

Meeting Date: 27 February 2025

WINTER 2025 OUTLOOK AND REGULATORY RESPONSES

SECURITY AND RELIABILITY COUNCIL

This paper introduces a presentation from the Authority's Market Monitoring team on Winter 2025 and includes regulatory responses to issues facing the sector. This is a recurring item in the SRC's forward work programme.

Note: This paper has been prepared for the purpose of the Security and Reliability Council (SRC). Content should not be interpreted as representing the views or policy of the Electricity Authority except where specifically noted.

Winter 2025 outlook and regulatory responses

1. Introduction

- 1.1. The SRC has asked the secretariat to provide an update on energy and capacity issues impacting the sector and consumers, primarily in the winter months. This presentation is a recurring item in the SRC's forward work programme.
- 1.2. The secretariat will continue to provide links and updates at each meeting, via the regular *Actions and Updates* paper, enabling the winter presentation to focus on current and emerging issues and updates on the Authority's relevant security and reliability workstreams.
- 1.3. Members are encouraged to consider how they want to receive winter updates from the Authority and what they would like the content to include. Pending further guidance from members, the secretariat will continue to work with the Authority teams to develop and refine the material, to best present the most relevant and up-to-date information.
- 1.4. Members of the Authority's monitoring team will present the material and be available for questions. The Chair has approved the system operator's request to attend this item as observer.
- 1.5. Members are encouraged to consider additional areas of focus or methodology, ask questions, and provide feedback.
- 1.6. The presentation is included as **Appendix A** to this paper.

2. Questions for the SRC to consider

The SRC is asked to consider the following general questions.

- Q1. What further information, if any, does the SRC wish to have provided to it?
- Q2. For future editions, how would members like the material to be presented to support the best possible understanding of the issues and enable robust and meaningful discussion?
- Q3. What advice, if any, does the SRC wish to provide to the Authority?

