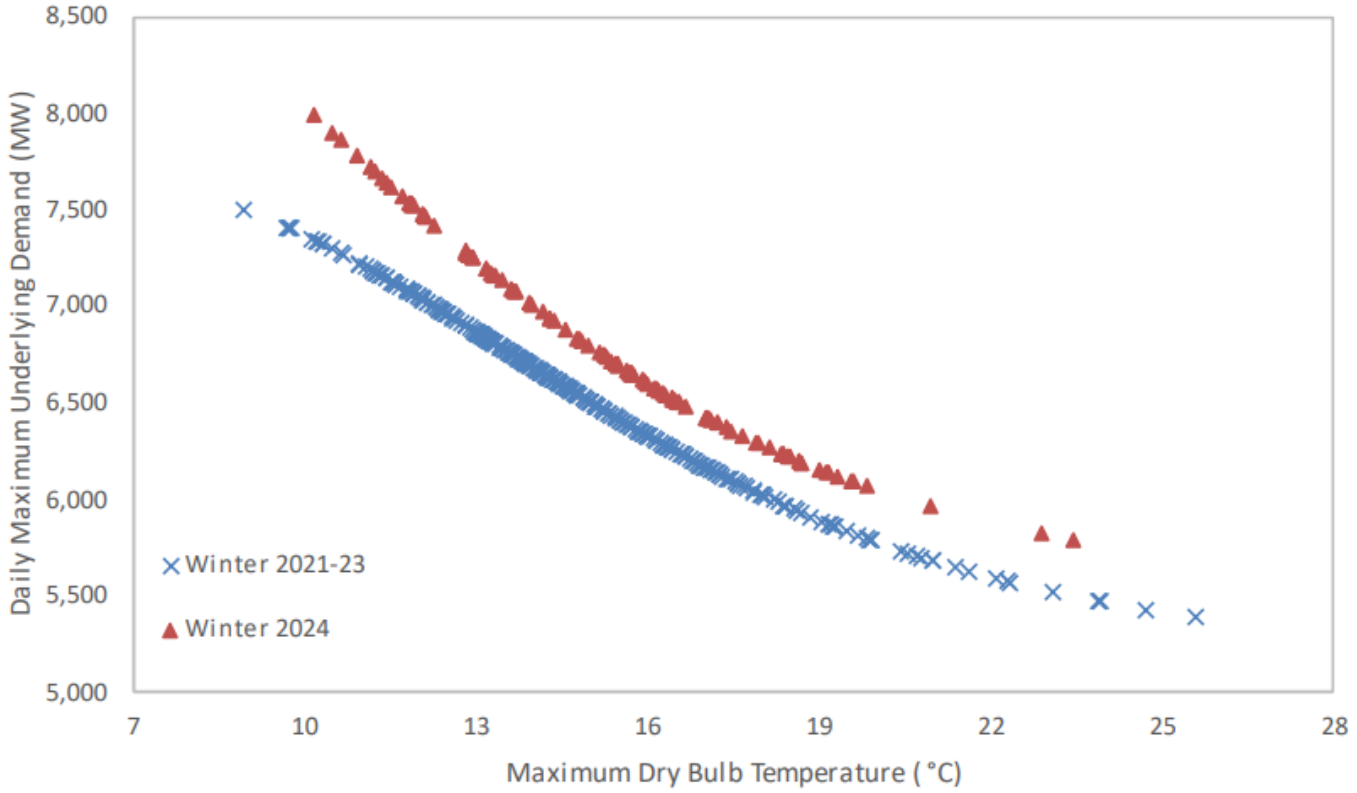


- temperature-forecast-analysis-for-winter-2024.pdf
- 2024-forecast-accuracy-report.pdf

Victorian Electricity Usage

- Some of the ~92 TJ reduction of tariff V gas demand appears to have resulted in an increase in peak electricity demand of 700 MW in 2024
- 2024-ESOO POE10 for Victoria was 7,982 MW while maximum reached 8,237 MW*

Figure 3 Winter weekday maximum daily underlying operational demand against maximum daily dry bulb temperature for Victoria, 2024 compared to 2021-23

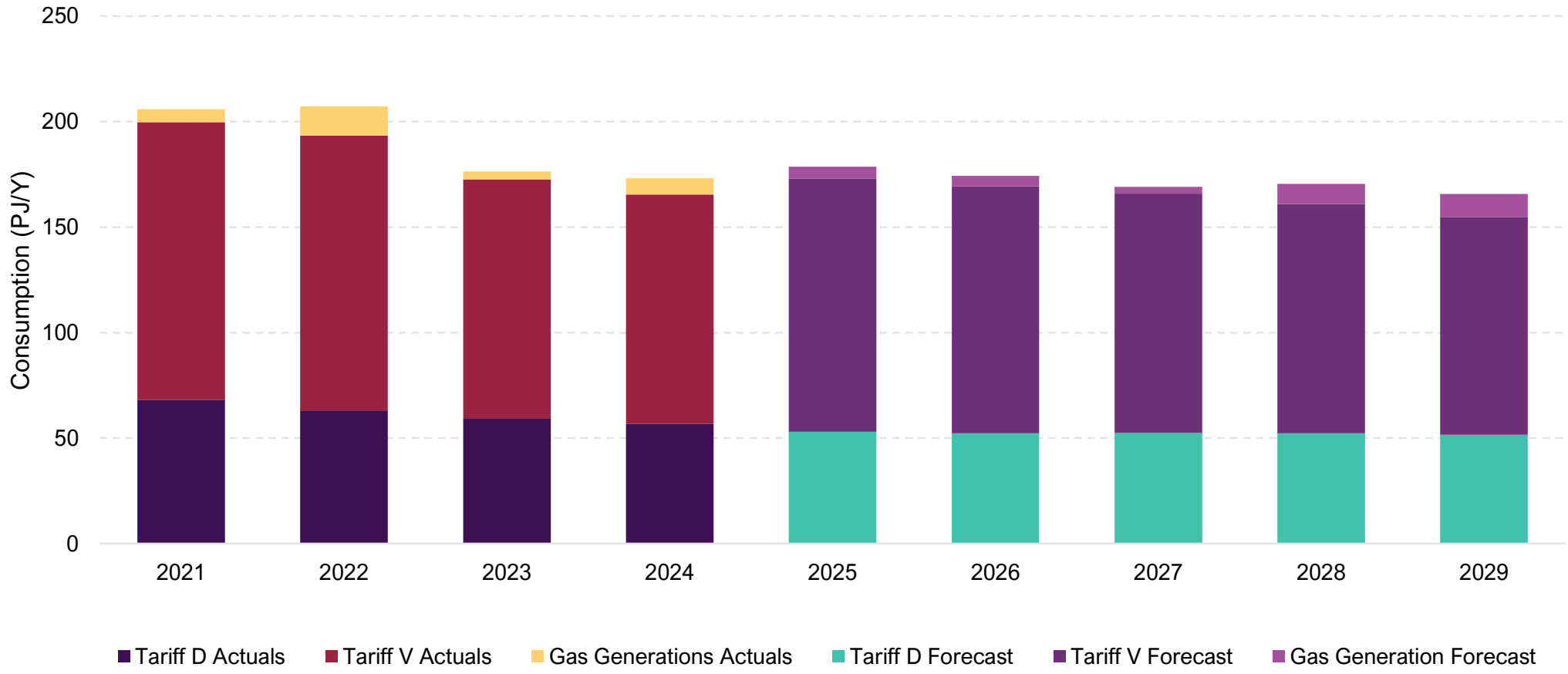


*The as generated supply was 8,612 MW with the difference being predominantly line losses and auxiliary.

Demand & Supply Forecasts

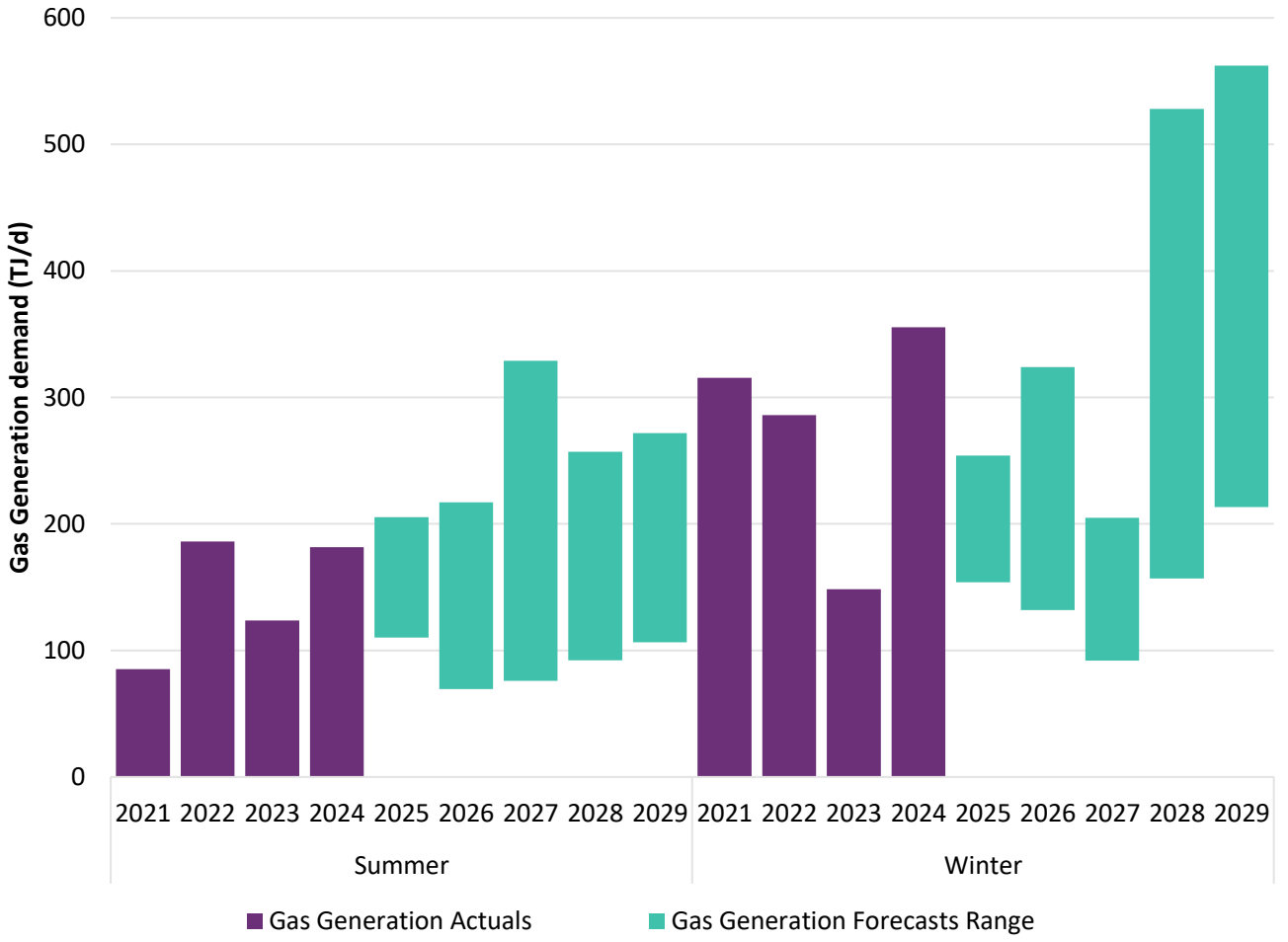
Forecast Victorian Gas Consumption

- Actual and forecast total annual gas consumption (2021 to 2029)



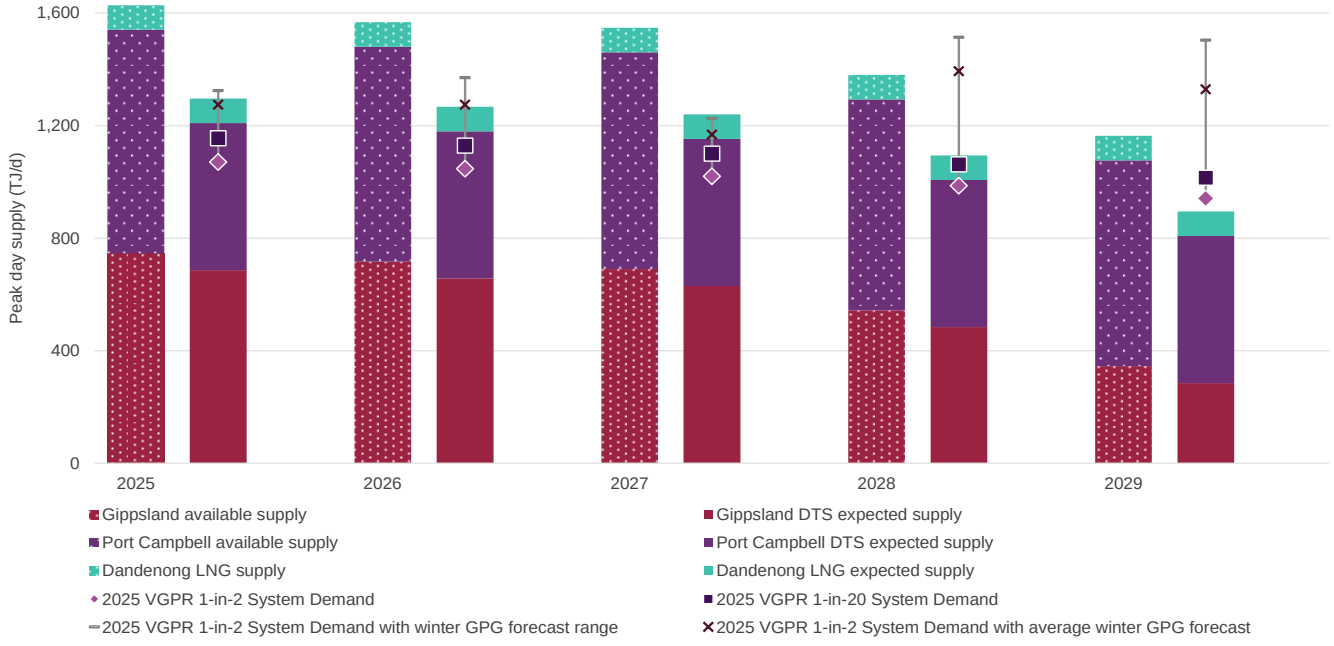
Forecast Victorian GPG demand

- Victorian winter peak day GPG has been slowly increasing over the last decade (except for 2023)
- Victoria set a new winter record for daily gas-fired generation demand on 13 June 2024 of 356 TJ
- Forecast to stay flat with risks of high peaks for next 3 years before significantly increasing after next coal units close and with increasing electrification.



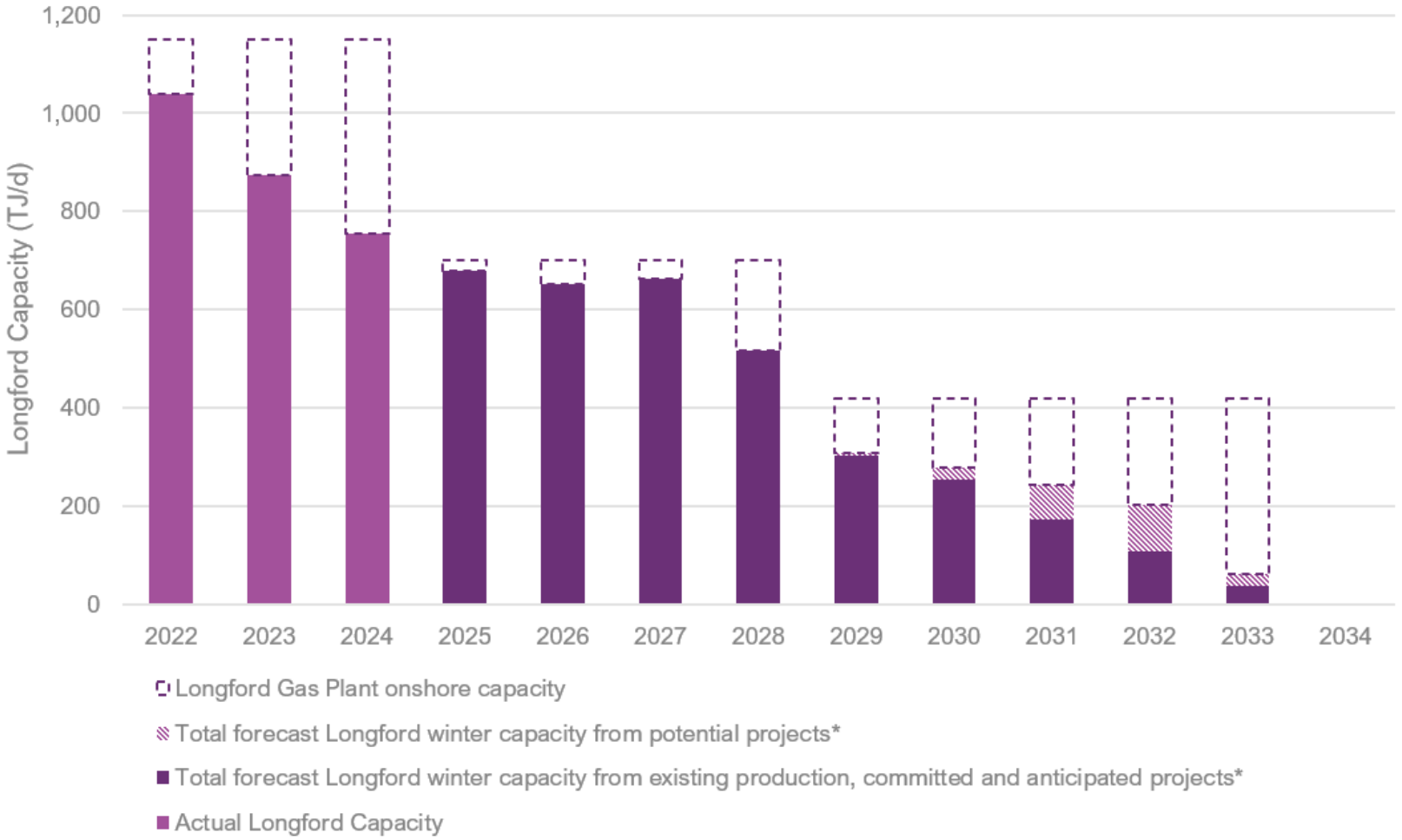
Supply Outlook

- Flattening production to occur over the next 5 years with less winter peaking production year by year increasing the reliance on storage
- Insufficient gas supply capacity to supply system and GPG on peak days under some conditions starting from winter 2025 and significantly worsening in winter 2028.



Supply Outlook

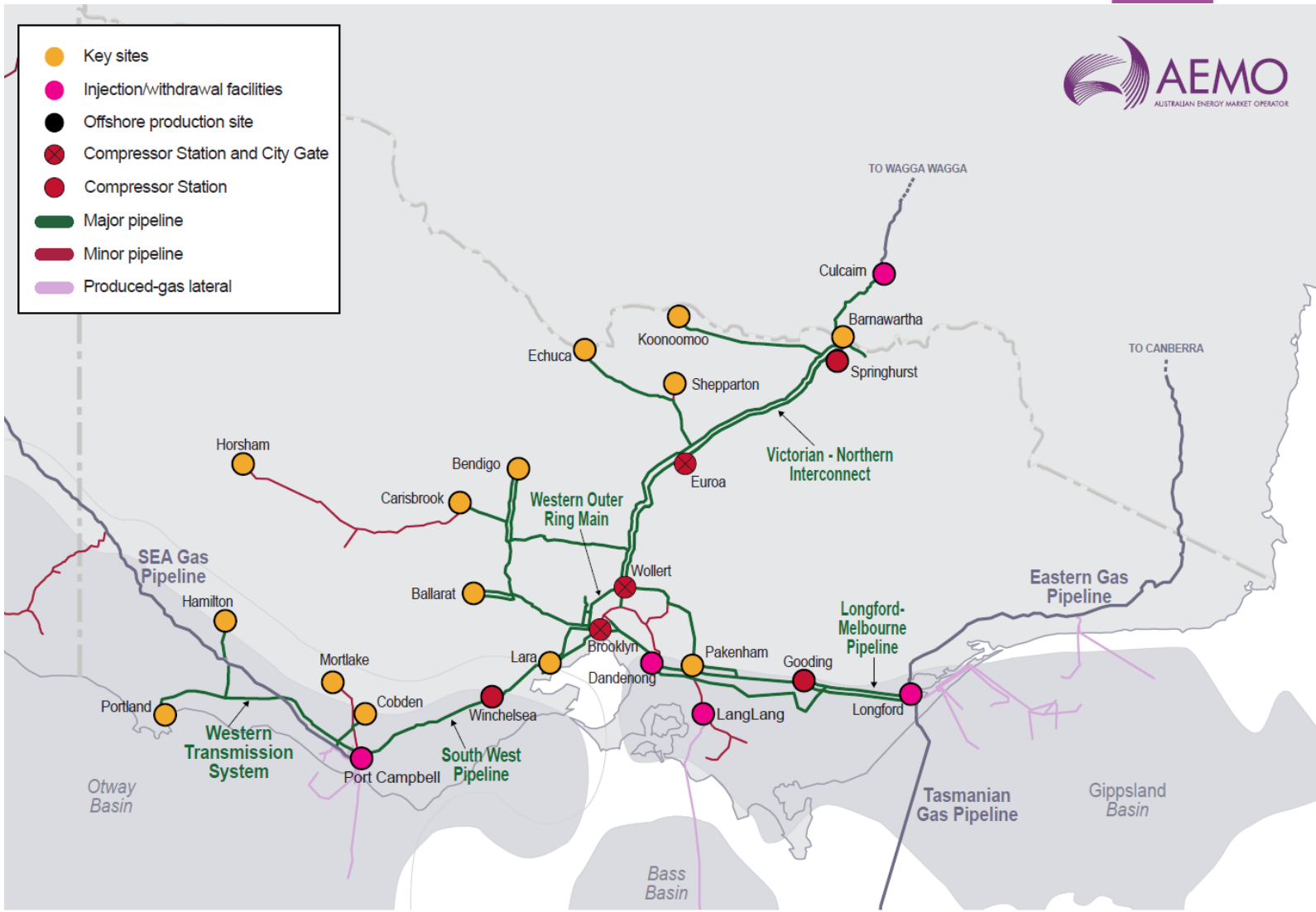
- Longford plant capacity forecasts have changed since 2024 VGPR with the next gas plant closure delayed by 1 year which improves the 2028 forecasts.
- Some production from earlier years moved into later years and additional committed production from Turrum phase 3.
- Discussion on the decline from GBJV legacy fields first appeared in the 2017 VGPR.



