Market Operations Weekly Report - Week Ended 26 October 2025

Overview

New Zealand hydro storage increased to 141% of the historic mean last week and now sits above the 90th percentile.

This week's insight looks at severe weather events over the past week and the impacts on system operations.

Security of Supply

Energy

Inflows to catchments continued last week resulting in national hydro storage increasing to 141% of the historic mean from 121% the week prior. South Island hydro storage increased from 118% to 142% of historic mean while North Island storage decreased from 143% to 134%.

Capacity

Capacity residual margins were relatively healthy for most of last week despite extreme weather. The lowest residual of 799 MW occurred during the morning peak on Thursday 23 October during stormy weather across the motu. Although Thursday morning's residual margin was relatively healthy, there was a significant loss of supply (LoS) in the upper South Island due to transmission outages resulting from the weather. More information on this can be found in the insight on the next page.

We continue to monitor capacity closely during the spring shoulder season despite decreasing demand. Outages, reduced thermal unit commitment, and the possibility of cold snaps or large swings in wind generation mean that capacity can be tight despite much lower peaks than in winter.

The N-1-G margins in the NZGB forecast are healthy through to mid December. Within seven days we monitor these more closely through the market schedules. The latest NZGB report is available on the NZGB website.

Electricity Market Commentary

Weekly Demand

Total demand last week decreased from 762 GWh the week prior to 743 GWh and is similar to that observed at this time of year over the past three years. The highest demand peak at 5,449 MW occurred at 8:00 am on Monday 20 October, which was more than 200 MW lower than the previous week's demand peak.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week decreased to $10/MWh from $26/MWh the week prior in line with increasing hydro storage and higher than average wind generation. Energy prices remained below $10/MWh for almost the entire week, with the exception of Thursday 23 October, where energy and reserve prices spiked due to the weather induced disruptions on the system.

Wholesale prices peaked at $842/MWh at Ōtāhuhu at 9:30am on Thursday 23 October following the tripping of Pole 2 in the extreme weather event.

Generation Mix

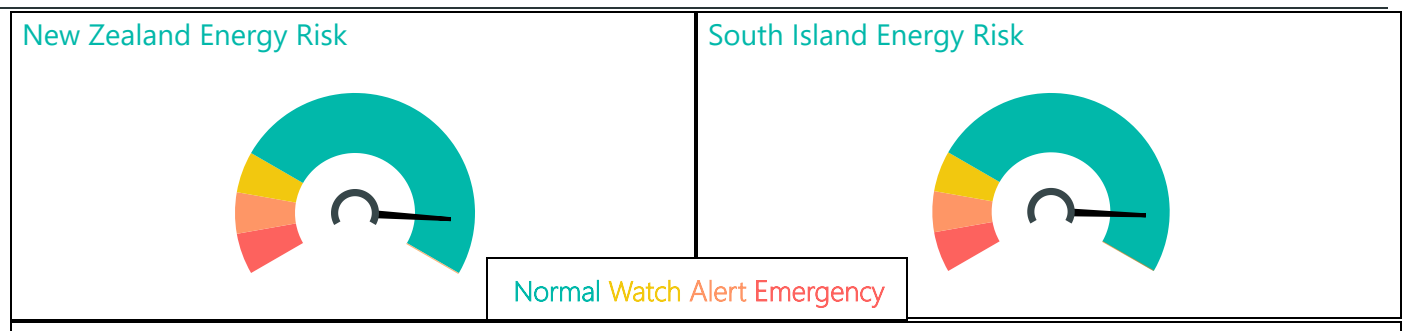
Last week had the highest average renewable contribution since 2014 at 98.2% of the generation mix. Wind generation slightly increased its share of the mix from 13% to 14% of the mix, while remaining above its average contribution of 9%. Hydro generation was above average and remained at 62% of the mix. Thermal generation remained low at just 1% of the mix reflecting high hydro and wind generation and thermal outages including Huntly unit 5. The geothermal share decreased to 21% of the mix, and solar contributed to 1% of the generation mix.