3. Appendix A: Winter 2025 outlook and regulatory response paper.

Winter 2025 outlook

SRC February 2025

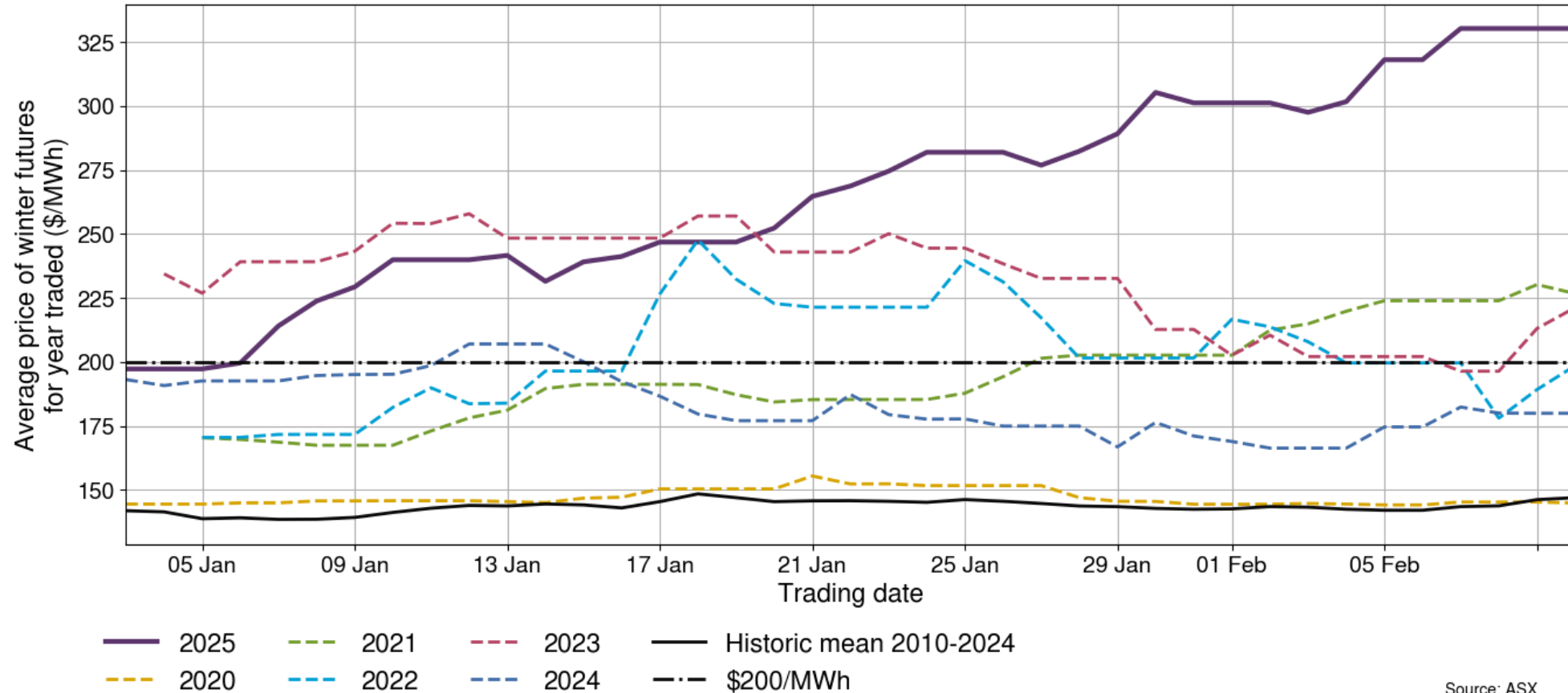
Current Situation

- **Wind generation has been low** so far this year.
- **Hydro storage has continued to decline:** 92% of mean and 75% nominally full as of 11 February.
- January was one of the driest on record, with **low-to-average inflows** expected in February.
- **Gas production** will likely remain low.
- Less **demand response** is available from Tiwai this winter.

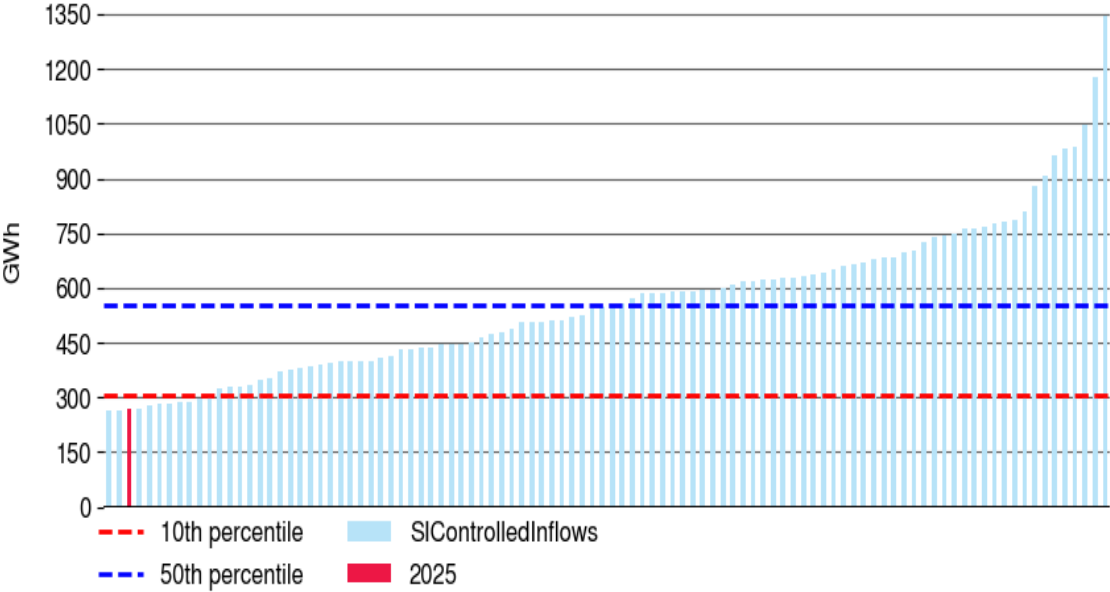
This has driven an increase in spot and future prices:

- Average spot price last week was \$226/MWh
- 2025 and 2026 winter future prices are above \$250/MWh