DTS/VTS Network Interactions

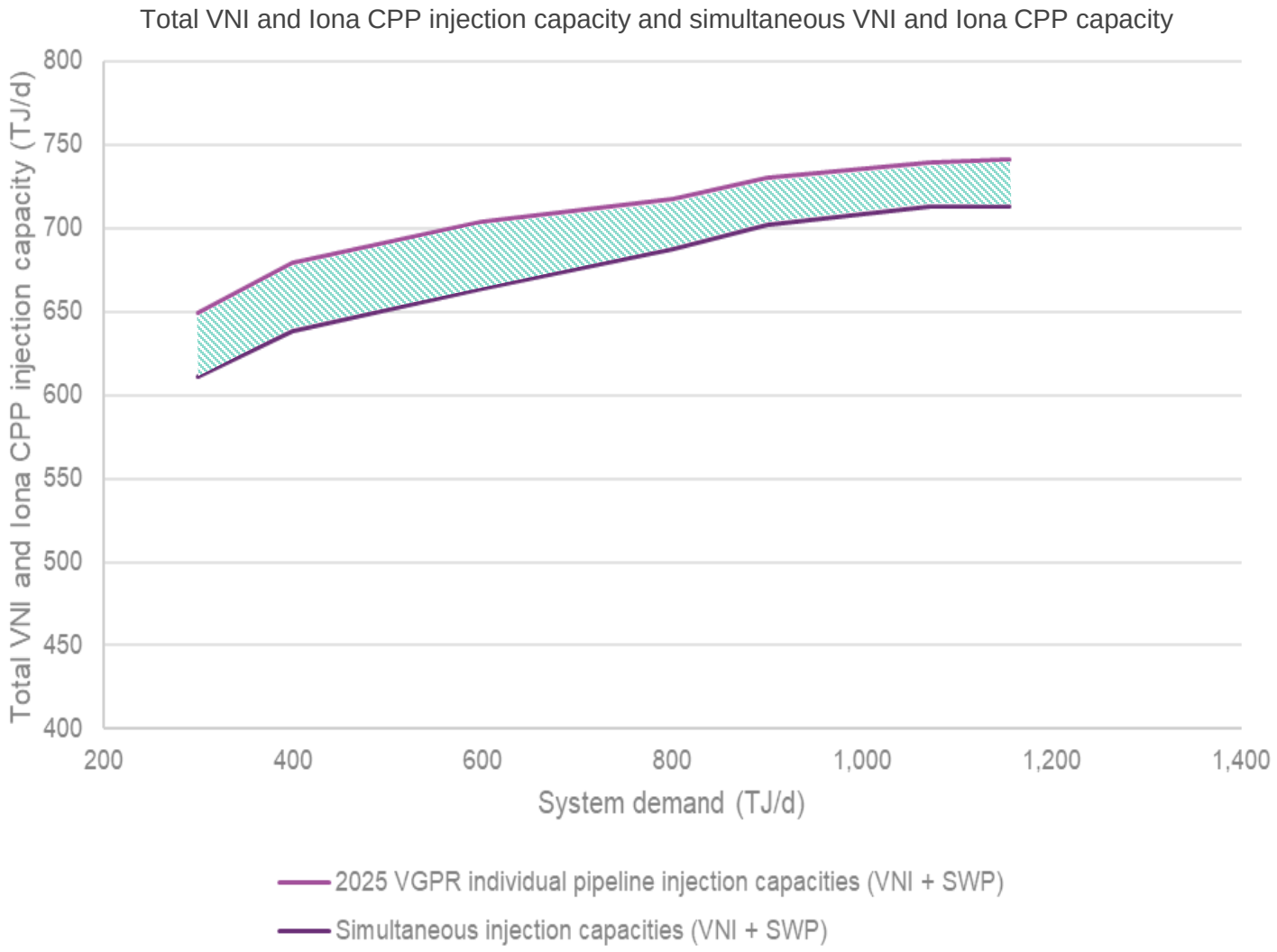
Network interactions

- The DTS/VTS has organically grown over 70 years to supply Melbourne with predominantly Longford gas
- The network's 3 major pipelines all can interact with each other to a degree such that the max capacity of each pipeline is not simultaneously achievable.
- Melbourne is somewhat segregated into 3 separate distribution networks
- Wollert is one of the key locations where interactions occur



Network interactions

- Two interactions can occur at Wollert limiting
  - simultaneous withdrawals from VNI and SWP, or
  - simultaneous injections from VNI and SWP
- Withdrawal restriction unlikely to occur outside of significant maintenance periods at Wollert CS
- Injection limitation could occur particularly in the future during very low LMP injections



Proposed projects and impact on the DTS/VTS

Proposed projects and impact on the DTS

- While there are no anticipated projects within the outlook period, there are many potential projects which could increase supply.
- Distributed supplies
  - Victorian Government renewable gas target proposed for 4.5 PJ/y by 2035
  - During VGPR data collection AEMO received data on potential projects of up to 7.3 PJ/y by 2030 and 12.3 PJ/y by 2035
- LMP / Gippsland
  - Golden Beach, Longtom, Manta, Trefoil, White Ibis, Wombat, and PKET
- VNI
  - New gas from Beetaloo or Taroom Trough via APA's ECGG expansion stages
- SWP
  - Increased Port Campbell supply capacity via; Iona UGS expansions, Venice via a SEAGas bi-directional augmentation project, or additional Otway production
  - Geelong region LNG import terminals proposals from Viva and Vopak

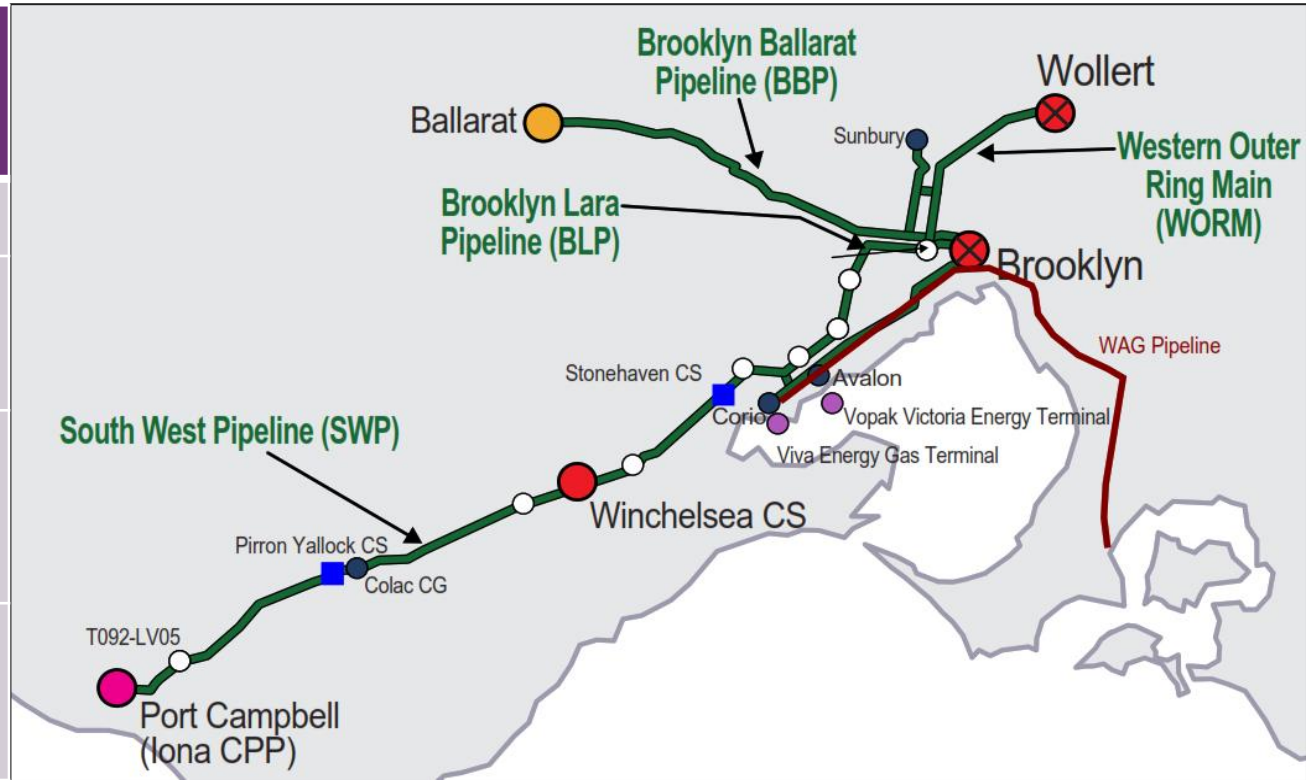
Proposed projects and impact on the DTS (VNI)

- Currently there is not enough northern forecast production to meet forecast exports and additional southern domestic demand
- New supplies from the north could eventuate with the two most likely prospects being the Beetaloo and the Bowen Basin / Taroom Trough.
- New supply paired with APA's ECGG expansion, could increase supply into the southern markets.
- The existing VNI capacity is sufficient to receive supply of up to 229 TJ/d via Culcairn from the APA ECGG expansions up to Stage 3.
- VNI is a 15 MPa pipeline but currently operating at 10 MPa. The pipeline capacity could increase with compressor station upgrades and new compression near Culcairn and/or Barnawartha to facilitate the higher pressure.

Proposed projects and impact on the DTS (SWP)

- If the additional supply is from Port Campbell

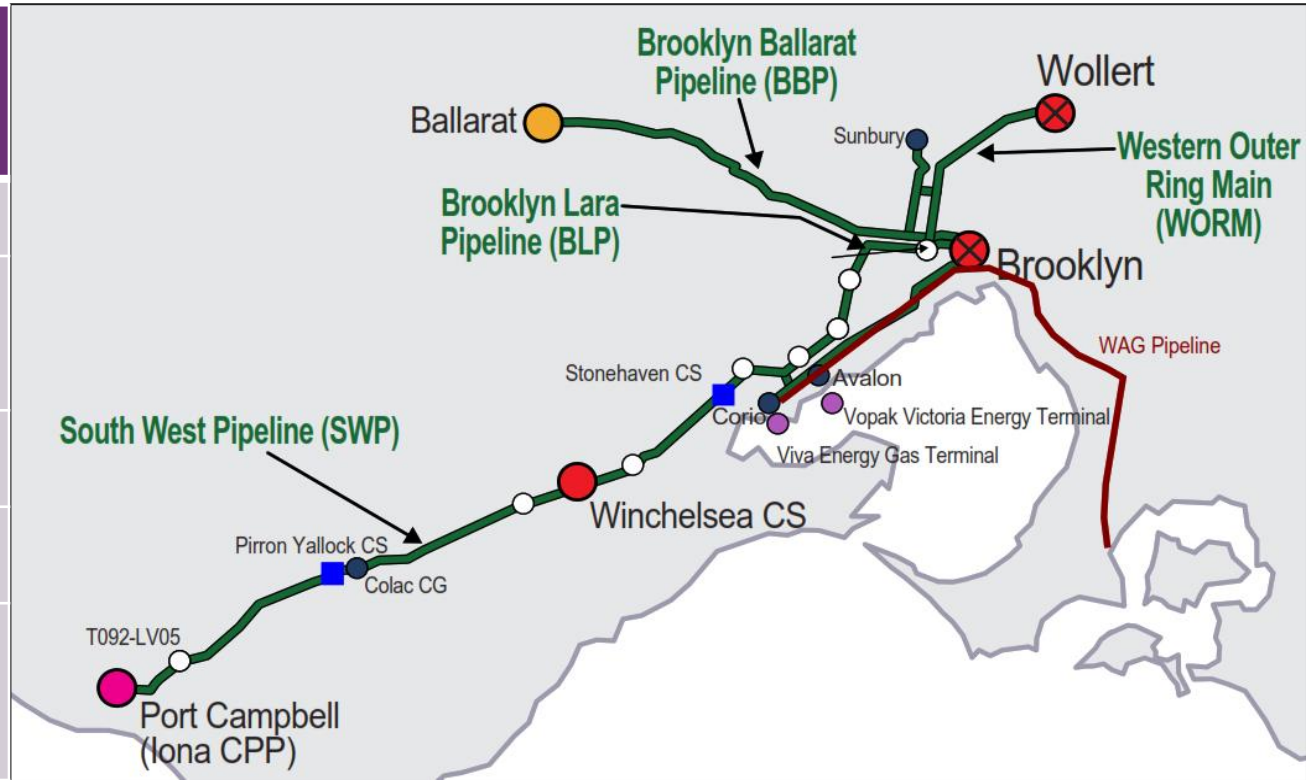
	Augmentation description	SWP capacity (TJ/d)	SWP capacity increase from existing (TJ/d)
Augmentation options identified in 2024 VGPR Update	18 km SWP looping from Colac to Winchelsea	550	20
	108 km SWP looping from Iona UGS to Lara and modifications to Winchelsea Compressor for parallel operation	660	130
	155 km SWP looping from Iona UGS to Rockbank, modifications to Winchelsea Compressor for parallel operation, and a new compressor station near Lara	780	250
APA compression expansion option without pipeline looping	2 new compressor stations at Stonehaven and Pirron Yallock	643	113



Proposed projects and impact on the DTS (SWP)

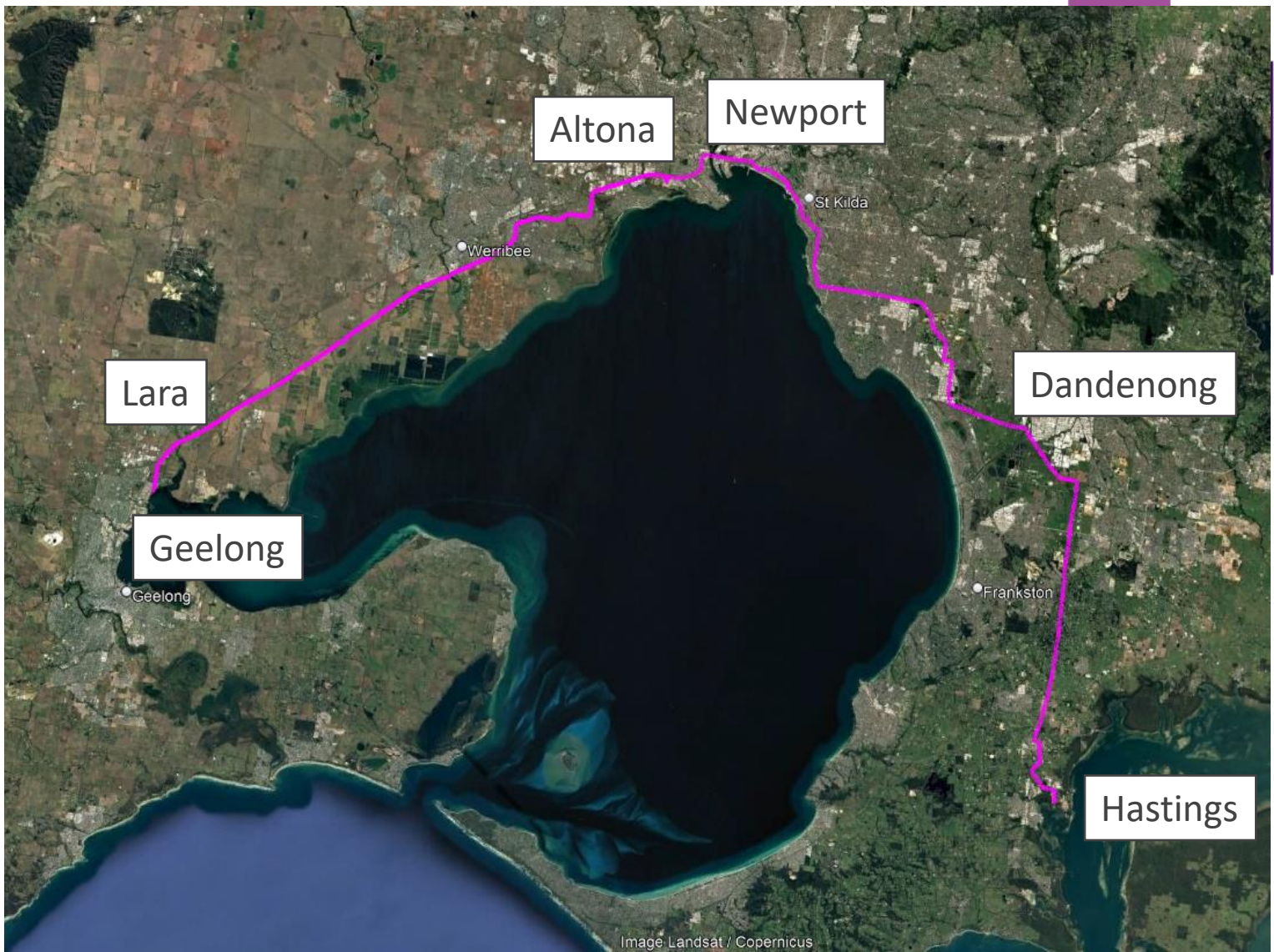
- If the additional supply is from Geelong (LNG imports)

	Augmentation description	SWP capacity (TJ/d)	SWP capacity increase from existing (TJ/d)
Augmentation options identified in 2024 VGPR Update without the WAG	Import terminal on current system	770	240
	44 km BLP looping from Lara to Rockbank, new regulator at Lara and a WORM PRS upgrade	933	403
	No looping and a new compressor station near Wyndham Vale	846	316
	Above 2 options combined, looping and new compressor station	1,070	540
2025 VGPR options with the WAG	Import terminal on current system, and integrate WAG into the DTS	890	360



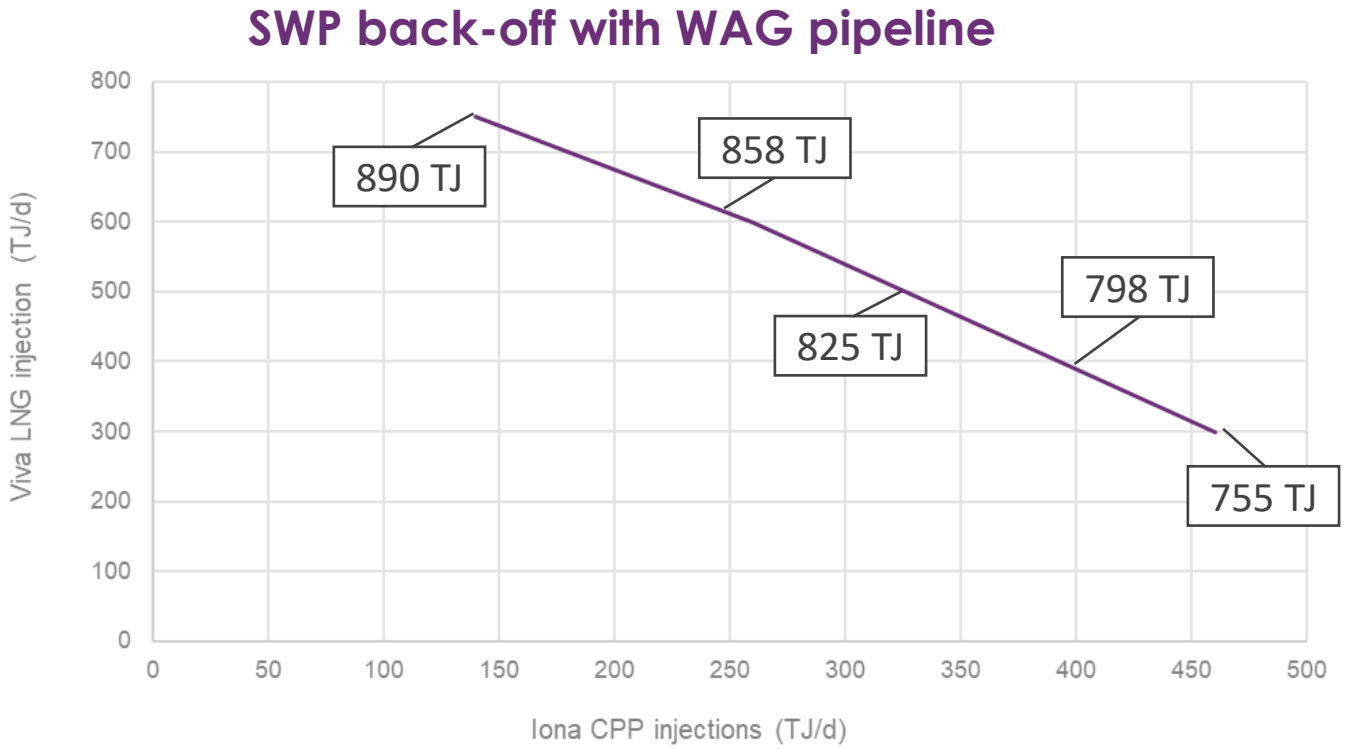
What is the WAG?