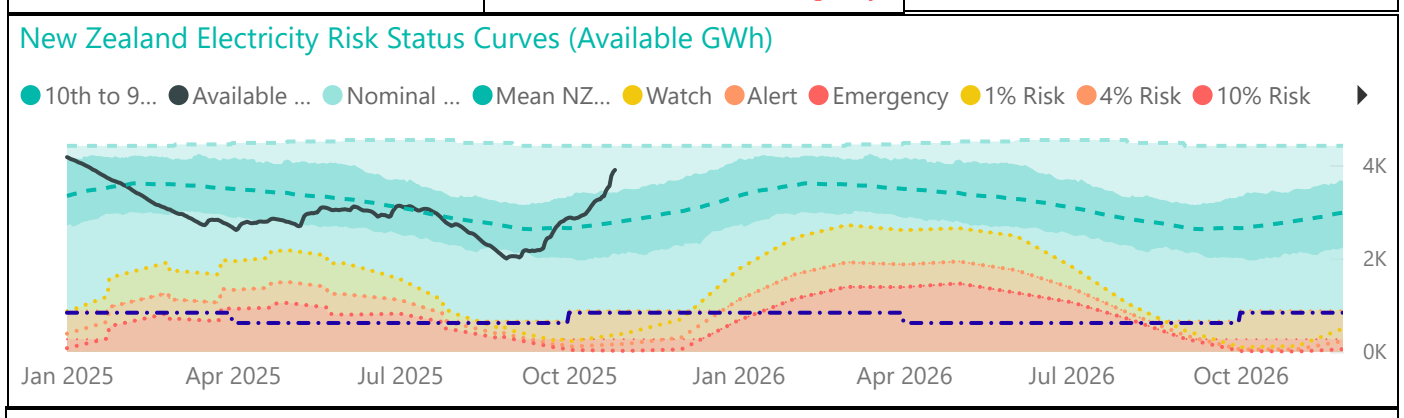
HVDC

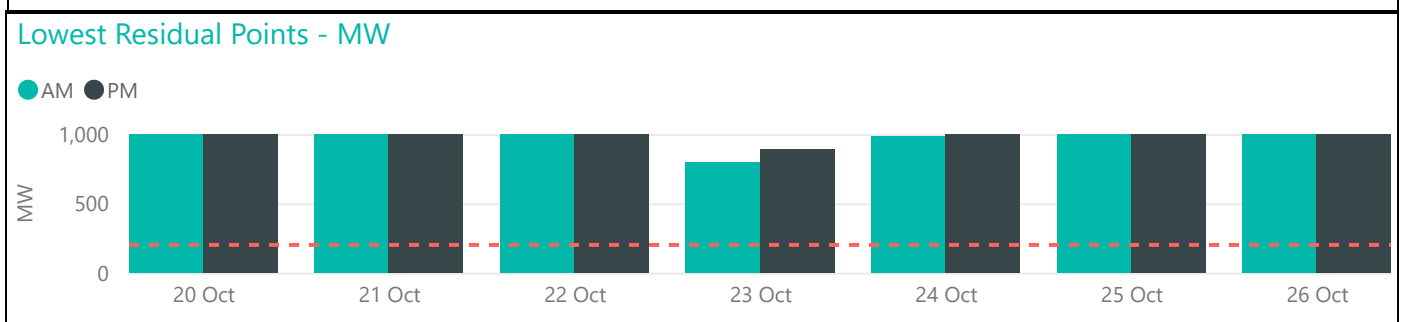
HVDC flow last week was predominantly northward with the exception of some brief periods of overnight low southward flow. These periods coincided with periods of high wind generation and lower North Island demand. In total, 48 GWh was transferred north and just 1 GWh was transferred south.