Forward winter prices are now highest for this time of year



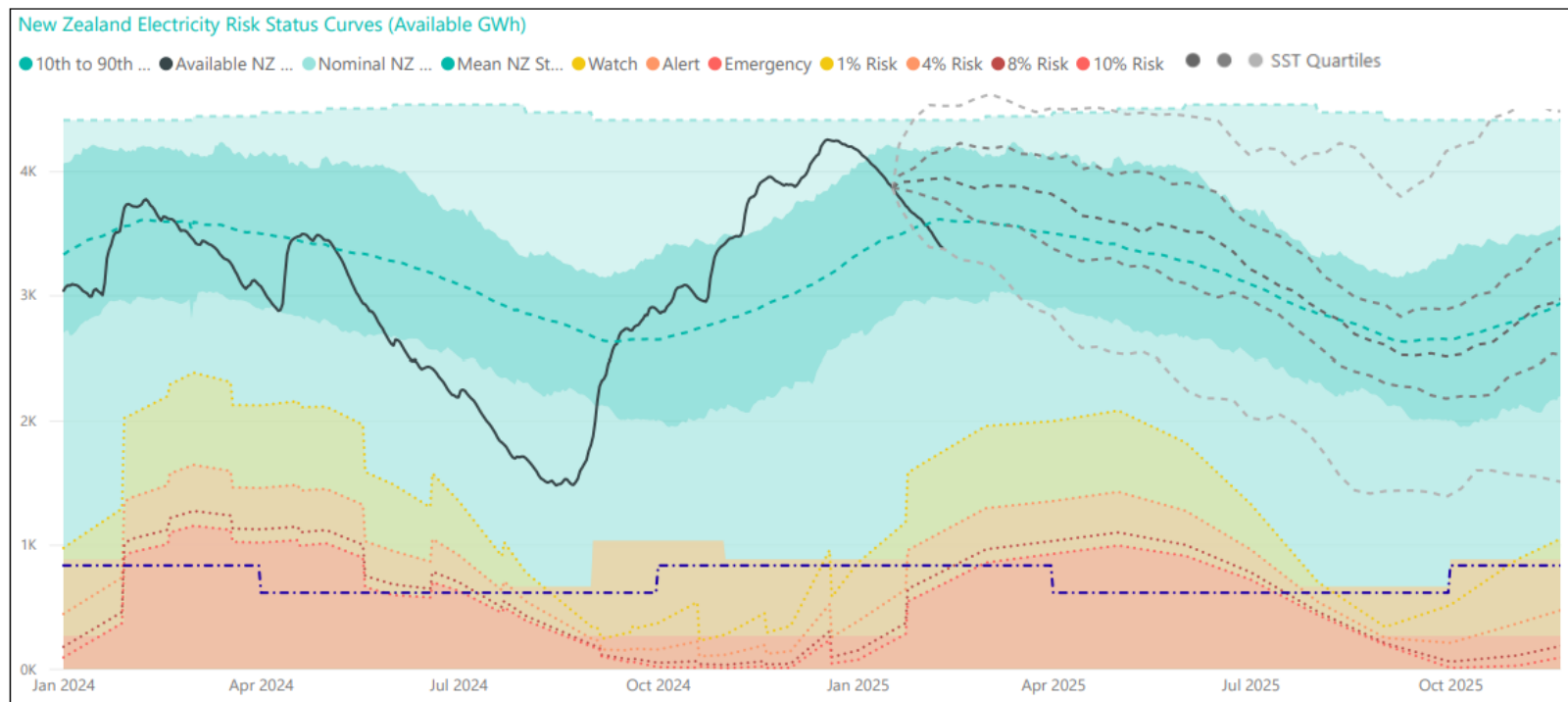
Inflows have been lowest or near lowest on record



Source: Electricity Authority

Hydro storage

- Hydro storage has continued to decline: 92% of mean and 75% nominally full as of 11 February.
- Despite recent low inflows, **simulated hydro storage does not reach the ERCs** in the system operator's Security of Supply Outlook.
- The simulated storage trajectories assume the market will contract to supplement current thermal fuel storage levels, and provide sufficient thermal generation under different simulated hydro inflow scenarios