- Originally a crude oil pipeline
- 600mm from Cribb Point / Hastings to Altona
- 400mm from Altona to Geelong
- Maximum capacity from Geelong towards Melbourne of 200 TJ/d
- Potential tie-in points near Altona, Lara, Newport, Dandenong



Proposed projects and impact on the DTS (SWP)

- Issue with connection of LNG imports near Geelong is that modelling shows it will back-off supplies from Port Campbell when injecting near capacity.
- WAG reduces that back-off to a degree but does not completely remove it.



REFRESHMENT BREAK

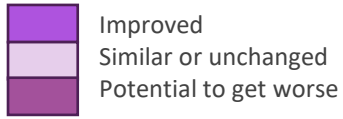
NEM Seasonal Readiness

Dalibor Balicevic

Agenda

- Winter outlook
- Weather and climate
- Generation availability
- Operational demand
- Network outages and augmentations
- Reliability emergency reserves (RERT)
- Risk review

Winter outlook



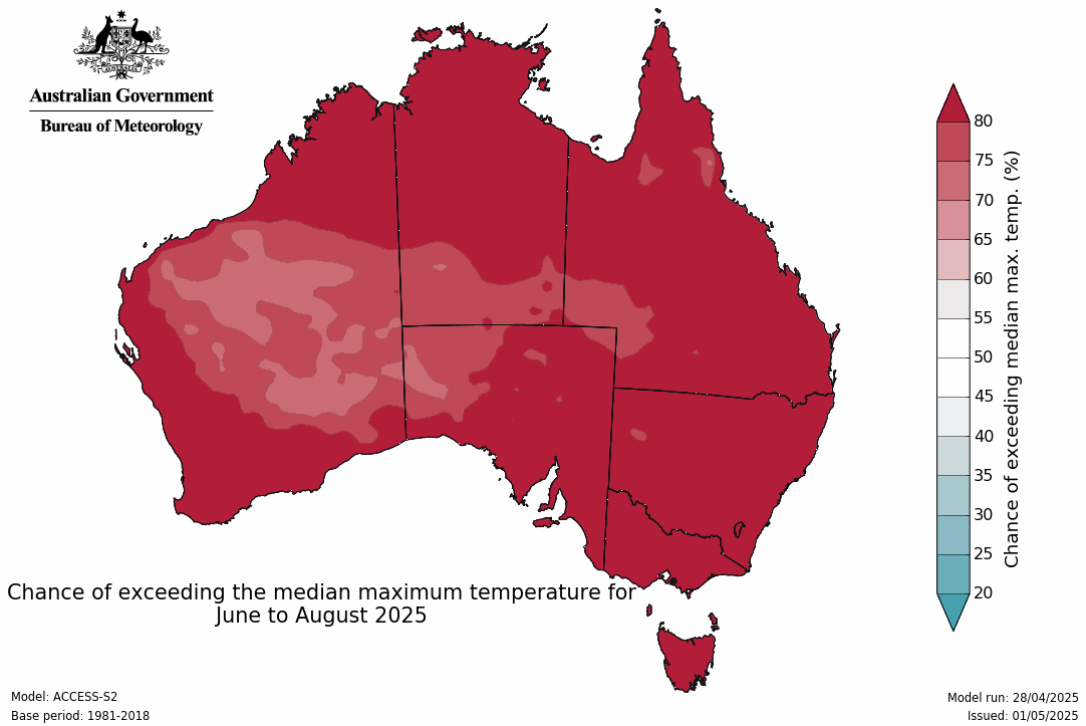
Impact	NEM	Comparison to an average winter season
Extreme cold snaps		Warmer conditions expected for majority of the country. Currently, climate outlook indicates below average potential for cold extremes however cold snaps could still arise.
Widespread flooding		ENSO outlook is currently neutral. Average to below average rainfall is expected for most of the east coast. Above average rainfall for large parts of South Australia, inland NSW, western Victoria and parts of Tasmania.
Extreme peak demands		Mild winter conditions are expected however, cold snaps have the potential to drive electricity winter demands higher particularly in the NSW region and gas demands across southern regions. Gas consumption and peak day gas demand is highly weather-dependant.
Generation availability		On average, synchronous generation availability is expected to be higher in the NEM compared to an average winter availability due to anticipated commissioning of Hunter Power Station in NSW region (August 2025), return to service of Callide C4 generating unit in Queensland and overall reduced volume of planned maintenance. There is additional BESS capacity in all NEM regions (except for Tasmania).
Network outages		Volume of High Impact Outages (HIOs) is comparable to an average winter season but lower in Victoria and South Australia when compared to last winter season.
Reliability		Loss of load probability (LOLP) is comparable to an average winter season. The study shows small number of days with low LOLP in New South Wales and very low LOLP in Queensland. LOLP is negligible in other NEM regions.
Fuel supply		Coal storage levels are at normal levels in the NEM. Gas storages at high levels while Victorian gas production capacity has decreased since last winter. A major Longford production facility outage in late August to early September is likely to result in additional gas flows required from Queensland and southern states gas storages.
Health of markets		Prudential risks / extreme energy price risks are considered low.

Notes: Winter is defined as the period from 1 June 2025 to 31 August 2025. It should be noted that climate model accuracy improves closer to the start of the season. Information on scheduled generation availability and planned transmission outages are subject to change. Comparison to an “average” winter is based on the past 3 winter seasons. For gas supply/demand adequacy assessment “southern regions” or “southern demand” means New South Wales (and Australian Capital Territory), South Australia, Tasmania and Victoria gas system supply/demand.

Climate Outlook

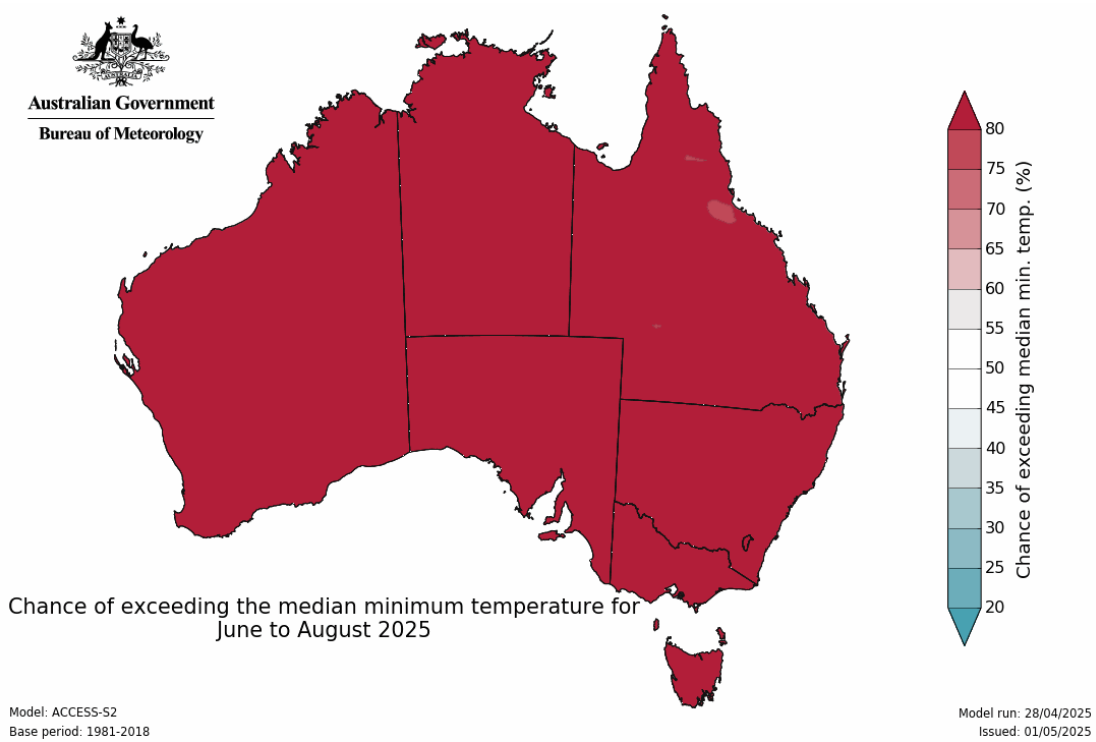
June to August 2025

Maximum temperatures



Warmer than average days are very likely across most of the country.

Minimum temperatures



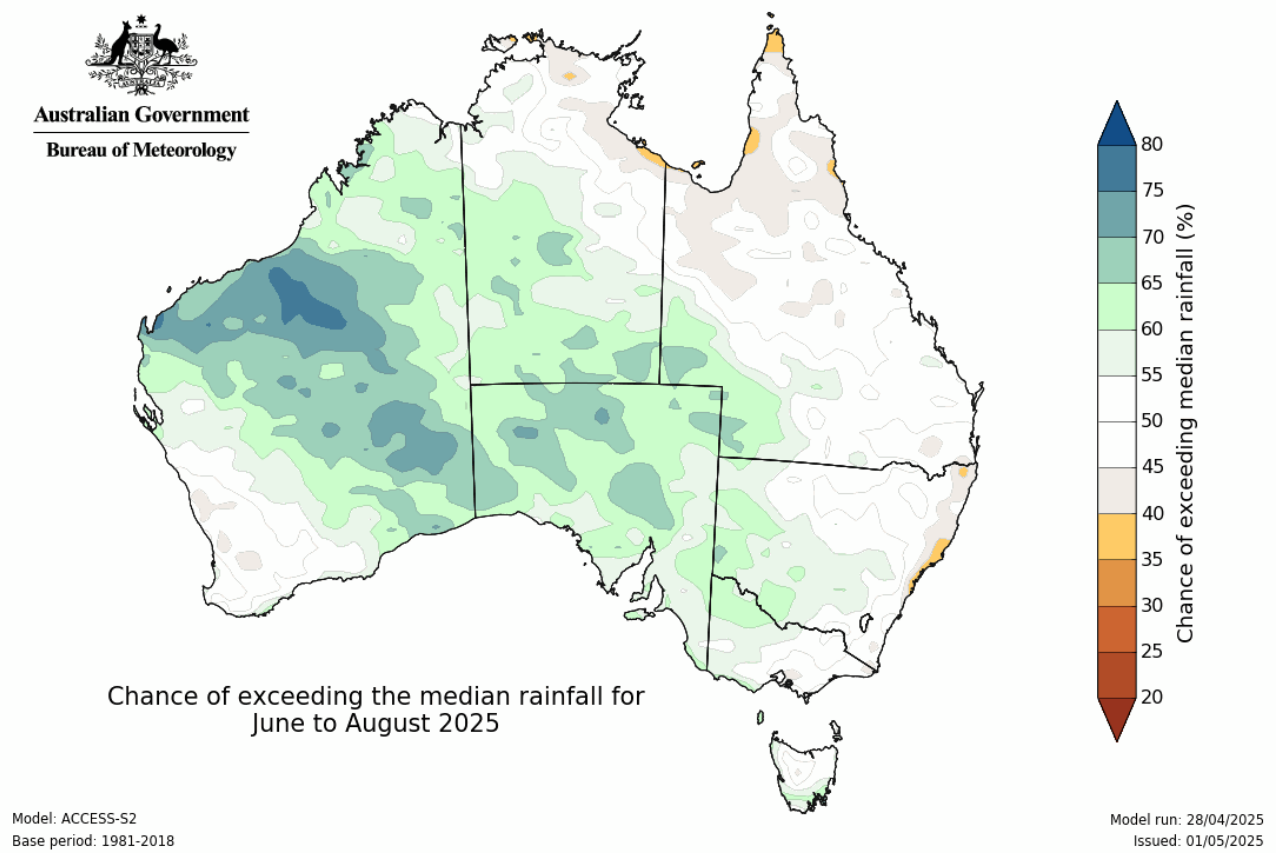
Warmer than average nights are very likely with an increased chance of unusually high overnight temperatures nationwide.

Climate Outlook

June to August 2025

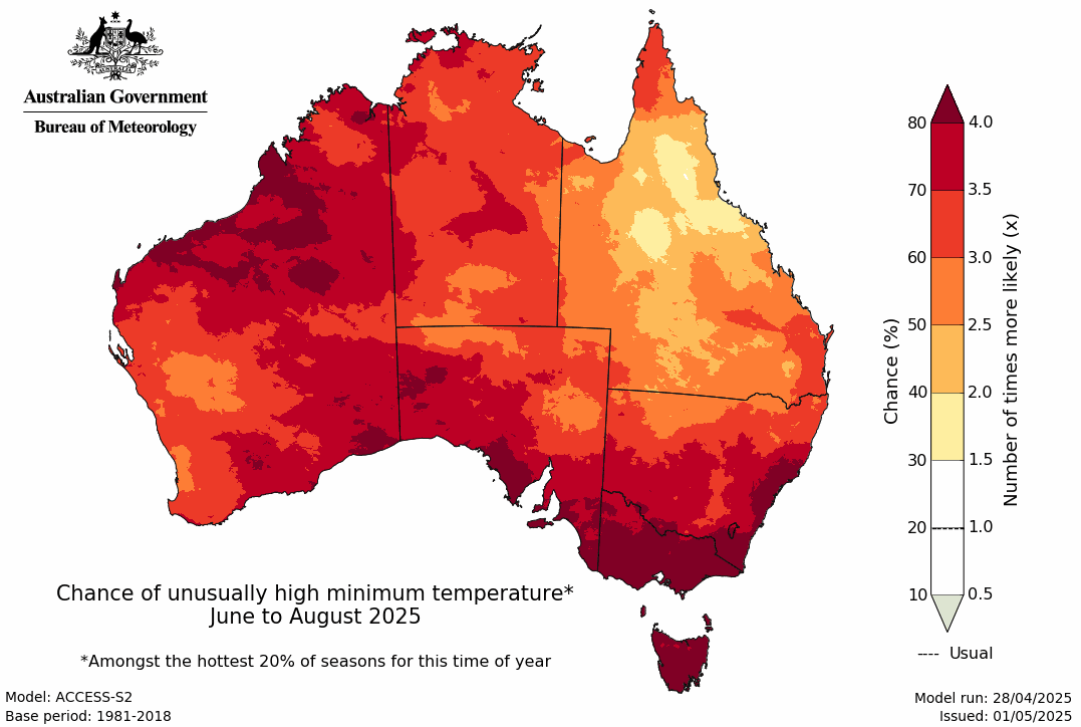
Rainfall

- Average to below average rainfall for most of the eastern Australia.
- Above average rainfall for large parts of South Australia, inland NSW, western Victoria and parts of Tasmania.

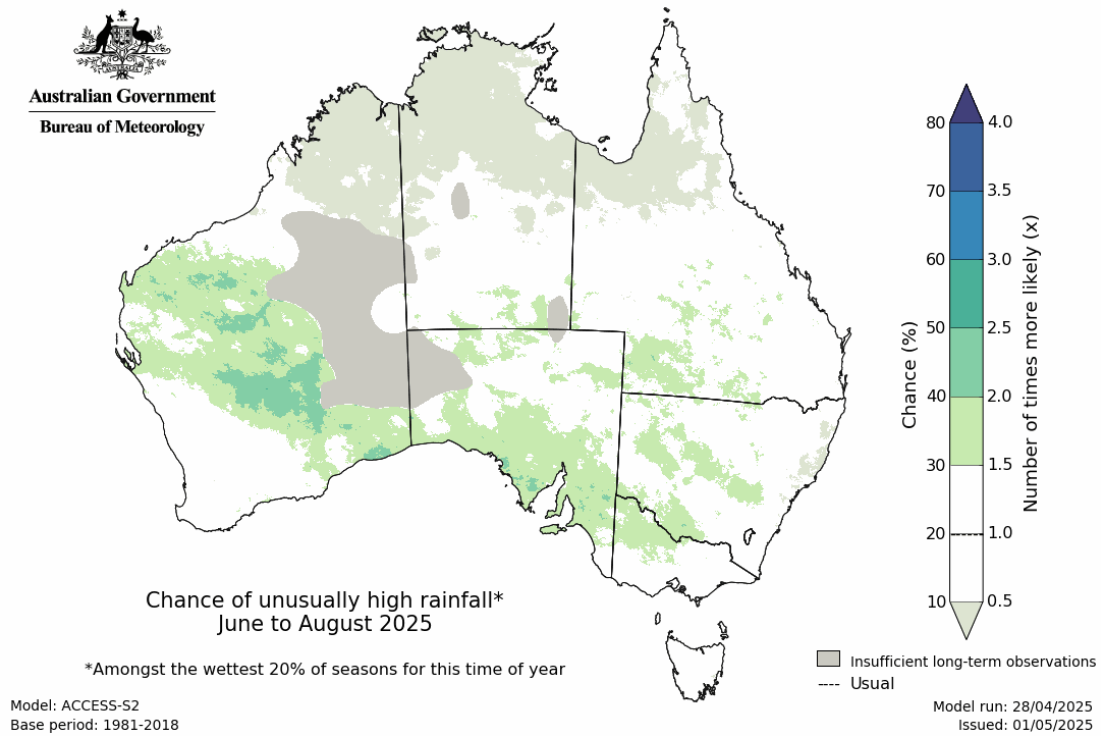


Climate Outlook

June to August 2025



Increased likelihood (2.5 to 4.0 times more likely) of unusually high minimum temperatures for eastern Australia.



Large parts of South Australia and parts of northwestern Victoria and southeastern NSW are more likely to experience unusually high rainfall.

Generation Availability

On average, synchronous generation availability is expected to be higher in the NEM compared to an average winter availability due to addition of new Hunter Power station in NSW region, return to service of Callide C4 generating unit and reduced volume of planned maintenance. There is additional BESS capacity in all NEM regions except for Tasmania.

Major Generator changes

- Coal stockpiles in the NEM and WEM are at normal levels.
- East Coast gas usage will need to be monitored.
- New Hunter gas fired power plant (660 MW) is expected to commence operation in early August 2025.
- Several large generating units are on extended outages:

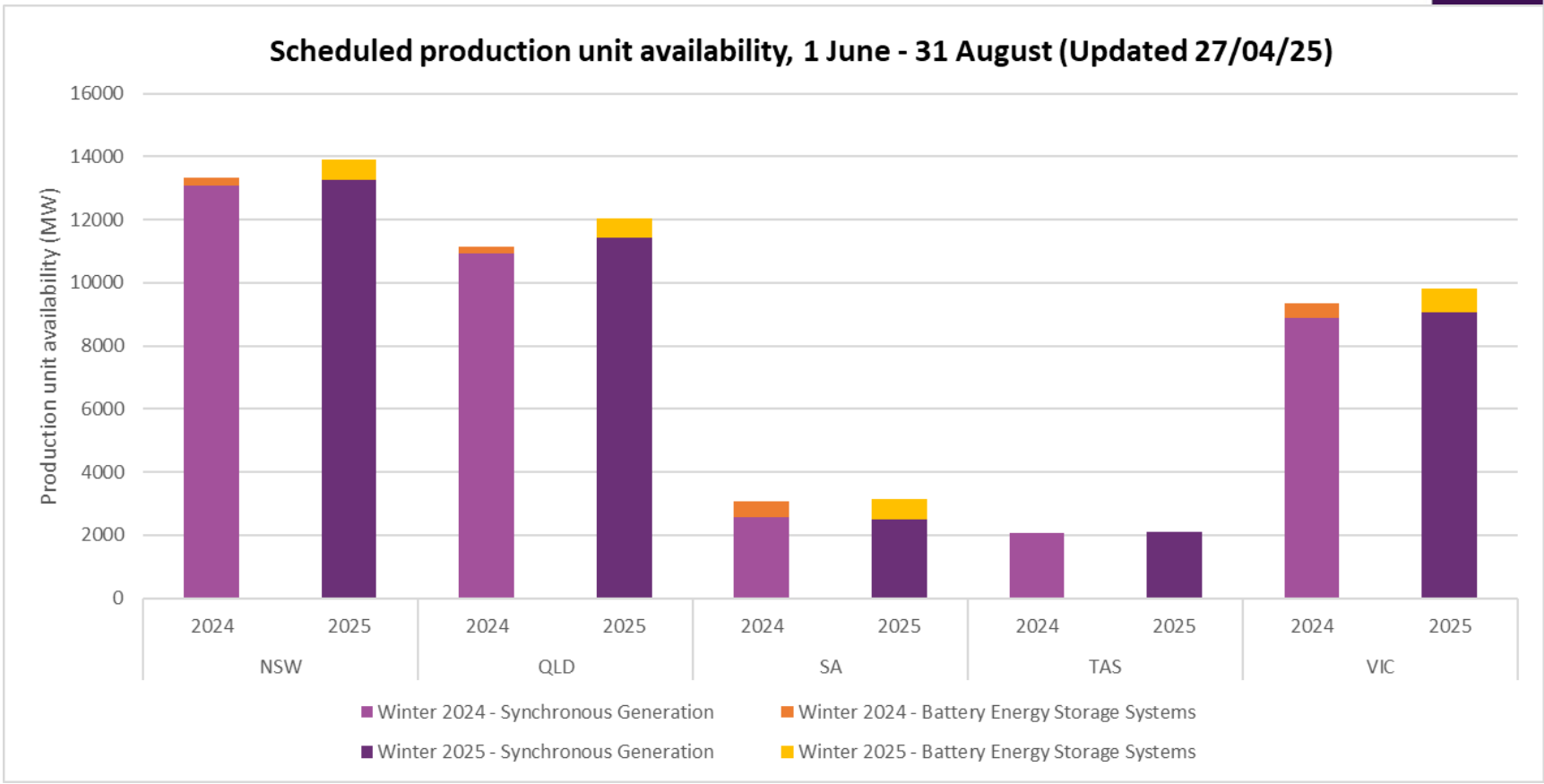
  QLD: Braemar 5 and 7, Callide B1 and B2, Callide C3 (forced outage), Gladstone 1, Mount Stewart 3, Tarong North and Yabulu.