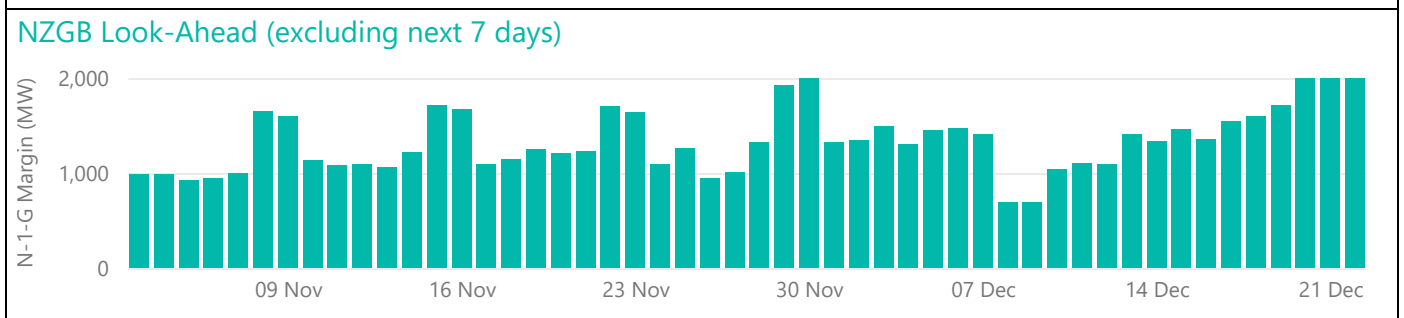
SOSFIP Consultation Open

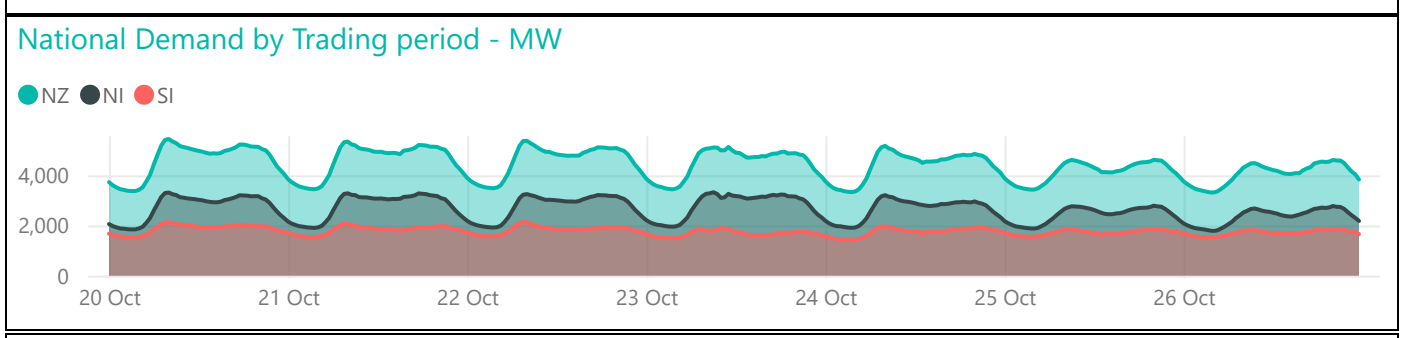
Consultation on a draft amendment to the System Operator Forecasting and Information Policy (SOSFIP) is still open. The closing date for submissions is 5pm on Tuesday 4 November 2025, with cross-submissions due by 5pm on Tuesday 11 November 2025.