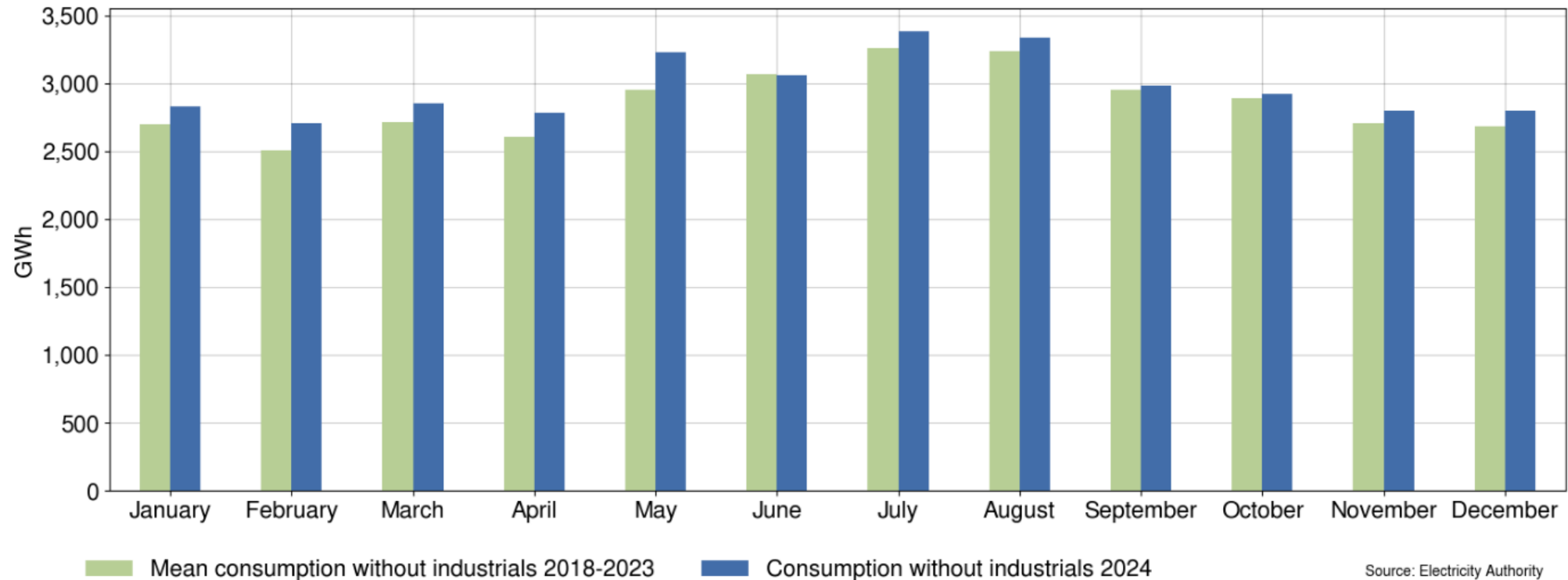


Source: Transpower as the system operator

Note: ERCs reflect the physical capability of the system (rather than contracted thermal fuel arrangements), price-responsive and known contracted demand response, contracted industrial gas swaps, and assume the market is operating to minimise hydro generation as would be done during times of extended low inflows (as observed in winter 2024)

And non-industrial demand has been higher in all months

Monthly total national electricity consumption without major industrial centres in 2024 versus 2018-23 average