  NSW: Colongra, Uranquinty, Tumut 3 capacity reduction to 1200 MW (over 3 weeks).

  VIC: Eildon, McKay, Yallourn 4.

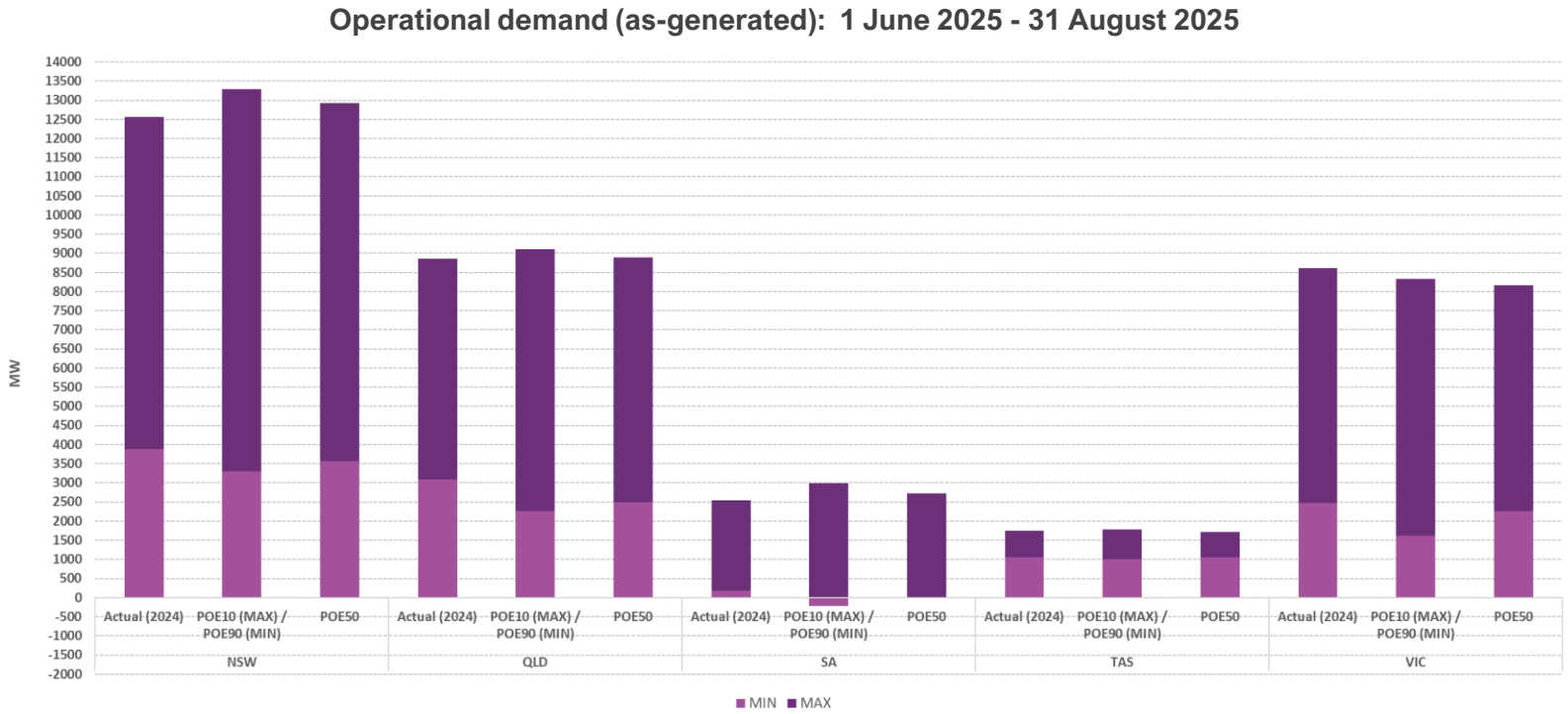
  SA: Dry Creek 1 and 2, Ladbroke 2, Torrens Island B4, Pelican Point.

  TAS: John Butters, Poatina, Tamar Valley.



Source: MTPASA, analysis includes planned production unit outages.

Operational Demand

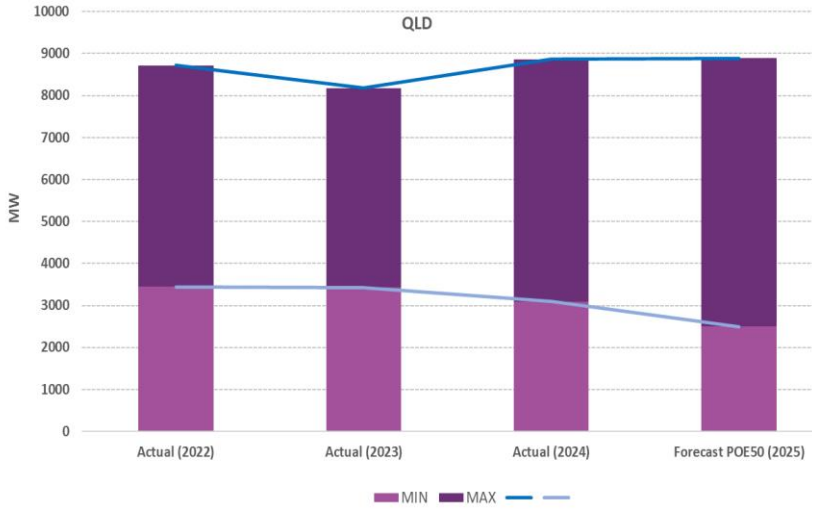


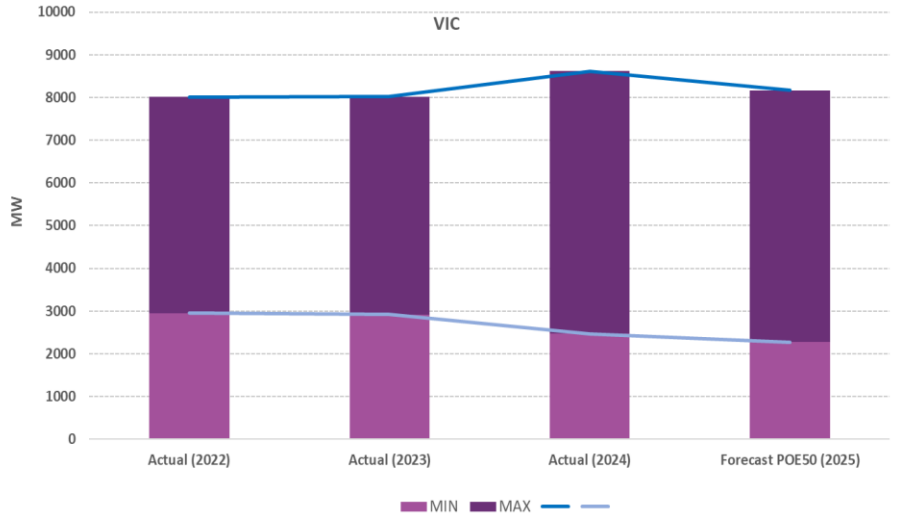
Region	Record Maximum Demand (MW)	Record Minimum Demand (MW)
NEM	35,796 (29/01/09)	10,073 (26/10/24)
NSW	14,744 (01/02/11)	2,718 (16/02/25)
QLD	11,144 (22/01/25)	3,091 (05/10/24)
SA	3,399 (31/01/11)	-205 (19/10/24)
VIC	10,576 (29/01/09)	1,504 (01/01/25)
TAS	1,790 (21/07/08)	728 (25/12/24)

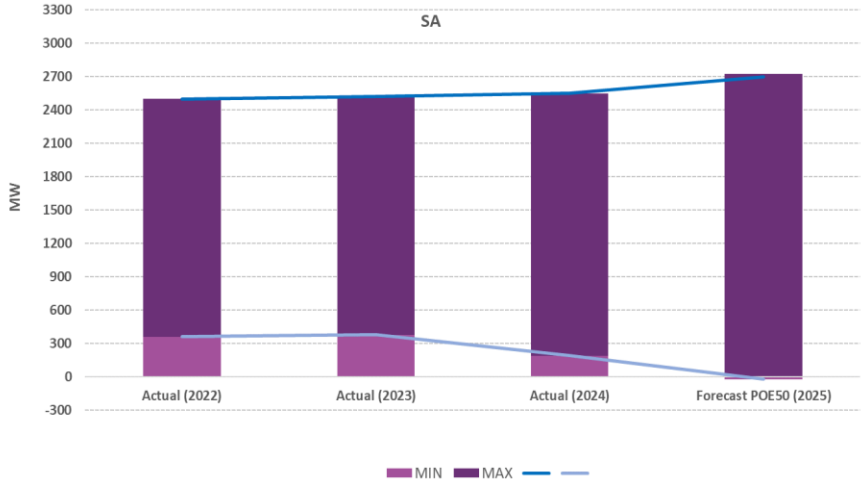
- Risk of load shedding remains where high demand days combine with low VRE availability and or scheduled generation and network outages, however risk of load shedding is low as indicated by Loss of Load Probability Study (LOLP), shown on the next slide.
- Demand is highly weather dependent and cold snaps have the potential to drive electricity demands higher, particularly in the NSW region.
- Minimum record demands more normally occur during shoulder seasons with NEM experiencing record minimum demand in Spring 2024, however NSW, Victoria and Tasmania observed minimum demand records during Summer 2024/25. Low demand periods during winter are more likely to occur during weekends and public holidays.

Note: Summer season is defined as the period from 1 November to 31 March.

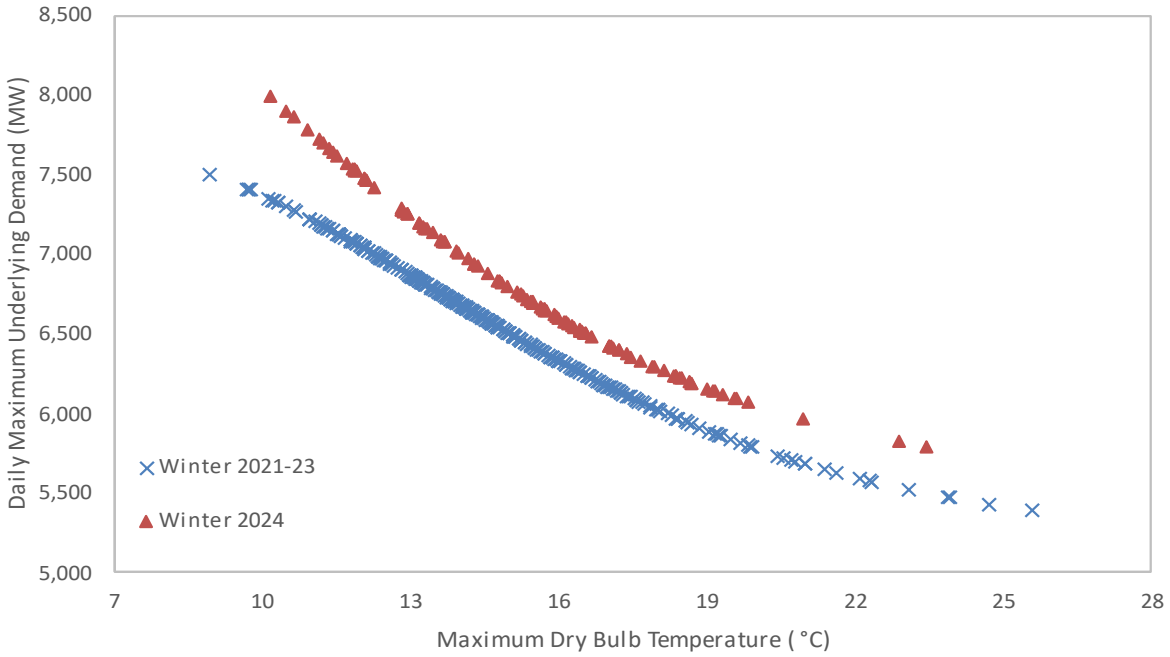
Winter Operational Demand by Region

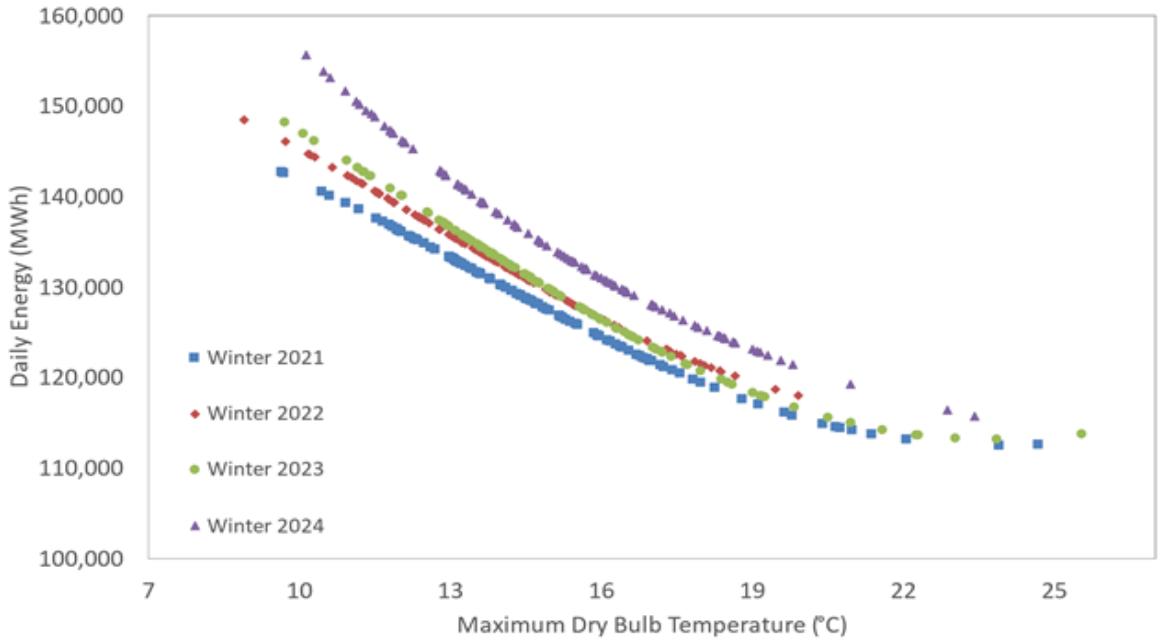






At least in winter Victoria electricity demand profile seems to be changing





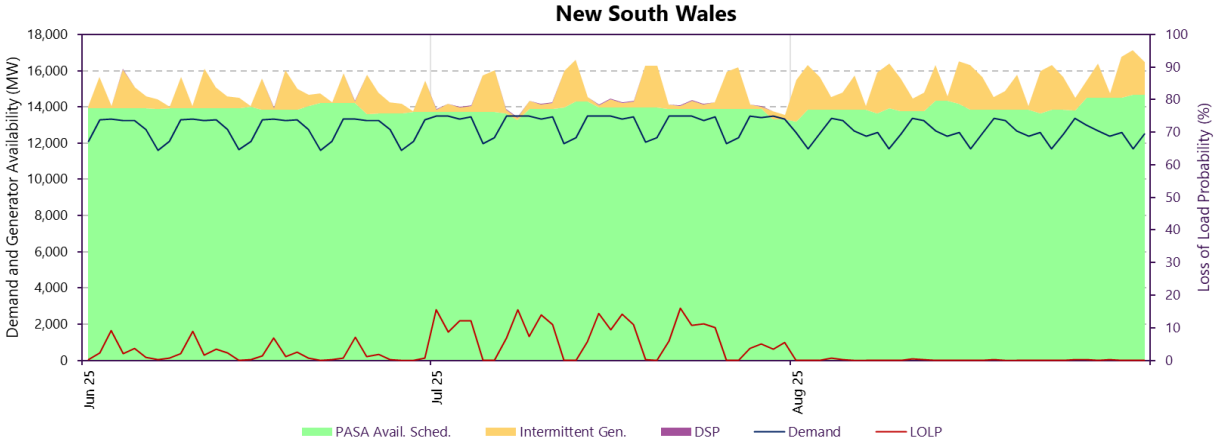
Source: Temperature Forecast Analysis for Winter 2024
https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/load-forecasting/temperature-forecast-analysis-for-winter-2024.pdf?la=en
Weather sensitive underlying demand means operational demand plus rooftop PV estimate less Alcoa Portland smelter load.

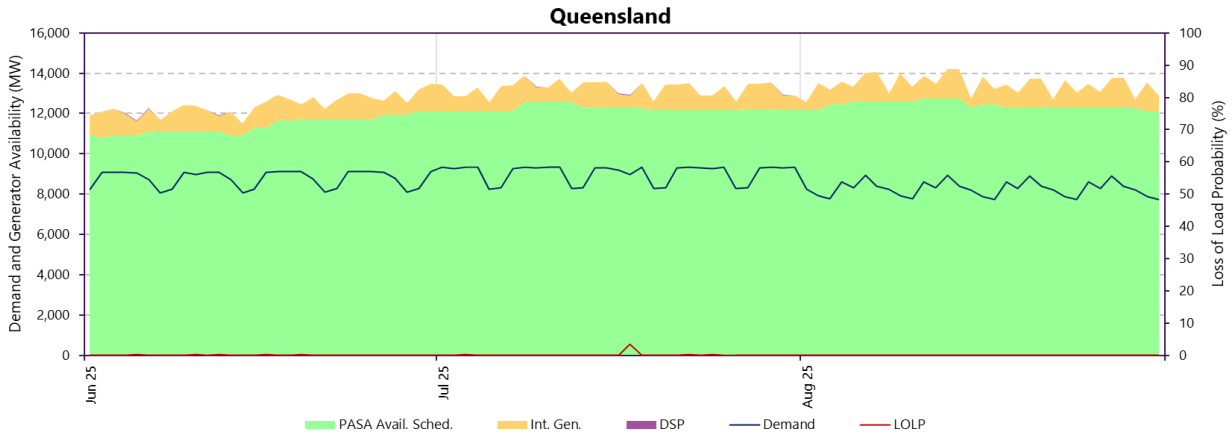
Increase in Victoria region electricity demand and sensitivity during winter due to electrification of homes and businesses*

* https://www.energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap.

Loss of Load Probability Study (NEM)

- The NEM loss of load probability (LOLP) assessment uses a probabilistic modelling approach based on scenarios with extremes for high demand and low VRE generation from historic reference years. It includes random unplanned outages and the planned outage profile in the MT PASA at the time.
- The LOLP metric indicates the probability of demand exceeding supply during the highest risk 30-min period each day. It does not account for Reliability Emergency Reserve Trader (RERT) or other potential emergency interventions.
- The study shows risk of load shedding is low in all regions with low LOLP in New South Wales and very low LOLP in Queensland.
- Victoria, South Australia, and Tasmania have negligible or zero LOLP periods during Winter and for that reason no charts are provided.