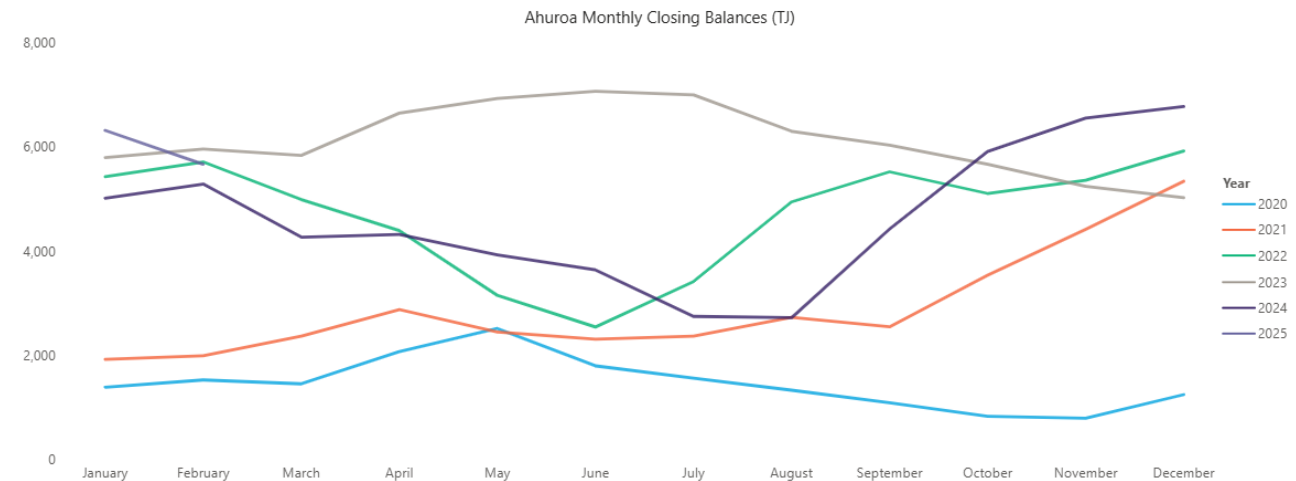
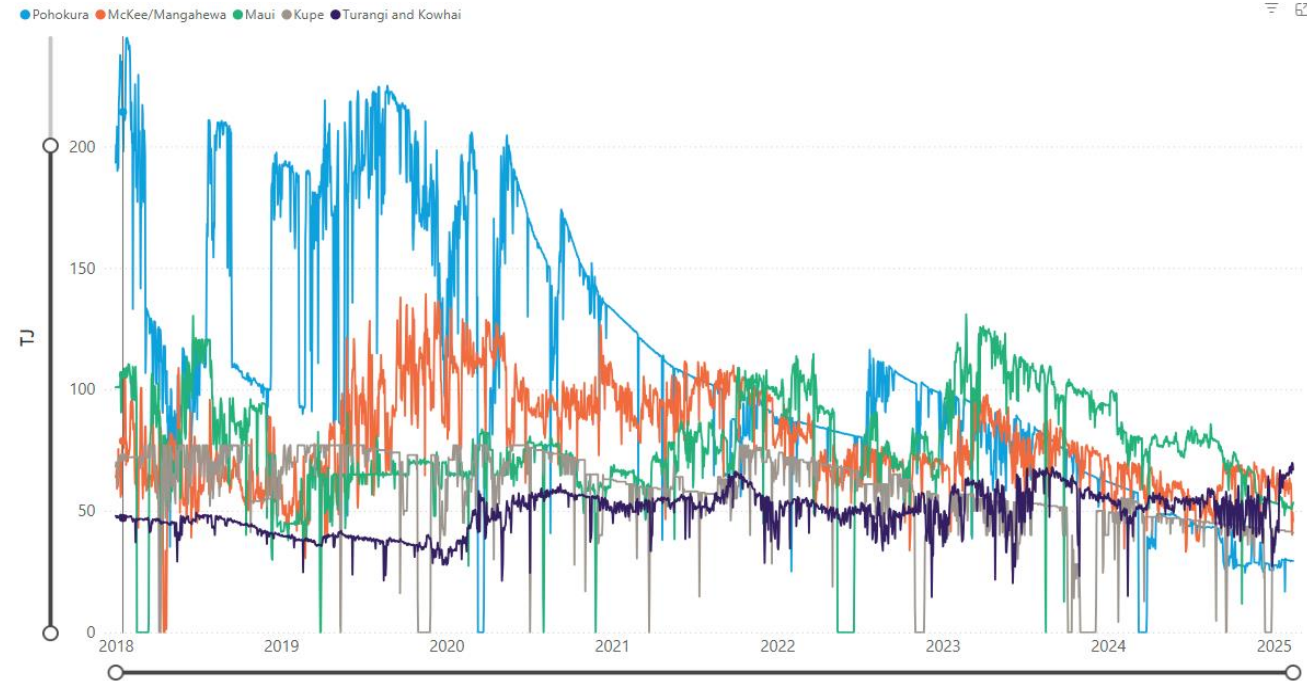


Gas supply

Thermal fuel storage has increased, but gas production will likely remain low

Uncertainty includes:

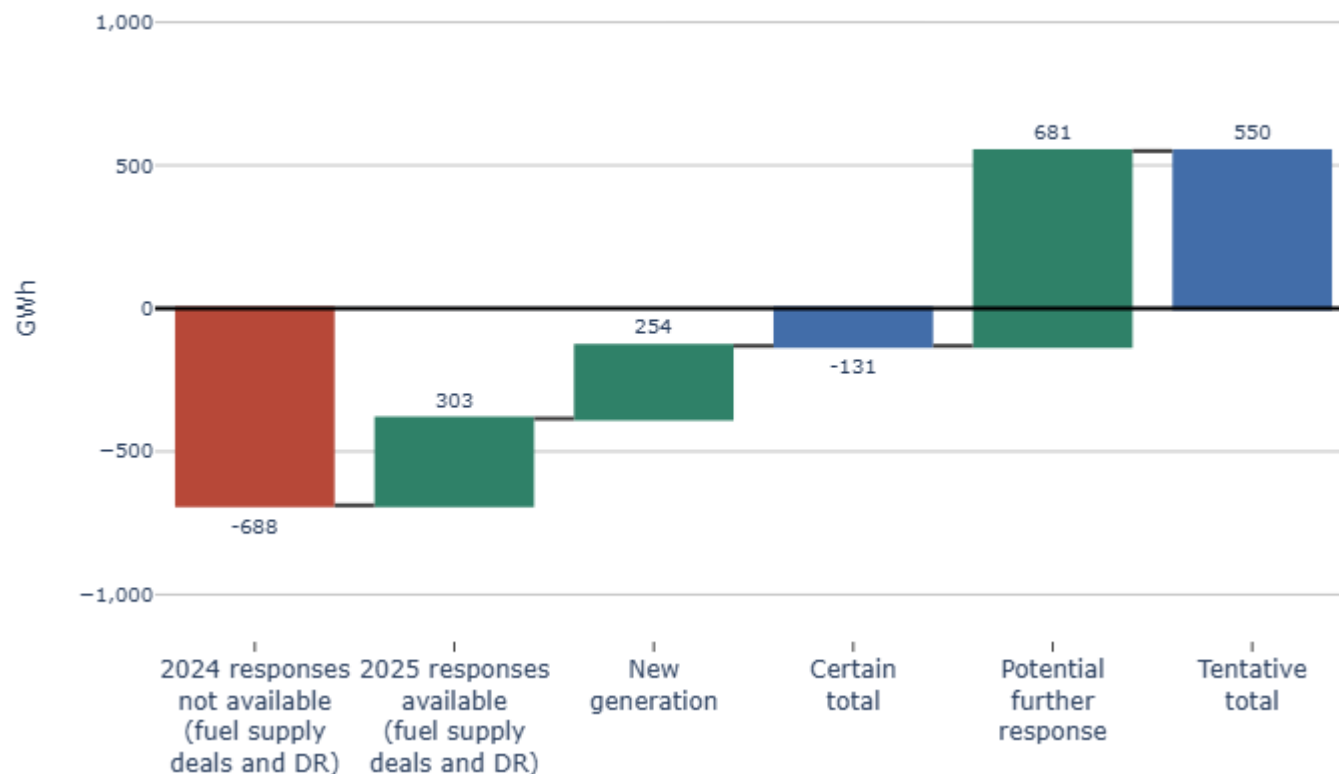
- whether legacy Maui well(s) can be recovered (downturn looking increasingly like it might be permanent)
- the outcome of the POW-05 development well at Pohokura, expected to come online in March