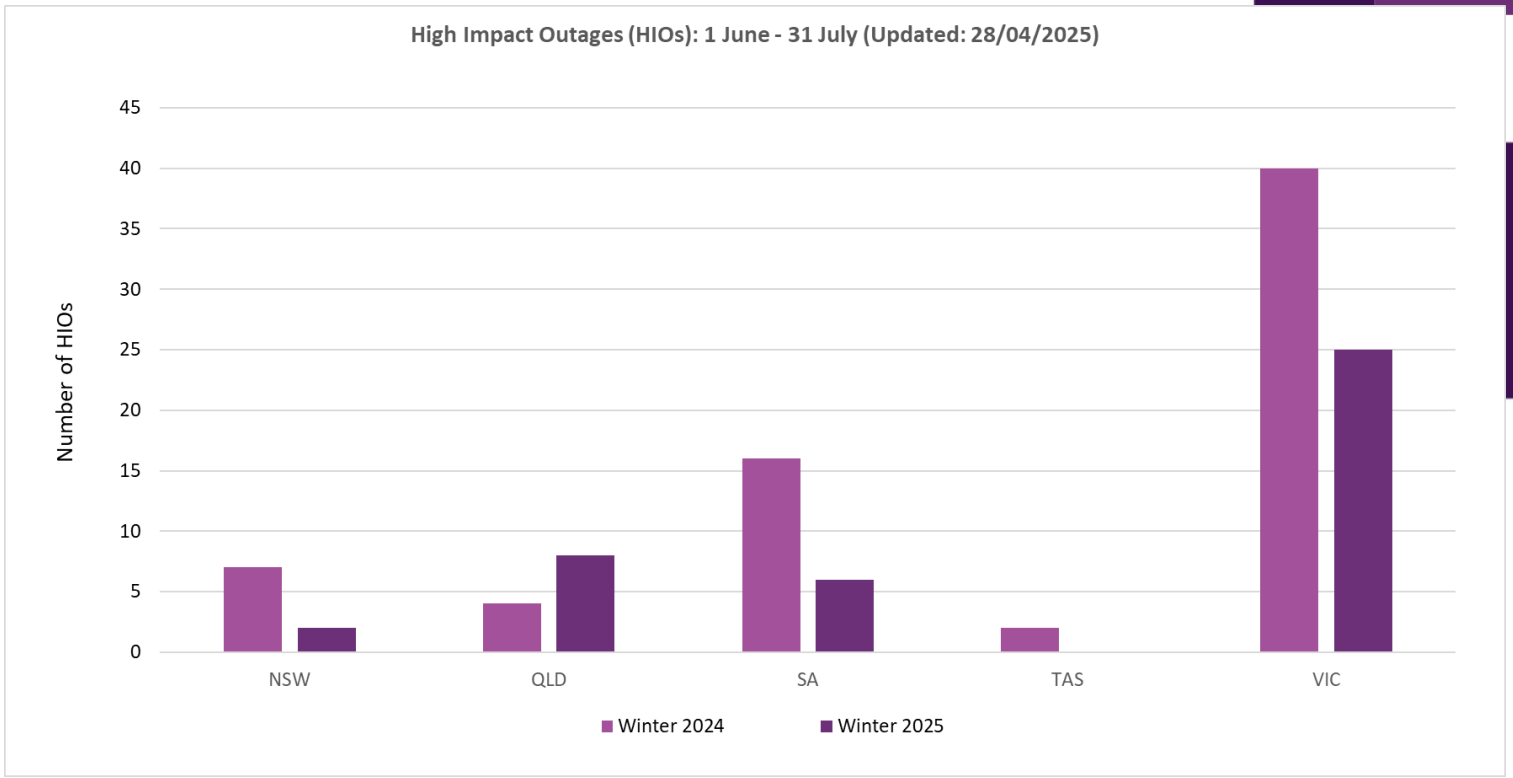


Note: MT PASA Run 988 (ran on 28 April 2025), ***Period shown: 1 Jun 2025 to 31 August 2025.***

High Impact Outages / Augmentations

- Compared to last season, the number of planned High Impact Outages (HIOs) are forecast to be lower in the NEM and the WEM. The only exception is Queensland region where a small increase is notable. Note: full outage plan is still being finalised.
- QLD: maintenance/commissioning of 275 kV lines out of Bouldercombe, Broadsound, Nebo, Ross and Strathmore.
- NSW: maintenance works of the Darlington Point - Wagga and Lower Tumut - Wagga 330 kV lines.
- VIC: maintenance/commissioning works of the 220 kV network at Ararat, Bendigo, Horsham and Red Cliffs and the 500 kV backbone network at Hazelwood, Mortlake, South Morang, Sydenham.
- SA: maintenance/commissioning works of the 275 kV lines out of Heywood, South East, Tailem Bend and Tungkillo.
- TAS: None.

Note: HIOs are allowed to proceed if there are no identified system security or reliability issues.



Inter-regional and intra-regional augmentations and capacity increases:

- Possible 50 MW increase from NSW to QLD (from 850 MW to 900 MW).
- Possible 50 MW increase from QLD to NSW (from 1400 MW to 1450 MW).
- Possible Project EnergyConnect (PEC) and Heywood combined transfer capacity increase:
  - VIC – SA (from 650 to 750 MW)
  - SA – VIC (from 600 to 700 MW)
- Tallawarra B is fully commissioned for Winter 2025. Removal of 132 kV network limitations around Tallawarra enabled increase in combined (A + B) generation by ~ 150 – 200 MW.

Note: capacity increases are dependent on completion of the commissioning tests influenced by prevailing market conditions.

Reliability Emergency Reserve Trader (RERT)

- To mitigate any potential reliability risks AEMO maintains a panel of suppliers that can provide / contract reserves at short notice – the short notice RERT panel.
- Short notice RERT costs are only incurred if reserves are pre-activated or activated, as such reserves are not guaranteed to be available.
- Typically, short notice RERT panel agreements were designed to cover the summer months only, however AEMO is now encouraging 12-month panel membership with extension options.
- During Winter 2022 the NEM experienced coal and gas limitations which resulted in supply scarcity. AEMO used short notice RERT to manage the supply scarcity and the risk of credible contingencies causing involuntary manual load shedding.
- Contracted / activated RERT amount is published on AEMO website post-event.

Network and Generation Availability Risks

Risks	Mitigation
Network and generation forced outages exceeding limits historically observed.	• Increased synchronous generation availability in NSW and Queensland. Similar generation levels in other NEM regions. Additional battery storage commissioned in all NEM regions (except Tasmania). • Ensuring regular maintenance activities are carried out and risks identified early by asset owners. • RERT Panel: Short Notice RERT. • AEMO is monitoring generation availability across all regions.
Cold snaps / unplanned generation outages resulting in elevated / co-incident demand for gas consumption and GPG, reducing availability of GPG.	• Signal to industry if there is a forecast shortfall. • GPG switching to alternative fuel source (diesel), AEMO's East Coast Gas System functions utilised to increase gas supply from Queensland. • Coordinated response with NEM to respond to possible gas generation fuel supply shortfall. • RERT Panel: Short Notice RERT.
Network and generation maintenance / commissioning activities extending beyond target completion dates.	• AEMO is working closely with TNSPs and Generators to understand delays/modifications to planned maintenance due to resourcing issues or parts sourcing. • Risk managed through ACCC maintenance co-ordination authorisation for NEM regions (except Tasmania). The authorisation is in force until 22 June 2025. • Recall of planned transmission outages and generation (where possible).
Storms / flash flooding impacting coal supply and transmission.	• BOM is average to below average rainfall for most of east coast reducing risk of extreme floods. • Contracting coal from diverse sources and building up coal stock. • Monitor coal generation availability and stockpile levels. • Monitor risks with asset owners.
Unplanned network events including during high/low demand periods.	• Contingency plans in place. • Minimum Demand Framework.

East Coast Supply Update

Rob Dickie

William Baskerville

Agenda

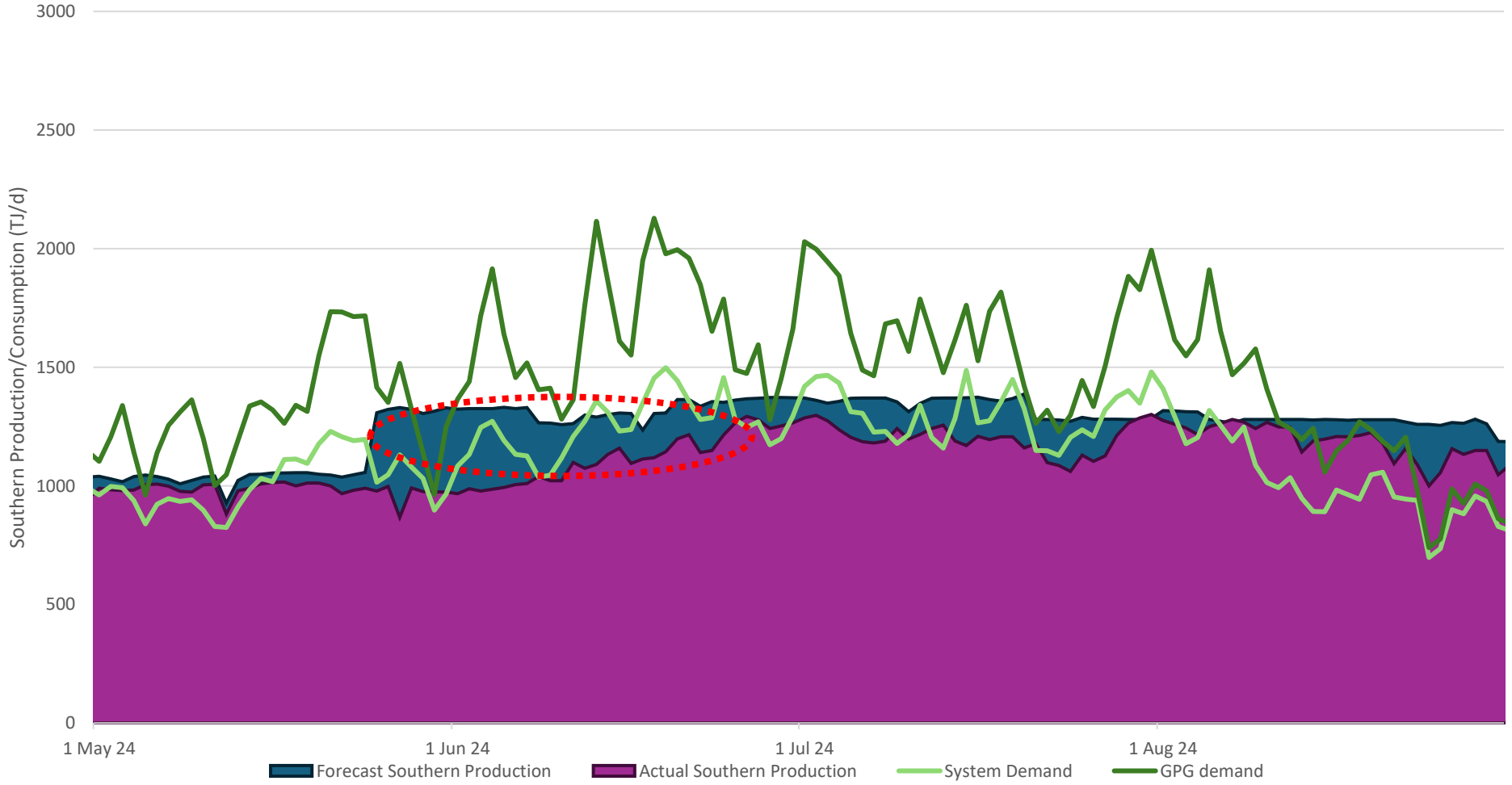
1. 2024 Recap
2. Winter 2025 Outlook
3. ECGS Monitoring
4. Risk Management Options

2024 ECGS Recap

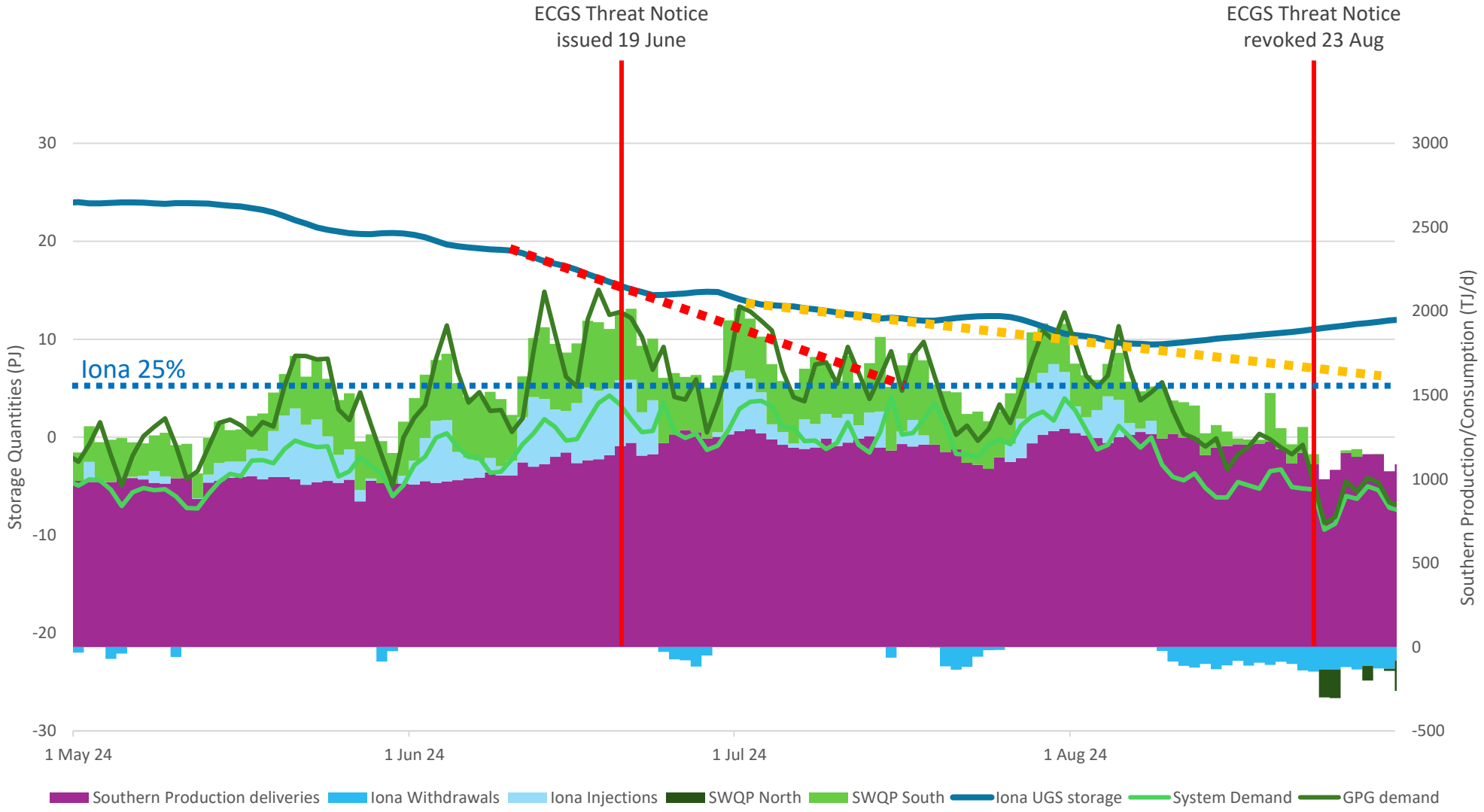
QGP Intervention

- QGP had a rupture on 5 March 2024 located between Rolleston Compressor station and Oombabeer
- After consultation with Jemena and the Queensland Government, AEMO utilised its ECGS direction powers to
- AEMO made 39 directions over the course of the event
- The pipeline repairs were completed by 17 March
- The pipeline restored to full capacity on 10 December 2024 following a successful pipeline integrity review
- More details can be found in the intervention report on AEMO's website

Iona UGS Threat notice



Iona UGS Threat notice



ECGS Winter 2025 Outlook

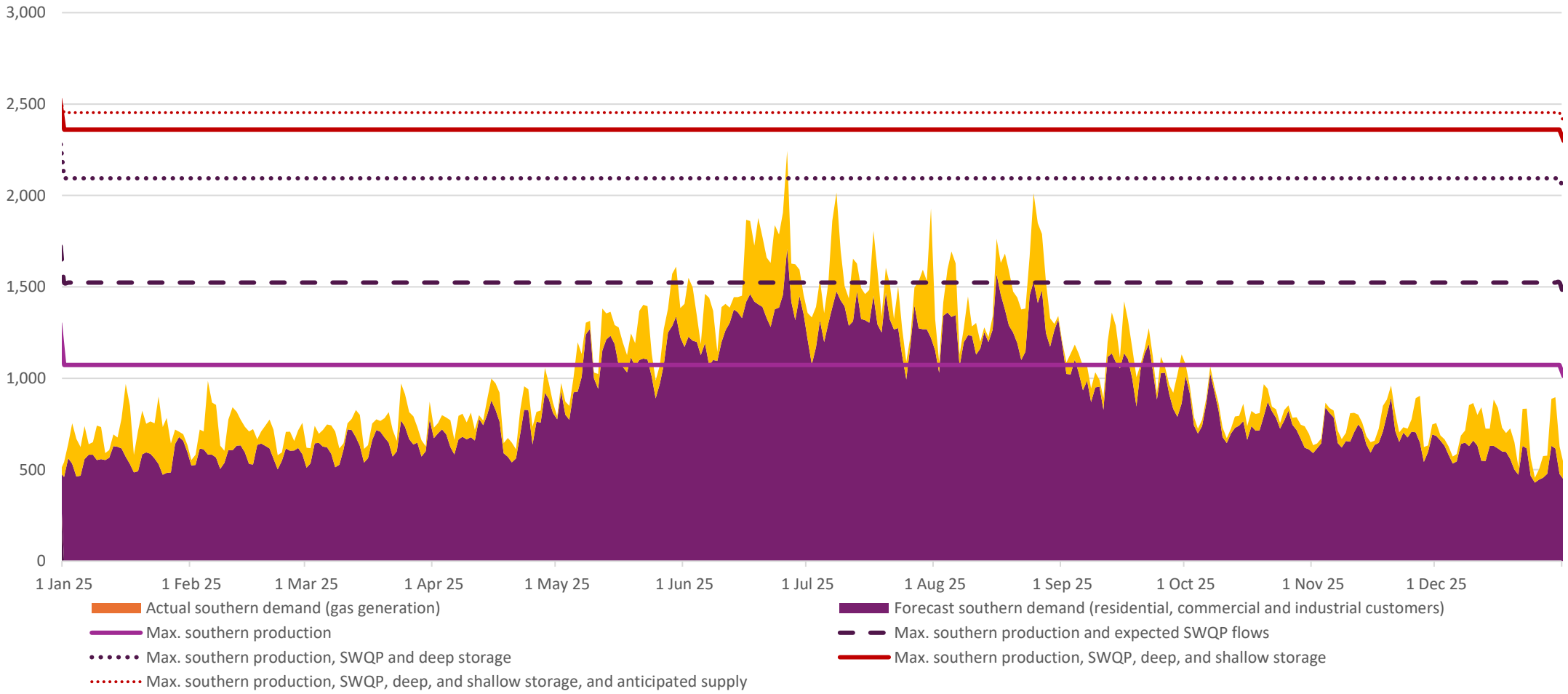
East Coast Climate and NEM Outlook

Impact	West/East	Comparison to an average winter season
Extreme cold snaps		Warmer conditions expected for majority of the country. Currently, climate outlook indicates below average potential for cold extremes however cold snaps could still arise.
Widespread flooding		ENSO outlook is currently neutral. Average to below average rainfall is likely for southern WA. Below average rainfall is likely for most of the east coast reducing risk of flooding. Above average rainfall is likely for parts of southeast Queensland and northern NSW coastal areas.
Extreme peak demands		Mild winter conditions are expected however, cold snaps have the potential to drive electricity winter demands higher particularly in the NSW region and gas demands across southern regions. Gas consumption and peak day gas demand is highly weather-dependant. Similar conditions are expected in WA.
Generation availability		On average, synchronous generation availability is expected to be higher in the NEM compared to an average winter availability due to anticipated commissioning of Hunter Power Station in NSW region, return to service of Callide C4 generating unit in Queensland and overall reduced volume of planned maintenance. There is additional BESS capacity in all NEM regions (except for Tasmania). In the WEM, additional BESS capacity is available. One of the three remaining Muja coal power stations (Muja_G6) retired from 1st April 2025.
Network outages		Volume of High Impact Outages (HIOs) is similar in the WEM. In the NEM, volume of HIOs is comparable to an average winter season but lower in Victoria and South Australia when compared to last winter season.
Reliability		Loss of load probability (LOLP) is comparable to an average winter season. The study shows small number of days with low LOLP in New South Wales and very low LOLP in Queensland. LOLP is negligible in other NEM regions. WEM supply demand balance is generally healthy due to addition of three new battery energy storage facilities.
Fuel supply		Coal storage levels are at normal levels in the NEM and WEM. Environmental restrictions for some hydro power stations may arise due to below average rainfall expected in most southern regions of the NEM including Tasmania. Gas storage generally at high levels while Victorian gas production capacity has decreased. Maintenance of Longford production facility during August and September is likely to result in increasing amount of gas required from Queensland and southern regions gas storages. In the WEM there is adequate gas supply for the season.
Health of markets		Prudential risks / extreme energy price risks are considered low.

Notes: Winter is defined as the period from 1 June 2025 to 31 August 2025. It should be noted that climate model accuracy improves closer to the start of the season. Information on scheduled generation availability and planned transmission outages are subject to change. Comparison to an “average” winter is based on the past 3 winter seasons. For gas supply/demand adequacy assessment “southern regions” or “southern demand” means New South Wales (and Australian Capital Territory), South Australia, Tasmania and Victoria gas system supply/demand.