Source: GIC

Winter 2024/ 25 comparison - Energy

Chart compares winter 2025 energy risk position with winter 2024



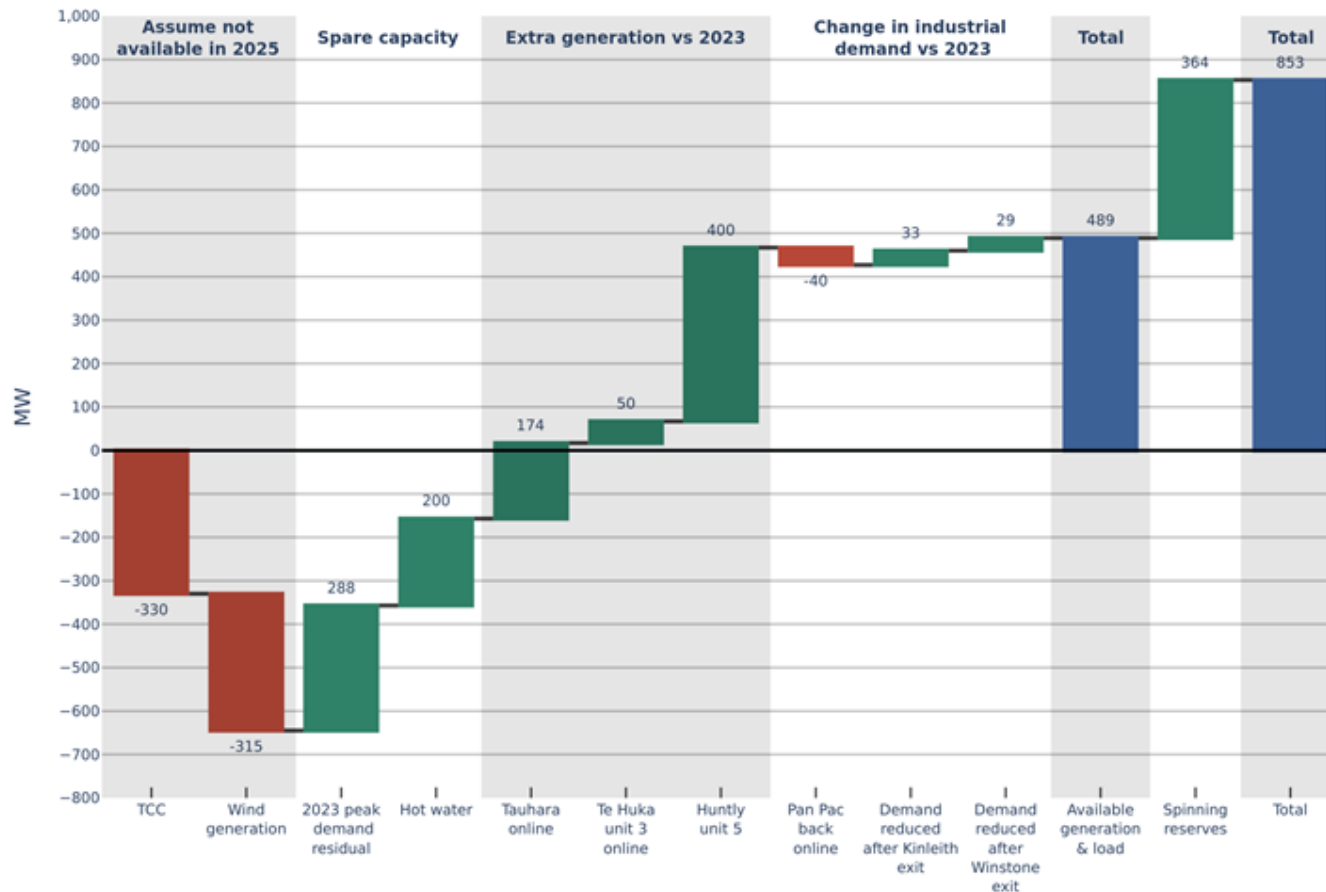
- **High thermal fuel (gas and coal) storage levels have reduced the risk for winter 2025 (assuming maintenance of storage levels is prioritised through contracts)**

Increased gas storage provides more potential contingent arrangements (subject to commercial agreement)

Nett position is ~550 GWH higher than last year

Winter 25 – Capacity (baseline 2 Aug 2023)

Firm margin improvement ~300MW
(+224MW geothermal, +70MW HLY5/TCC swap)

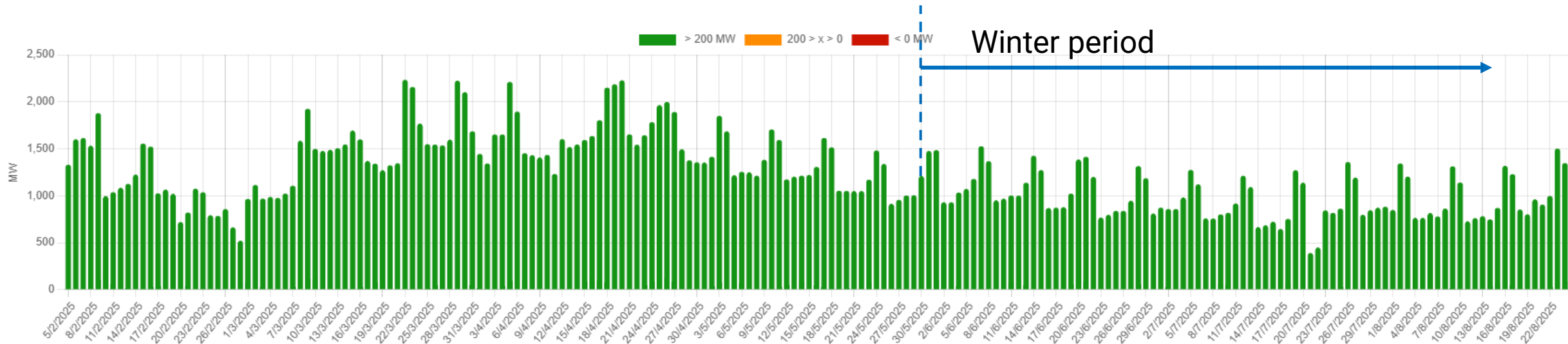


- **Significant increase to firm capacity for 2025**
- Baseline – highest demand peak (2 August 2023) 288MW of unscheduled generation (residual) was still available
- Worst case scenario: TCC not running (-330MW) and wind generation at the time falls to 0MW (-315 MW)
- Improvements since 2023: Huntly unit 5 returned to service (+400MW), Te Huka and Tauhara commissioned (+50MW and +174MW)
- Grid Emergency resources: Consumer hot water load (~200MW), spinning reserve* (364MW)
- Return of Stratford peaker sees maintenance of flexible, fast-start generation margin (available in 2023 but not 2024)
- 4 low residual CANs were issued in 2024 (2 in May, 2 in September), compared to 12 in 2023 and 13 in 2022

*spinning reserve – generation on standby to cover a sudden loss of supply

Capacity Monitoring (New Zealand Generation Balance – NZGB)

- At 10 February, the NZGB is reporting peak capacity margins* of greater than 400MW through to the end of August (assumes the market commits all available plant).
- Full winter assessment (to end of September) will be available early March



* - N-1-G margins reflect the impact on margins of the loss of the two largest sources of supply and the dispatch of reserves to cover the next largest loss

Source: Transpower as the system operator NZGB–
https://customerportal.transpower.co.nz/nzgb/generation_balances#chart=1&typeId=base&scenarioId=default

EA Near-term regulatory action underway

Energy risk management

Winter 2025

- **Ensuring generators are prepared for winter** (Generator contingent arrangements review)
- **Ensuring market resource information is collected and published** (Thermal fuel publication, reinforce system operator information gathering powers, support system operator minor ERC review)

Winter 2026+

- **Support system operator contingent storage buffer levels review** (SOSFIP part 6)
- **Ensure security of supply standards are up to date** (System security assumptions document (SSAD) review)

Capacity risk management

Winter 2025

- **Reinforce market signals and information to commit resources when needed** (Scarcity pricing review, outage coordination improvements, system operator low residual review)
- **Risk management products are available** (Standardised flex products (Task force 1B))

Winter 2026+

- **Reinforce market signals to build and commit flexible resources** (Peak management ancillary service (MFK) review, Industrial consumer demand response rewards (Taskforce 2D))
- **Ensure security of supply standards are up to date** (System security assumptions document (SSAD) review)