East Coast Gas Demand Outlook

2025 Forecast daily southern gas system adequacy using existing, committed and anticipated projects, under weather conditions observed in 2018 (TJ / day),

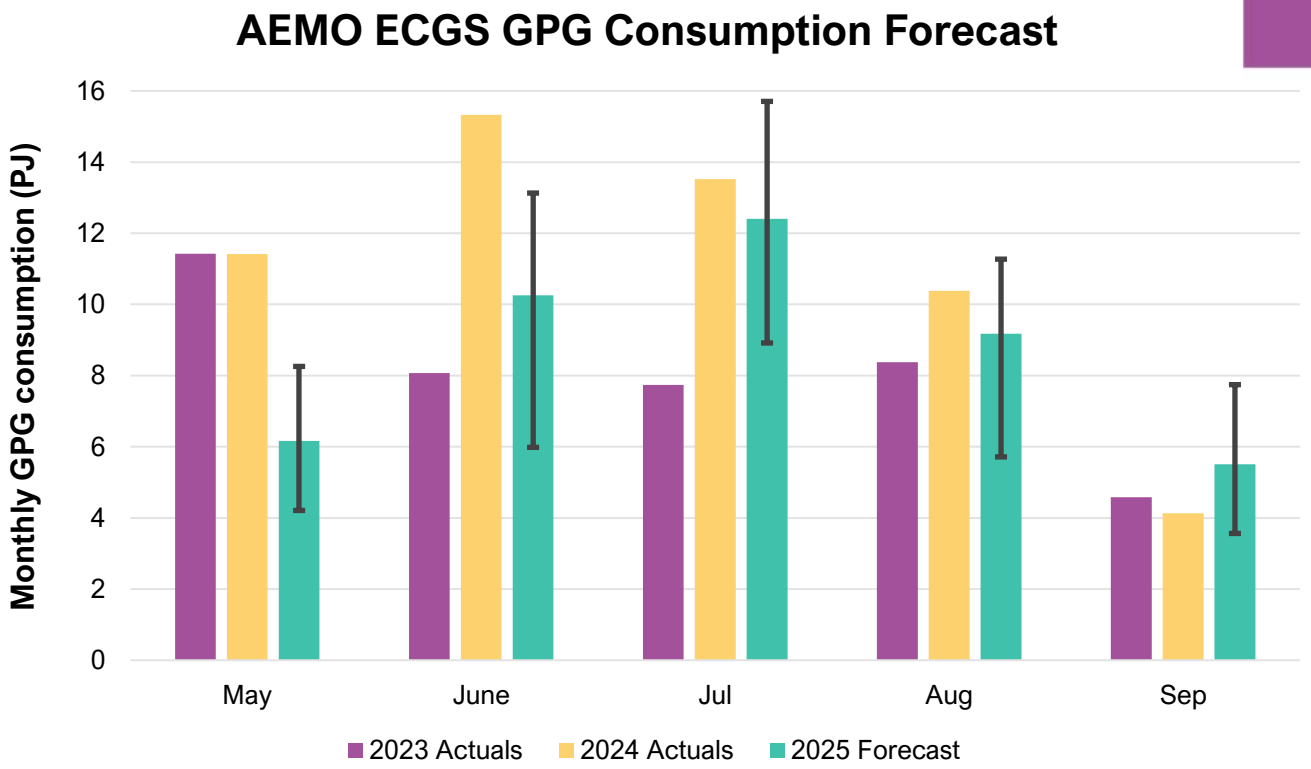


Gas Statement of Opportunities (GSOO), 20 March 2025.

Note: For gas supply/demand adequacy assessment “southern regions” or “southern demand” means New South Wales (and Australian Capital Territory), South Australia, Tasmania and Victoria gas supply/demand.

East Coast GPG Outlook

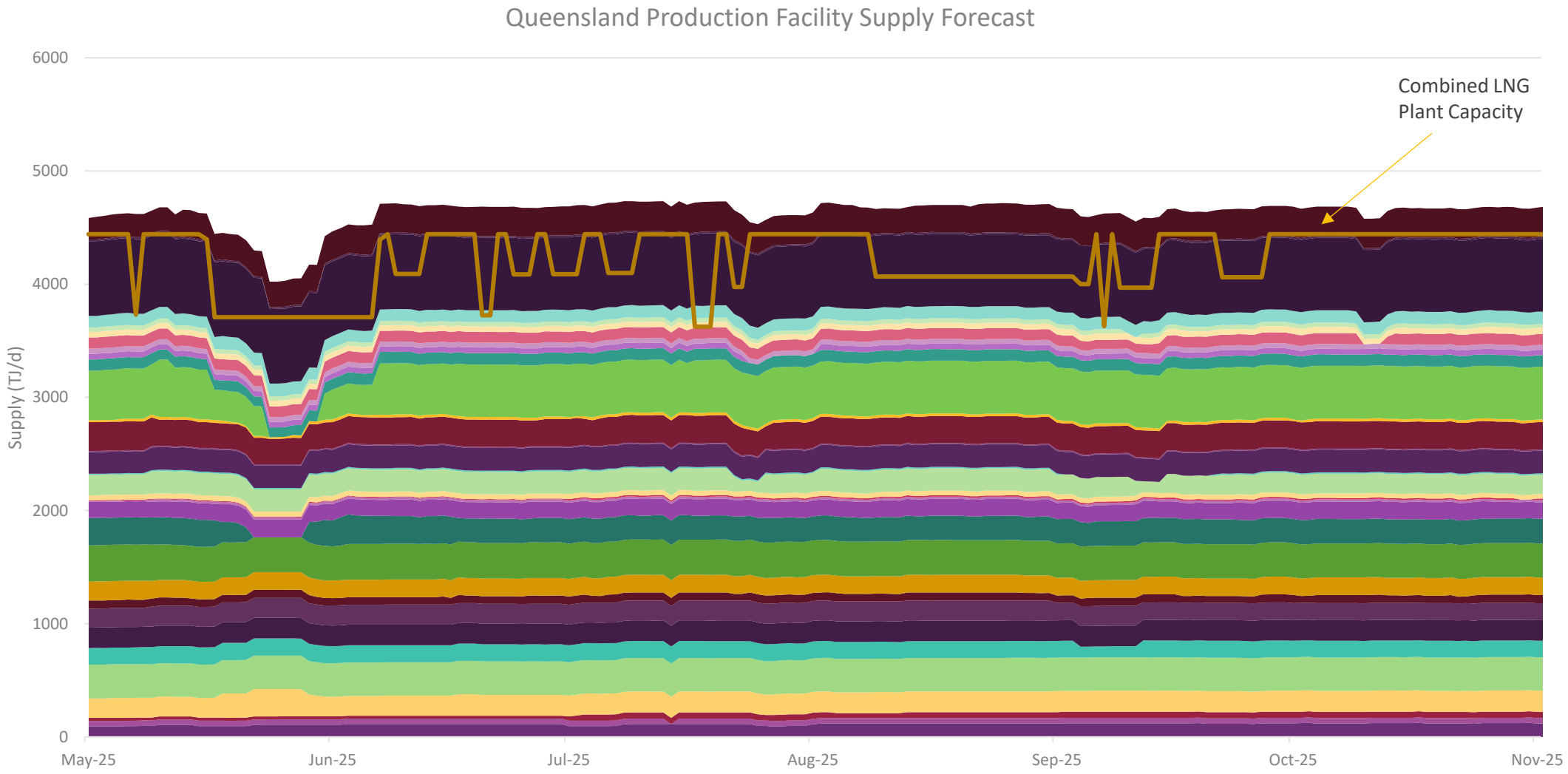
- GPG will play a critical role in meeting the NEM demand in winter 2025.
- Average GPG is forecast to be lower than observed in 2024
- Potential for July and August to be similar or higher than 2024 depending on weather and NEM conditions
- A large uncertainty range for GPG demand exists, as it is influenced by VRE generation, coal and hydro generator outages, operational demand and the utilisation of new large-scale battery storage.
- Supply is expected to be adequate to meet “high” GPG demand (upper bound of demand forecast range). Extreme high GPG demand scenarios are possible.



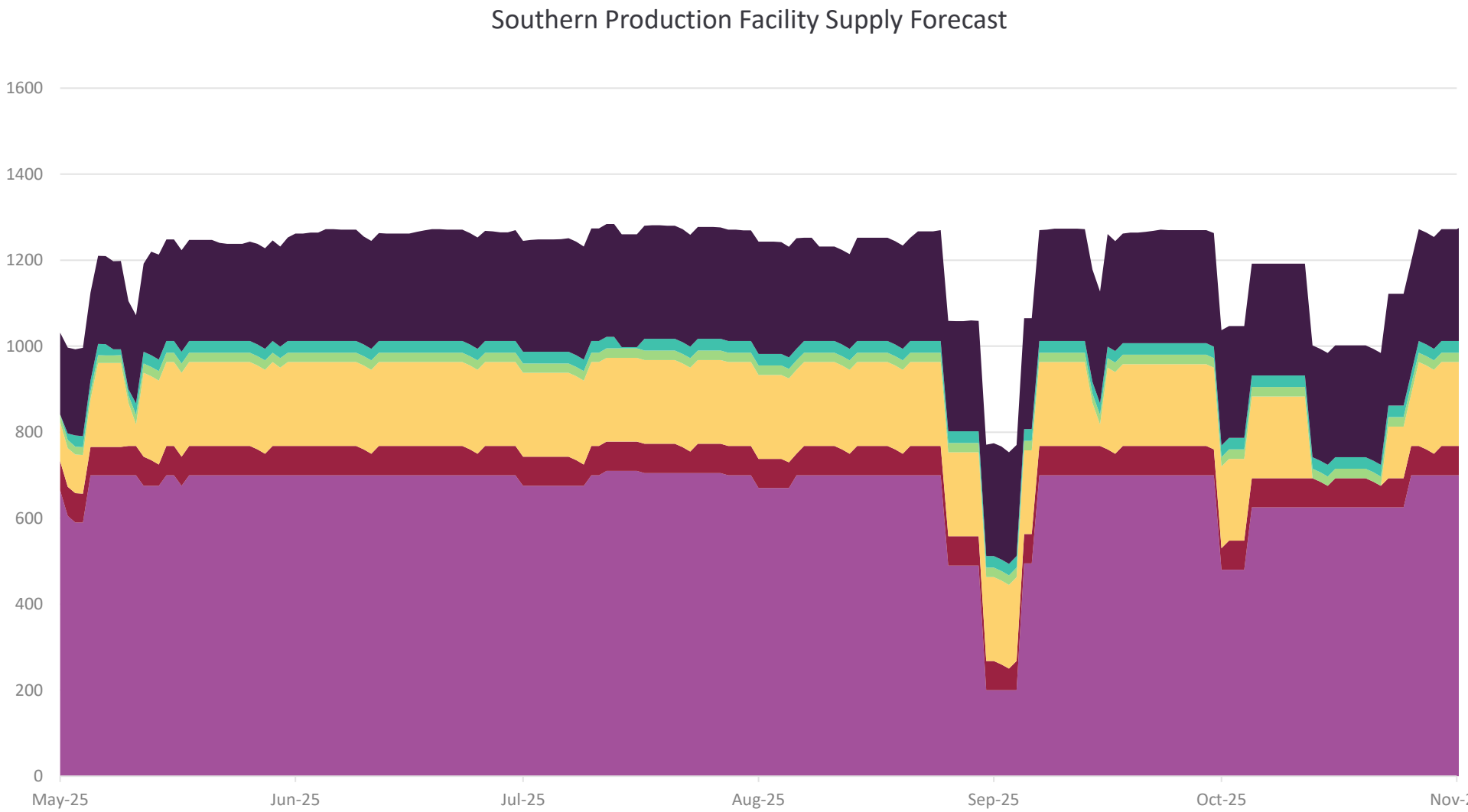
Note: The error bars in this chart represent the uncertainty in the forecast across a range of weather conditions or unexpected generator outages.

Source: 2025 GSOO *Step Change* scenario and reference years 2014 to 2023

East Coast Gas Supply Outlook

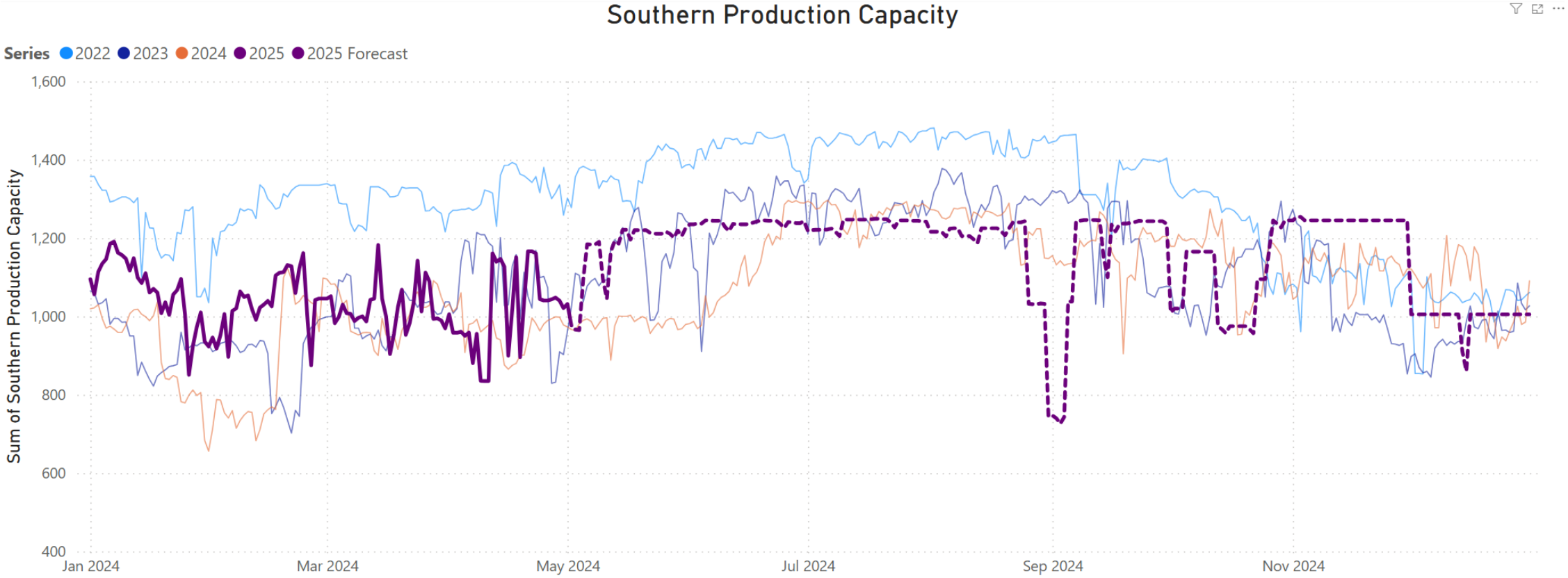


East Coast Gas Supply Outlook



East Coast Gas Supply Outlook

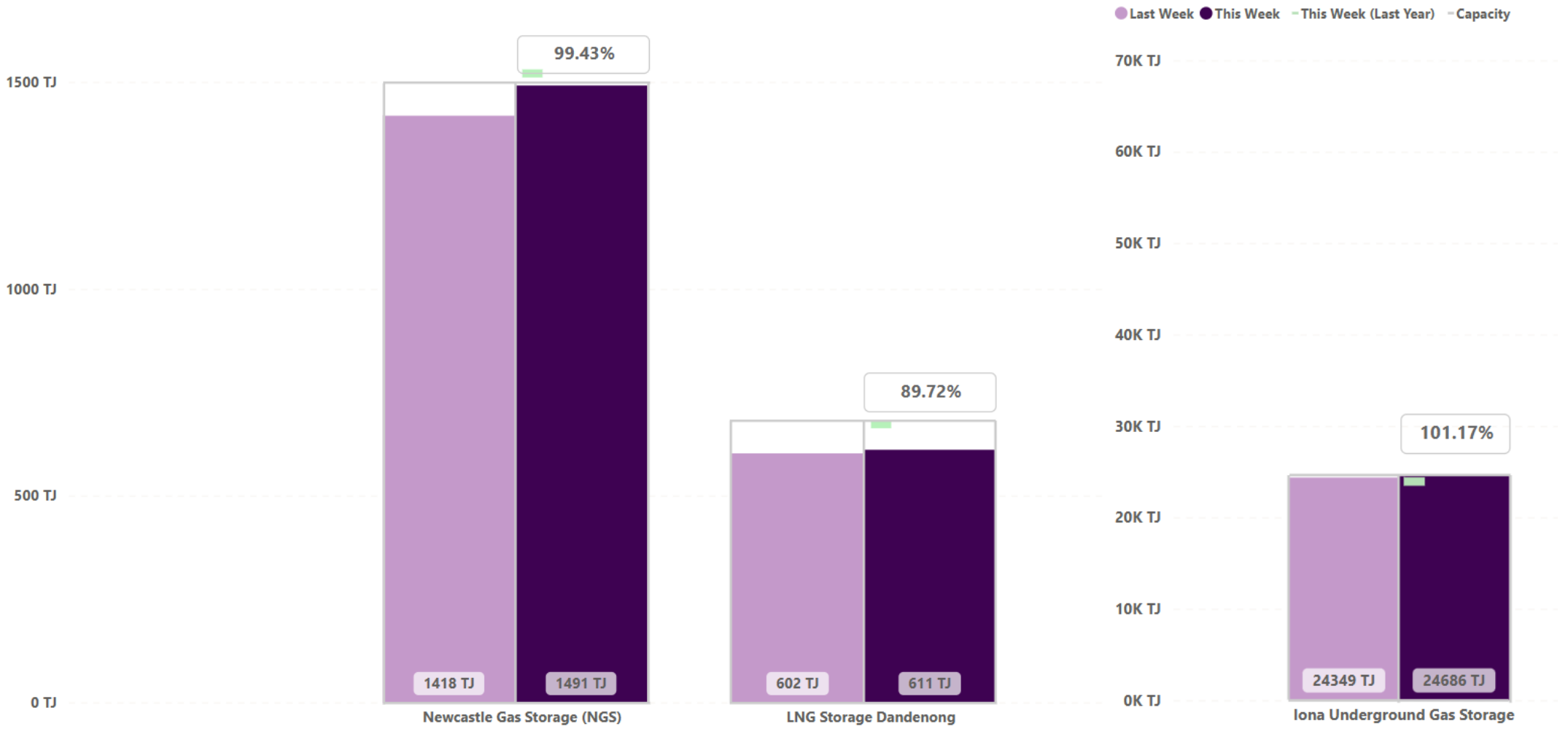
- As per the Gas Bulletin Board, Moomba Gas Plant is currently forecast to return to full capacity from 13 May.



GBB relevant entity submissions, aggregate producer, daily production flow and forecast expected daily capacity outlook, AEMO Gas Bulletin Board, 2 May 2025.

East Coast Gas Storage Outlook

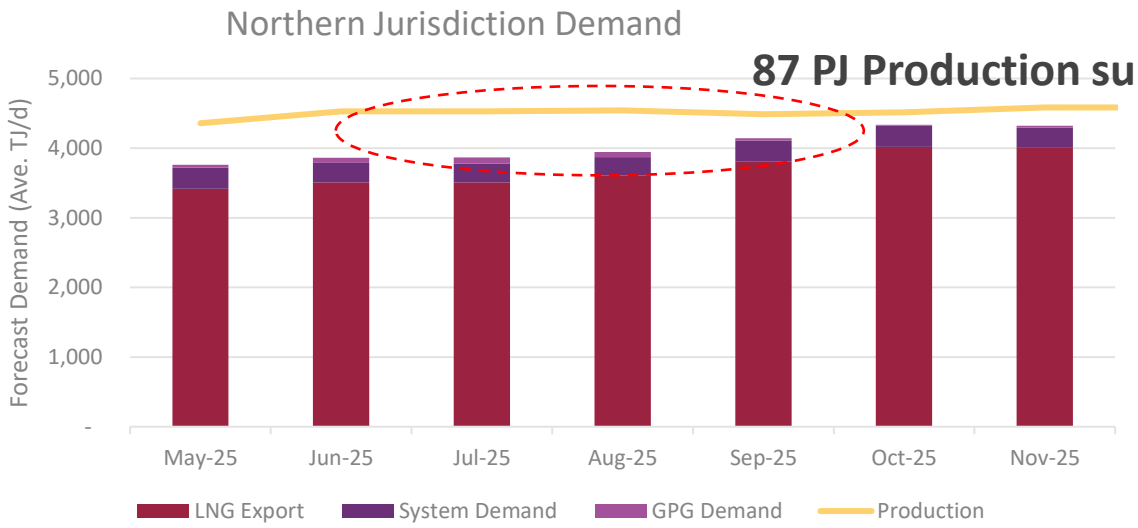
- All storage facilities are at or approaching capacity prior to Winter 2025

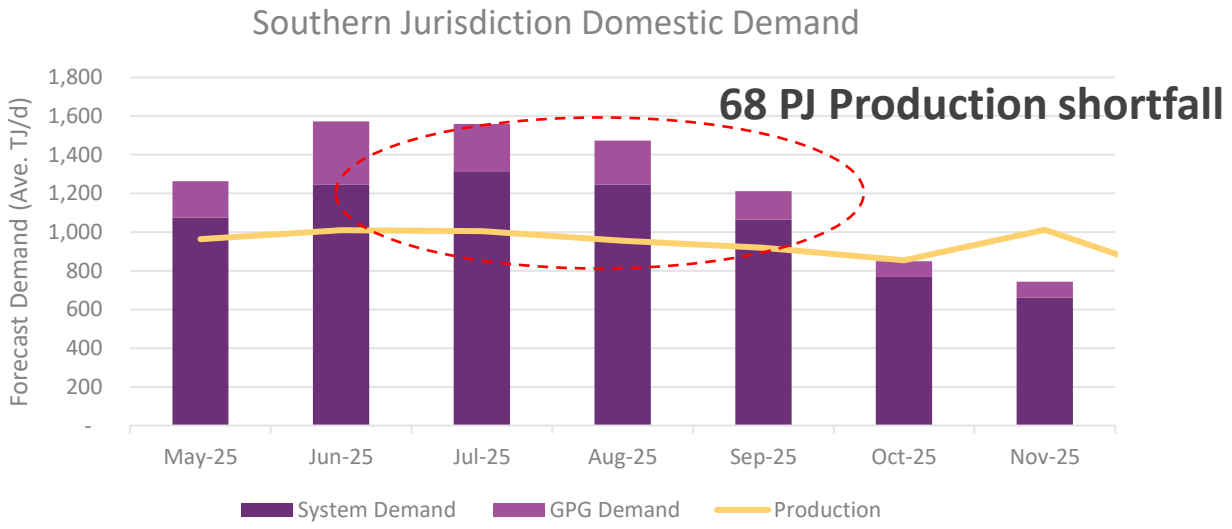


GBB relevant entity submissions, aggregate producer, daily production flow and forecast expected daily capacity outlook, AEMO Gas Bulletin Board, 2 May 2025.

East Coast Gas Supply Demand Balance

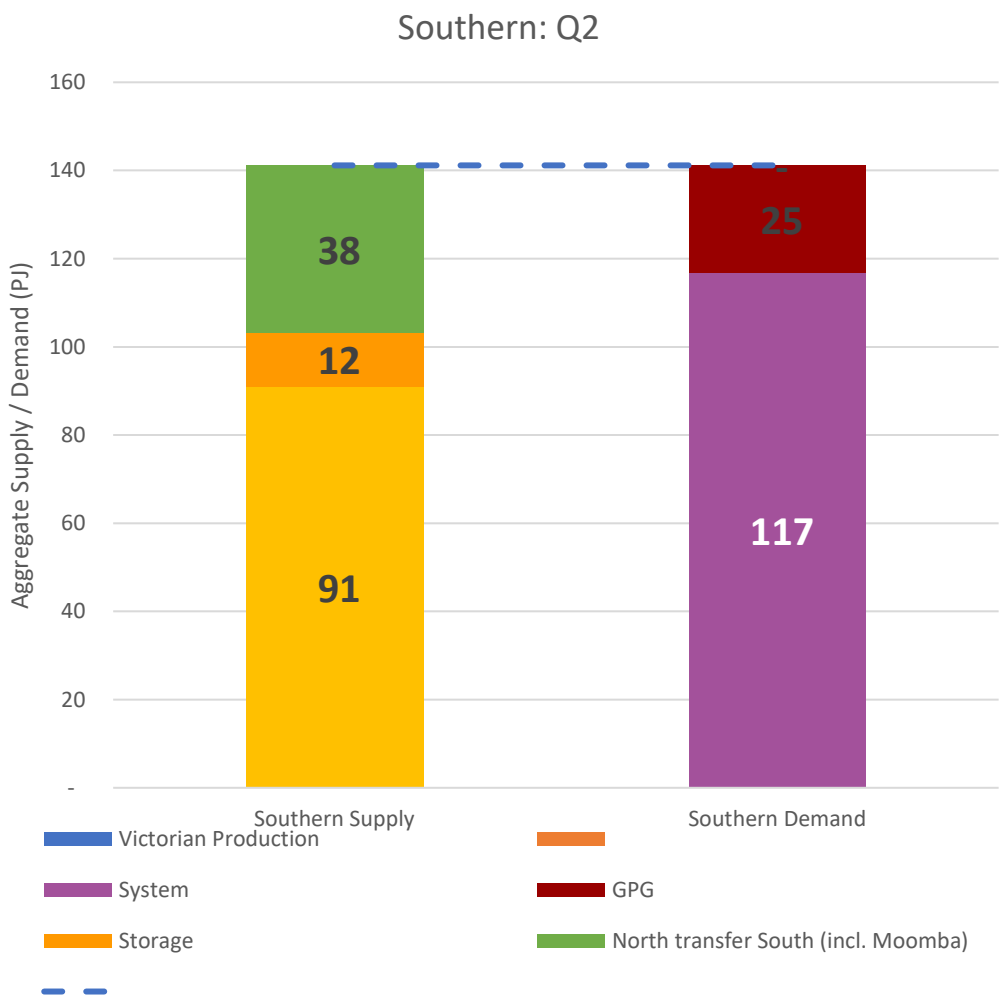
- Production surplus in QLD outweighs the production shortfall in the southern states
- This has improved since the release of the GSOO and VGPR
- However, this is contingent on the additional supply from Queensland being made available to the domestic market, and not exported in spot cargos to the international markets

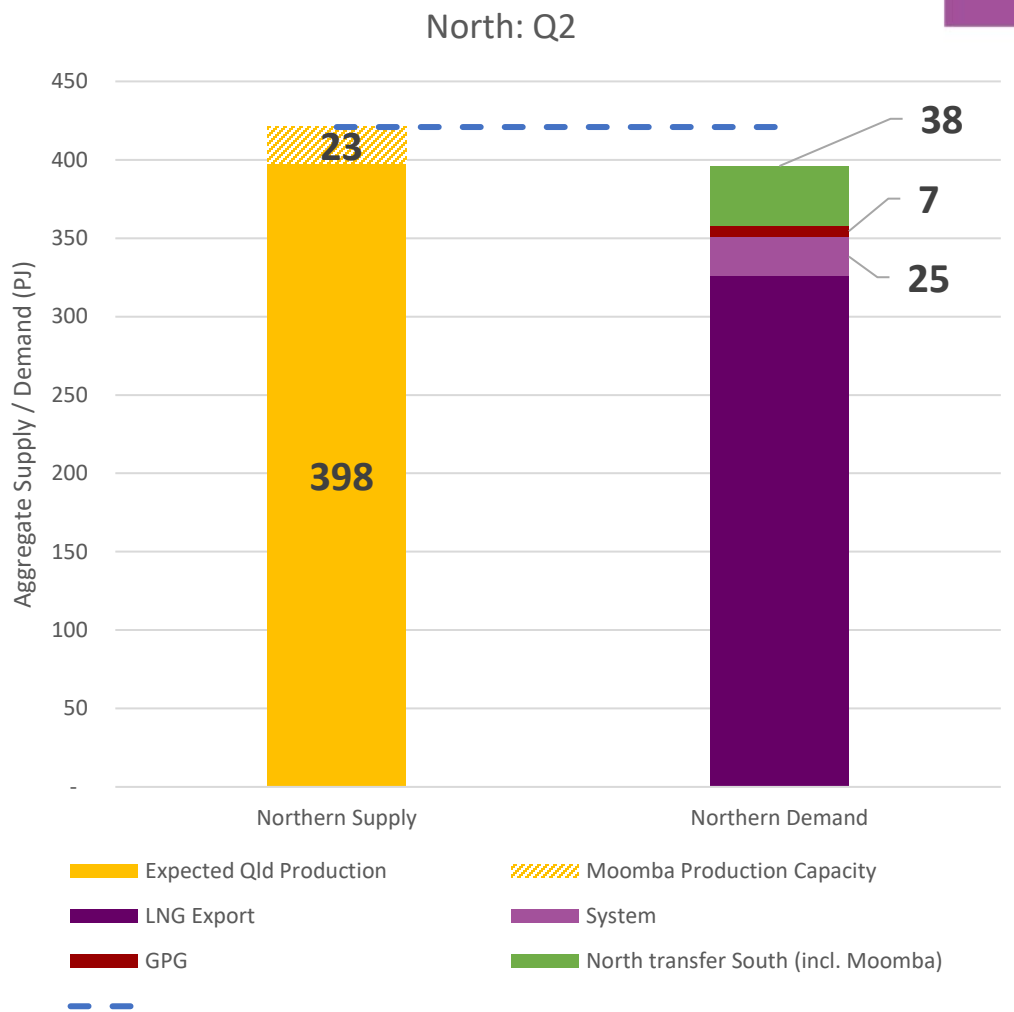




GBB relevant entity submissions, daily storage, AEMO Gas Bulletin Board, 2 May 2025.

Forecast Winter Supply adequacy: 1 June to 30 September 2025

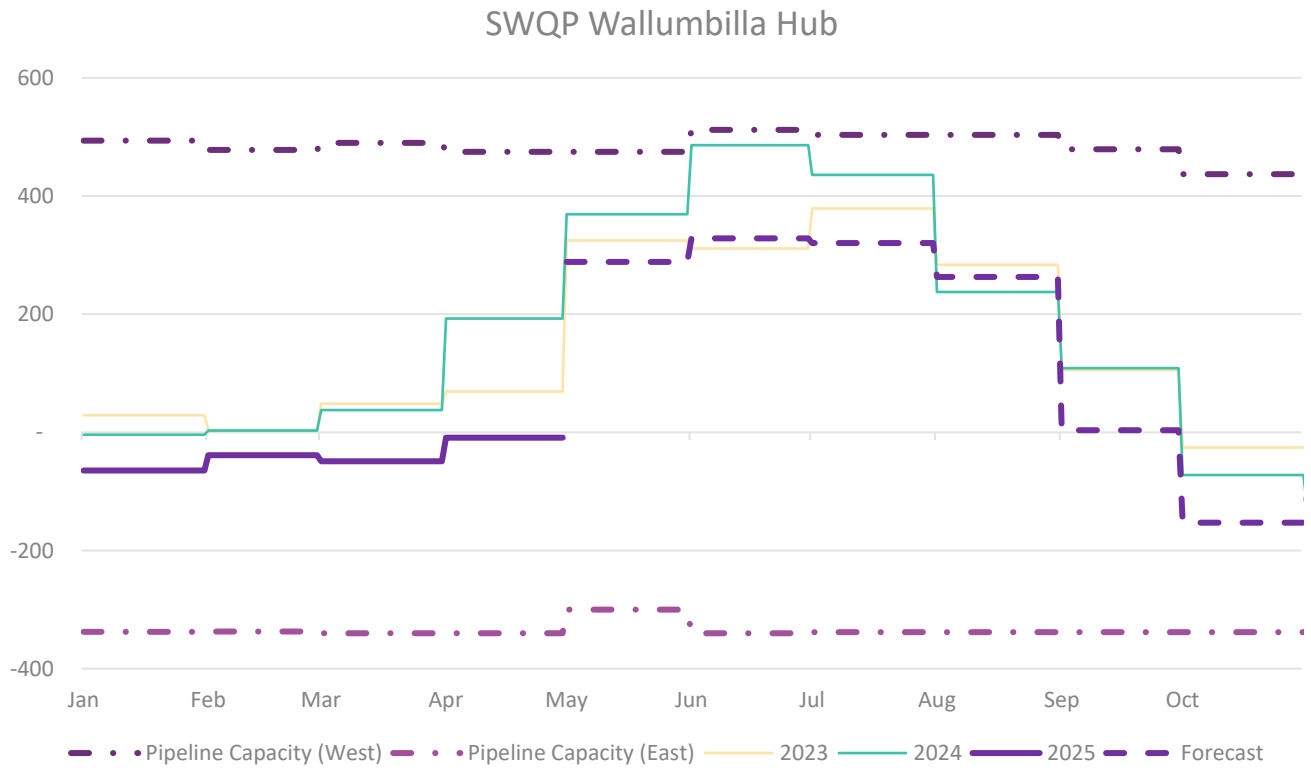


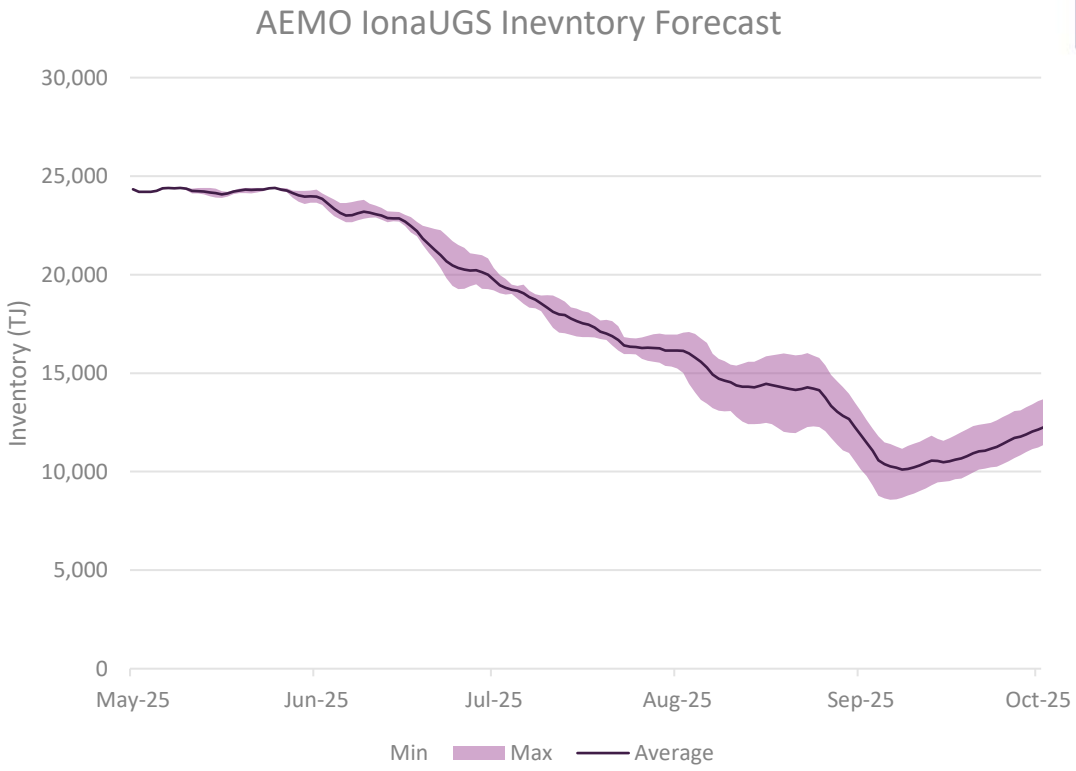


Ask your questions at www.Sli.do #winteroutlook2025

Southern regions winter period supply

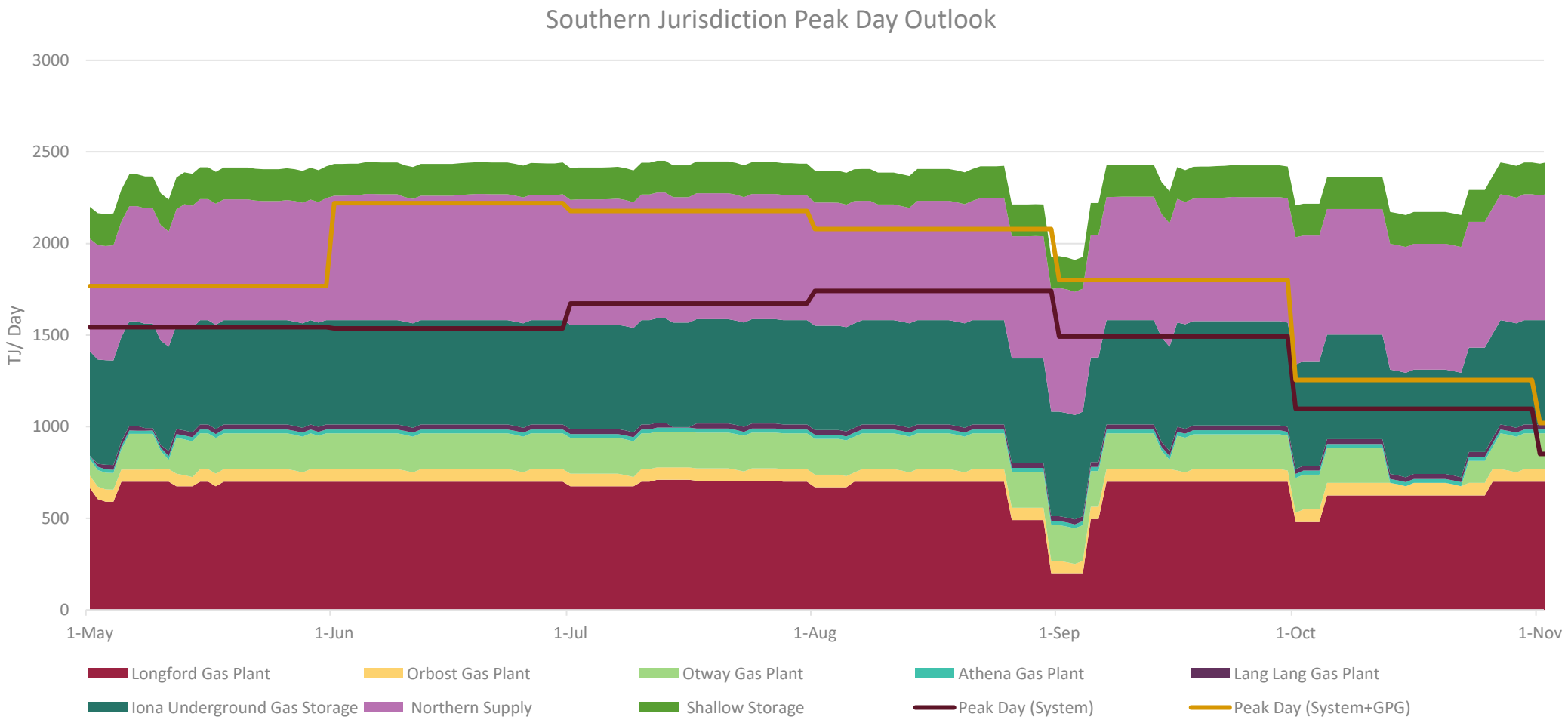
- AEMO modelling of potential flows from Queensland and out of storage, forecast sufficient infrastructure capacity to meet the southern regions production supply shortfall.
- Comment on SWQP vs Iona vs southern production





Ask your questions at www.Sli.do #winteroutlook2025

Peak day supply adequacy



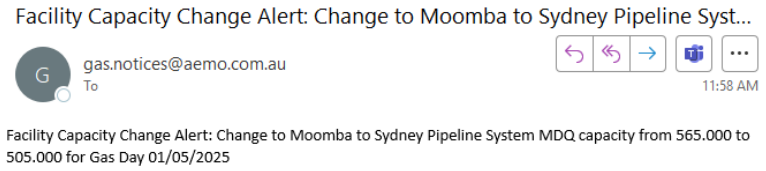
ECGS Monitoring

Monitoring and Assessment

AEMO have developed systems to support monitoring and assessment

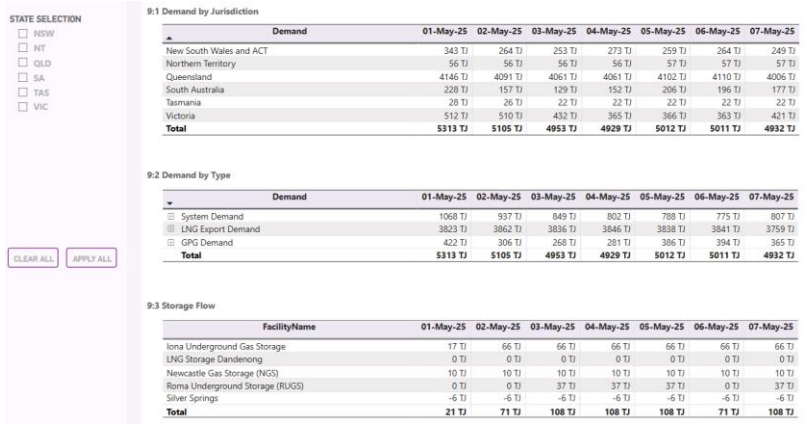
- Facility capacity and LCA change push notices.
- BB data monitoring tools
- East coast supply demand models.

AEMO also heavily relies on early notification of potential issues from facility operators.


Facility Capacity Change Alert: Change to Moomba to Sydney Pipeline Syst...

G gas.notices@aemo.com.au
To 11:58 AM

Facility Capacity Change Alert: Change to Moomba to Sydney Pipeline System MDQ capacity from 565.000 to 505.000 for Gas Day 01/05/2025


STATE SELECTION
NSW
NT
QLD
SA
TAS
VIC
CLEAR ALL
APPLY ALL

9:1 Demand by Jurisdiction

Demand	01-May-25	02-May-25	03-May-25	04-May-25	05-May-25	06-May-25	07-May-25
New South Wales and ACT	343 TJ	264 TJ	253 TJ	273 TJ	259 TJ	264 TJ	249 TJ
Northern Territory	56 TJ	56 TJ	56 TJ	56 TJ	57 TJ	57 TJ	57 TJ
Queensland	4146 TJ	4091 TJ	4061 TJ	4061 TJ	4102 TJ	4110 TJ	4006 TJ
South Australia	228 TJ	157 TJ	129 TJ	152 TJ	206 TJ	196 TJ	177 TJ
Tasmania	28 TJ	26 TJ	22 TJ	22 TJ	22 TJ	22 TJ	22 TJ
Victoria	512 TJ	510 TJ	432 TJ	365 TJ	366 TJ	363 TJ	421 TJ
Total	**5313 TJ**	**5105 TJ**	**4953 TJ**	**4929 TJ**	**5012 TJ**	**5011 TJ**	**4932 TJ**

9:2 Demand by Type

Demand	01-May-25	02-May-25	03-May-25	04-May-25	05-May-25	06-May-25	07-May-25
System Demand	1068 TJ	937 TJ	849 TJ	802 TJ	788 TJ	775 TJ	807 TJ
LNG Export Demand	3823 TJ	3862 TJ	3836 TJ	3846 TJ	3838 TJ	3841 TJ	3759 TJ
GPG Demand	422 TJ	306 TJ	268 TJ	281 TJ	386 TJ	394 TJ	365 TJ
Total	**5313 TJ**	**5105 TJ**	**4953 TJ**	**4929 TJ**	**5012 TJ**	**5011 TJ**	**4932 TJ**

9:3 Storage Flow

FacilityName	01-May-25	02-May-25	03-May-25	04-May-25	05-May-25	06-May-25	07-May-25
Iona Underground Gas Storage	17 TJ	66 TJ	66 TJ	66 TJ	66 TJ	66 TJ	66 TJ
LNG Storage Dandenong	0 TJ	0 TJ	0 TJ	0 TJ	0 TJ	0 TJ	0 TJ
Newcastle Gas Storage (NGS)	10 TJ	10 TJ	10 TJ	10 TJ	10 TJ	10 TJ	10 TJ
Roma Underground Storage (RUGS)	0 TJ	0 TJ	37 TJ	37 TJ	37 TJ	0 TJ	37 TJ
Silver Springs	-6 TJ	-6 TJ	-6 TJ	-6 TJ	-6 TJ	-6 TJ	-6 TJ
Total	**21 TJ**	**71 TJ**	**108 TJ**	**108 TJ**	**108 TJ**	**71 TJ**	**108 TJ**

Potential risks

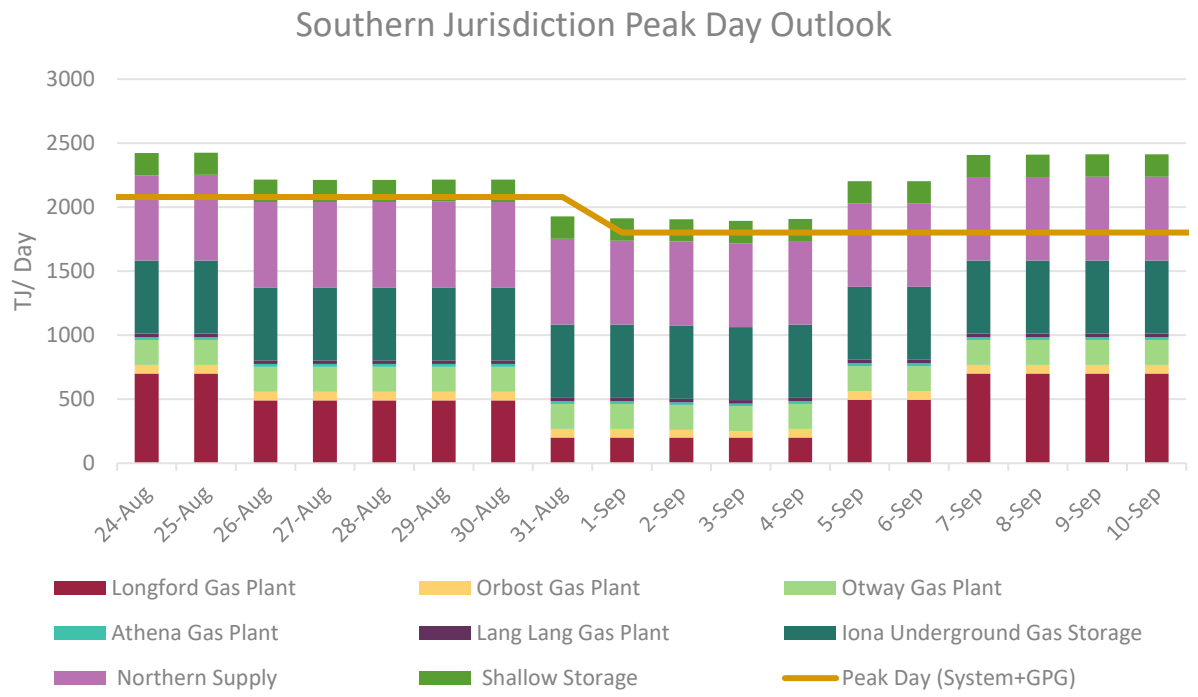
- AEMO is continuing to monitor the East Coast Gas System
  - Moomba Hub flooding
  - Longford Gas Plant planned maintenance

Moomba Hub

- Significant flooding has impacted a large section of central Australia
- AEMO held an industry conference on Thursday 24 April to inform the industry of the above events, with minutes available here
- AEMO is continuing to monitor the situation with the asset owners, but none of the constraints are currently impacting gas supply
- AEMO is conducting supply demand modelling to further understand the risks and changing dynamics of the southern states gas flows that may result from an extension of the current constraints

Longford planned maintenance

- Esso Australia has announced a $200m expansion of its Gippsland Basin assets, including the installation of a new subsea well for the Kipper 1B project, and significant upgrades to the West Tuna platform.
- These expansions require Longford Gas Plant capacity to be reduced while the associated wells/platforms are taken offline for the maintenance, including a significant capacity constraint in August/September 2025 reducing to as low as 200 TJ/d (from 700 TJ/d).
- If the outages are not conducted in this period, there is a risk of delay for longer, deeper reductions of Longford Gas Plant to occur next winter due to rig availability
- During this period there may not be adequate supply on a peak demand day.
- AEMO Operations will continue to communicate peak day adequacy concerns to industry and has a risk management plan to respond to any realised shortfall risk.



GBB relevant entity submissions, daily storage, AEMO Gas Bulletin Board, 2 May 2025.

Iona risk boundaries

AMBER: a condition that may require AEMO to engage with industry to better evaluate the potential risk or threat to supply adequacy. Example:

Condition: Below the curve, refill by 1 May will be challenging with a greater dependance on gas facility availability and moderate demand.

Response: AEMO may engage with industry to obtain additional information and may raise general awareness of the potential risk through discussion in various forums (e.g. GWCF, industry fortnightly update).

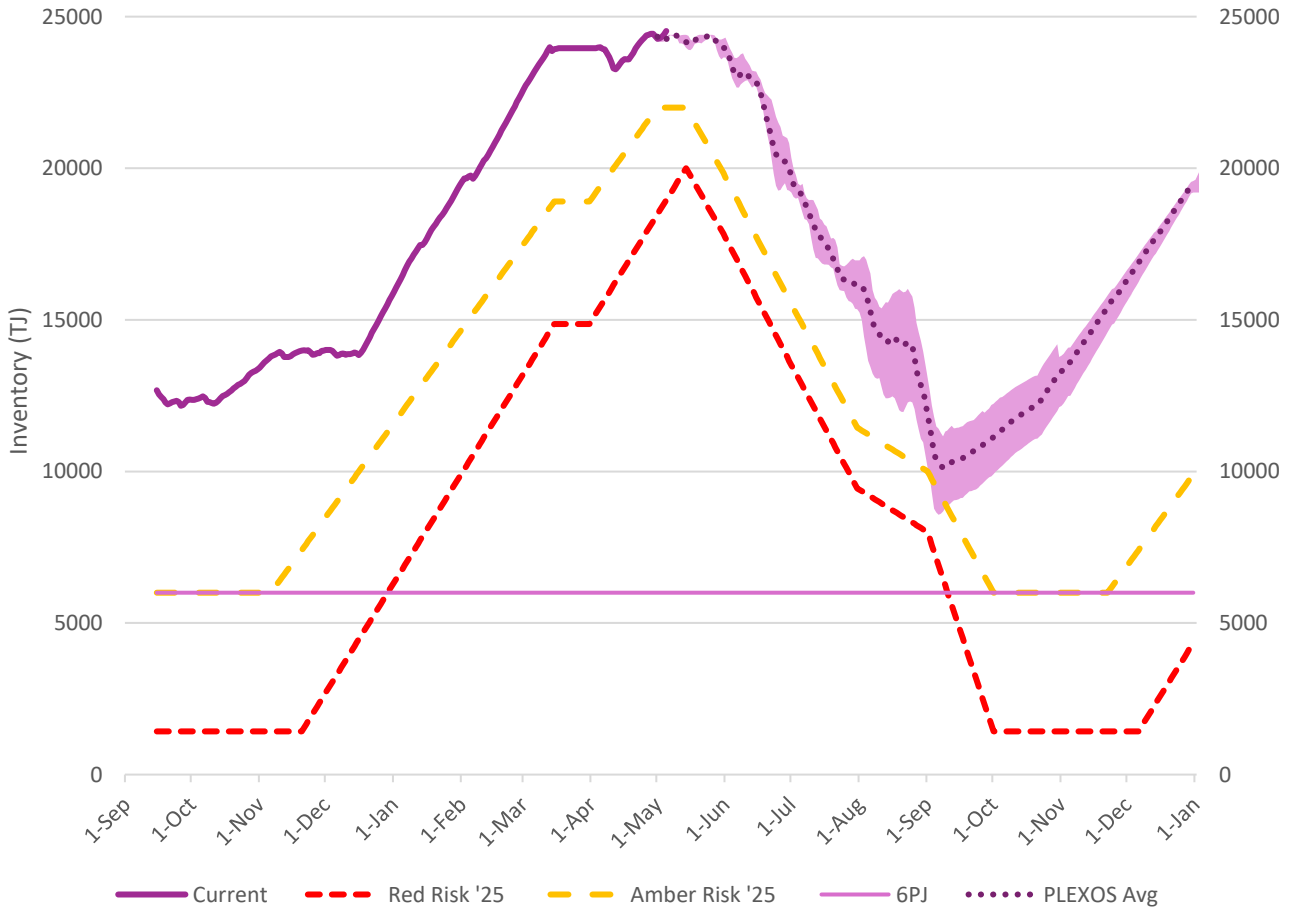
RED: a condition that may require an escalated AEMO response under the National Gas Rules to address a potential or actual risk or threat to supply adequacy. Example:

Condition: below the curve, refill at the maximum facility receipt capacity will be insufficient to reach the inventory requirement reasonably required to manage supply adequacy over the forthcoming winter period.

Response: AEMO may respond via escalation pathways under the NGR that include the Victorian threat to system security processes and east coast gas system processes.

Iona Storage Management

- Due to the current planned maintenance and expected demand, a period of low reserve has been identified in late August/early September.
- Iona UGS has capacity limitations below 25% storage volume
- AEMO is monitoring storage levels in accordance with its Amber and Red risk levels
- AEMO will continue to monitor storage levels, ECGS supply adequacy and current events to ensure that these curves remain relevant.



Generic Risk Management Options

Obtain Additional Information

Information necessary to determine if there is a threat and the required response.

- Consult individual stakeholders
- Convene a Gas Supply Adequacy and Reliability Conference
- DWGM Participant disclosures updates under NGR 324.
  - Storage capacities and inventory available to the participant
  - Available and prospective supply available to a participant and the source of that supply.

Market Information Instruments

AEMO may make a MII requiring the recipient to provide information

- Market Information Order – a class of entities specified in the order
- Market Information Notice – an individual entity.

If given in relation to the exercise of the ECGS function AEMO is not required to provide a (20 day) period for the intended recipients to provide representations on the MII.

Signal Risks or Threats

Objective is to provide stakeholders with the information required to mitigate a potential risk or threat. This will typically include the following:

- the nature and magnitude of the risk or threat event
- the duration and location of that event
- the response, if any, AEMO considers necessary to prevent or mitigate the risk

Signalling Options

AEMO will communicate potential issues to industry to mitigate risk.

- Discussions at the Gas Wholesale Consultative Forum, Winter Outlook Conference and other industry briefing forums
- Risk or Threat Notices
- Gas Supply Adequacy and Reliability conference

Risk or Threat Notice

A Risk or Threat Notice will be published when:

- AEMO considers that the supply of gas in all or part of the east coast gas system, may be inadequate, or may not be relied upon, to meet demand.

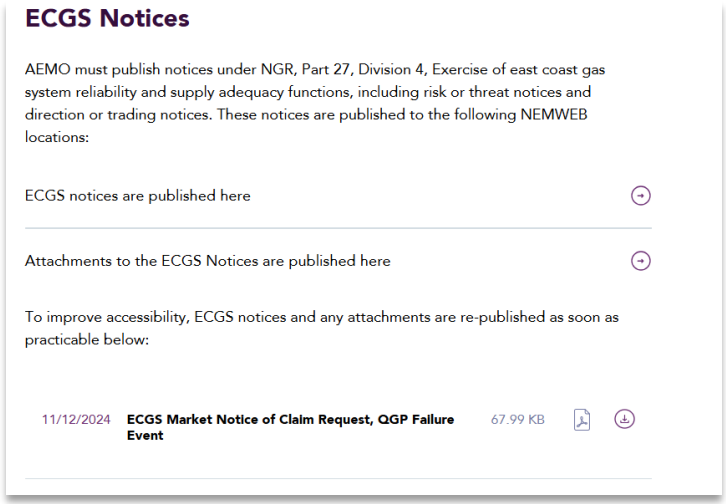
In determining if a Notice must be published AEMO will consider the likelihood of the event occurring.

Example Notice

Recipient: Part 27 Register contacts

Delivery: SMS, Email and published

Publication: AEMO's Website



ECGS Notices

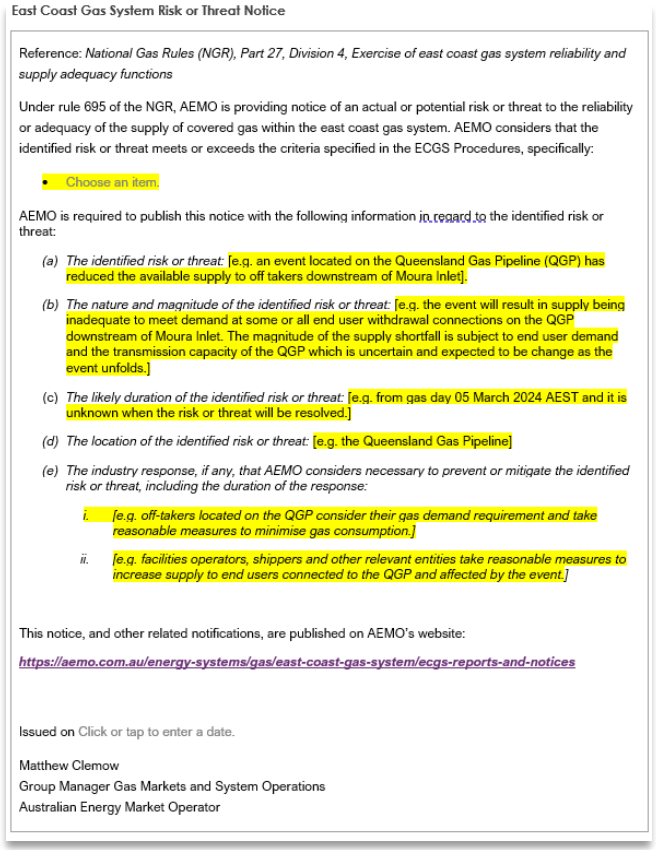
AEMO must publish notices under NGR, Part 27, Division 4, Exercise of east coast gas system reliability and supply adequacy functions, including risk or threat notices and direction or trading notices. These notices are published to the following NEMWEB locations:

ECGS notices are published here

Attachments to the ECGS Notices are published here

To improve accessibility, ECGS notices and any attachments are re-published as soon as practicable below:

11/12/2024 **ECGS Market Notice of Claim Request, QGP Failure Event** 67.99 KB



East Coast Gas System Risk or Threat Notice

Reference: *National Gas Rules (NGR), Part 27, Division 4, Exercise of east coast gas system reliability and supply adequacy functions*

Under rule 695 of the NGR, AEMO is providing notice of an actual or potential risk or threat to the reliability or adequacy of the supply of covered gas within the east coast gas system. AEMO considers that the identified risk or threat meets or exceeds the criteria specified in the ECGS Procedures, specifically:

- Choose an item.

AEMO is required to publish this notice with the following information in regard to the identified risk or threat:

(a) *The identified risk or threat:* [e.g. an event located on the Queensland Gas Pipeline (QGP) has reduced the available supply to off takers downstream of Moura Inlet].

(b) *The nature and magnitude of the identified risk or threat:* [e.g. the event will result in supply being inadequate to meet demand at some or all end user withdrawal connections on the QGP downstream of Moura Inlet. The magnitude of the supply shortfall is subject to end user demand and the transmission capacity of the QGP which is uncertain and expected to be change as the event unfolds.]

(c) *The likely duration of the identified risk or threat:* [e.g. from gas day 05 March 2024 AEST and it is unknown when the risk or threat will be resolved.]

(d) *The location of the identified risk or threat:* [e.g. the Queensland Gas Pipeline]

(e) *The industry response, if any, that AEMO considers necessary to prevent or mitigate the identified risk or threat, including the duration of the response:*

i. *[e.g. off-takers located on the QGP consider their gas demand requirement and take reasonable measures to minimise gas consumption.]*

ii. *[e.g. facilities operators, shippers and other relevant entities take reasonable measures to increase supply to end users connected to the QGP and affected by the event.]*

This notice, and other related notifications, are published on AEMO's website:

https://aemo.com.au/energy-systems/gas/east-coast-gas-system/ecgs-reports-and-notices

Issued on Click or tap to enter a date.

Matthew Clemow
Group Manager Gas Markets and System Operations
Australian Energy Market Operator

https://aemo.com.au/energy-systems/gas/east-coast-gas-system/ecgs-reports-and-notices

East Coast Gas Supply Adequacy And Reliability Conference

AEMO may convene a conference for the following reasons:

- Obtain information
- Assess if there is a risk or threat
- Communicate a risk or threat and the required response

Invite Distribution: Part 27 Register contacts and may also be distributed to STTM and DWGM contacts.

Discussion: in compliance with AEMO's Conference Competition Protocol

Publication: Minutes will be published to AEMOs website

Directions

Directions may be given to a Relevant entity:

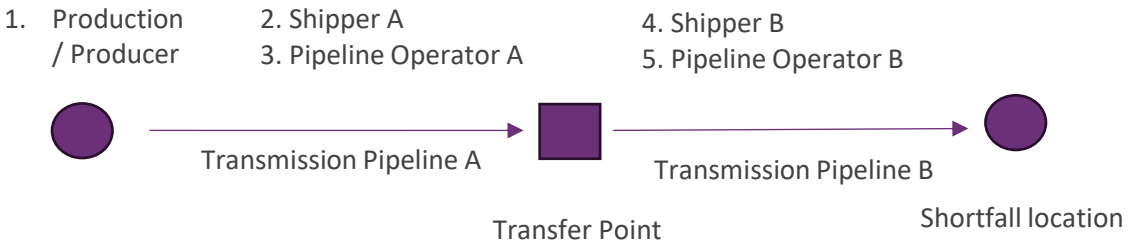
- to the extent necessary to maintain and improve the reliability or adequacy of supply.
- where AEMO is of the opinion it is necessary to prevent, reduce or mitigate a threat

Will not relate to natural gas owned or controlled by a relevant entity that exports natural gas as LNG unless the natural gas is not long-term contract gas within the meaning of guidelines made under regulation 13GF of the Customs (Prohibited Exports) Regulations 1958 of the Commonwealth.

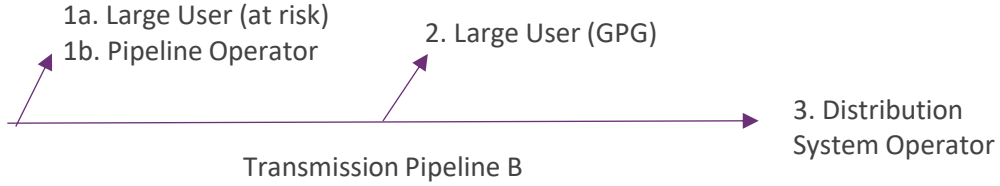
Potential Directions

- Developed with regard to minimising distortionary impacts to the system and industry and consumer costs.
- AEMO will preference response options to increase supply before decreasing demand to mitigate risk.

Example Directions (Supply)



Example Directions (Demand)



Summary of Options

- Obtain information
- Signal and seek a market response
- Intervene through directions

AUSTRALIAN ENERGY MARKET OPERATOR

For more information visit

aemo.com.au