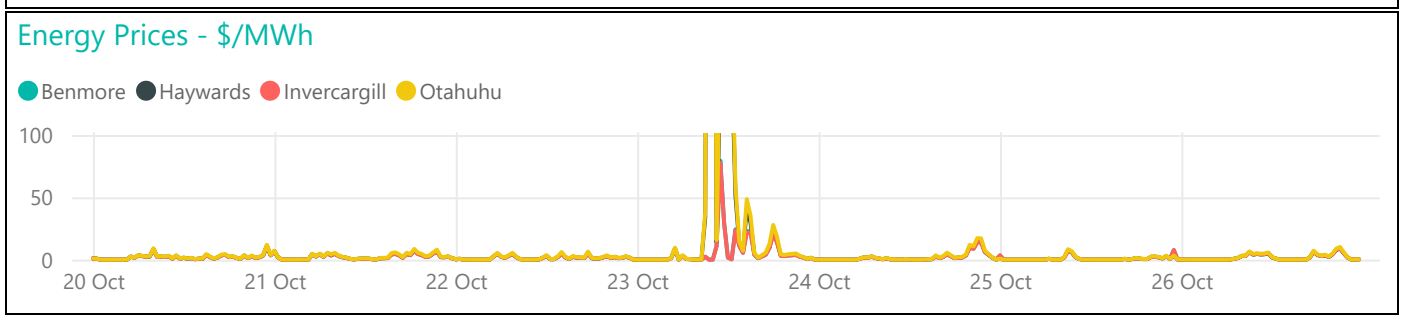


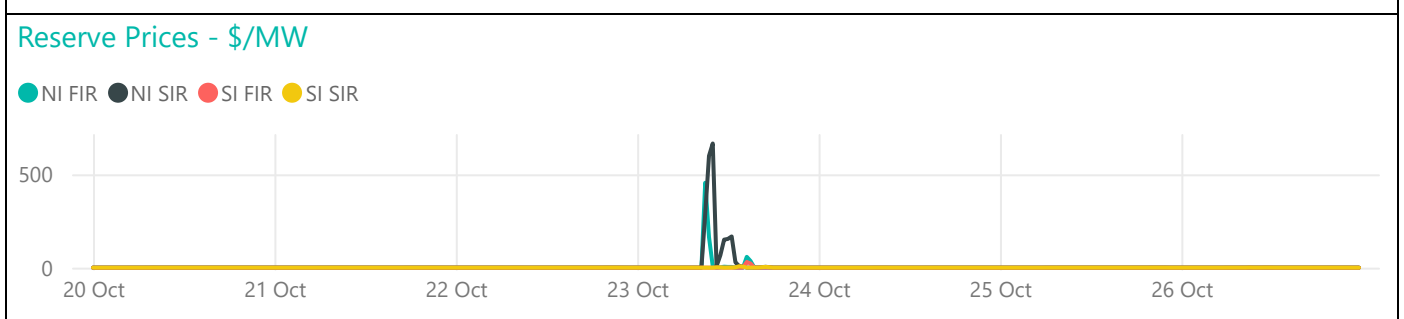


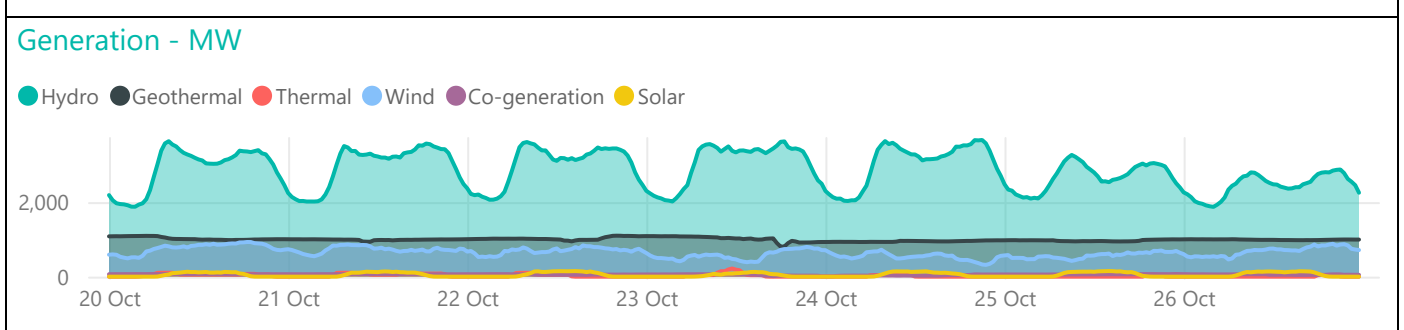


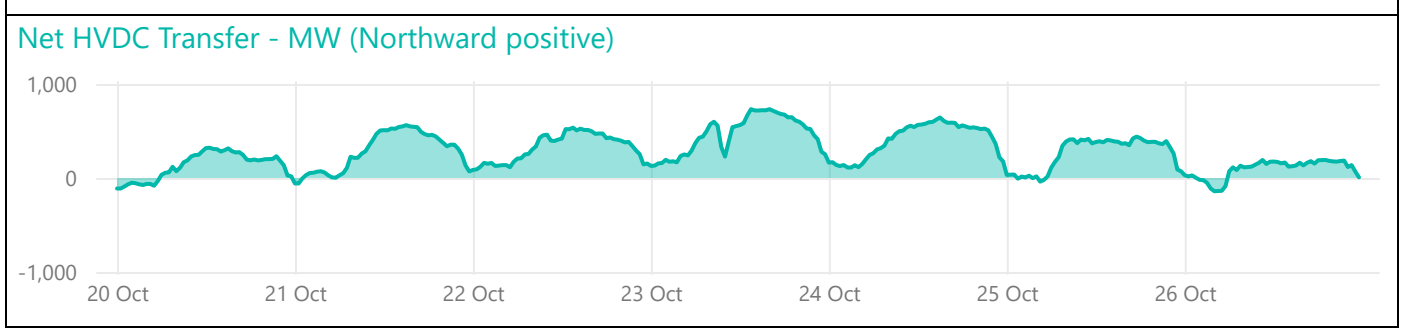












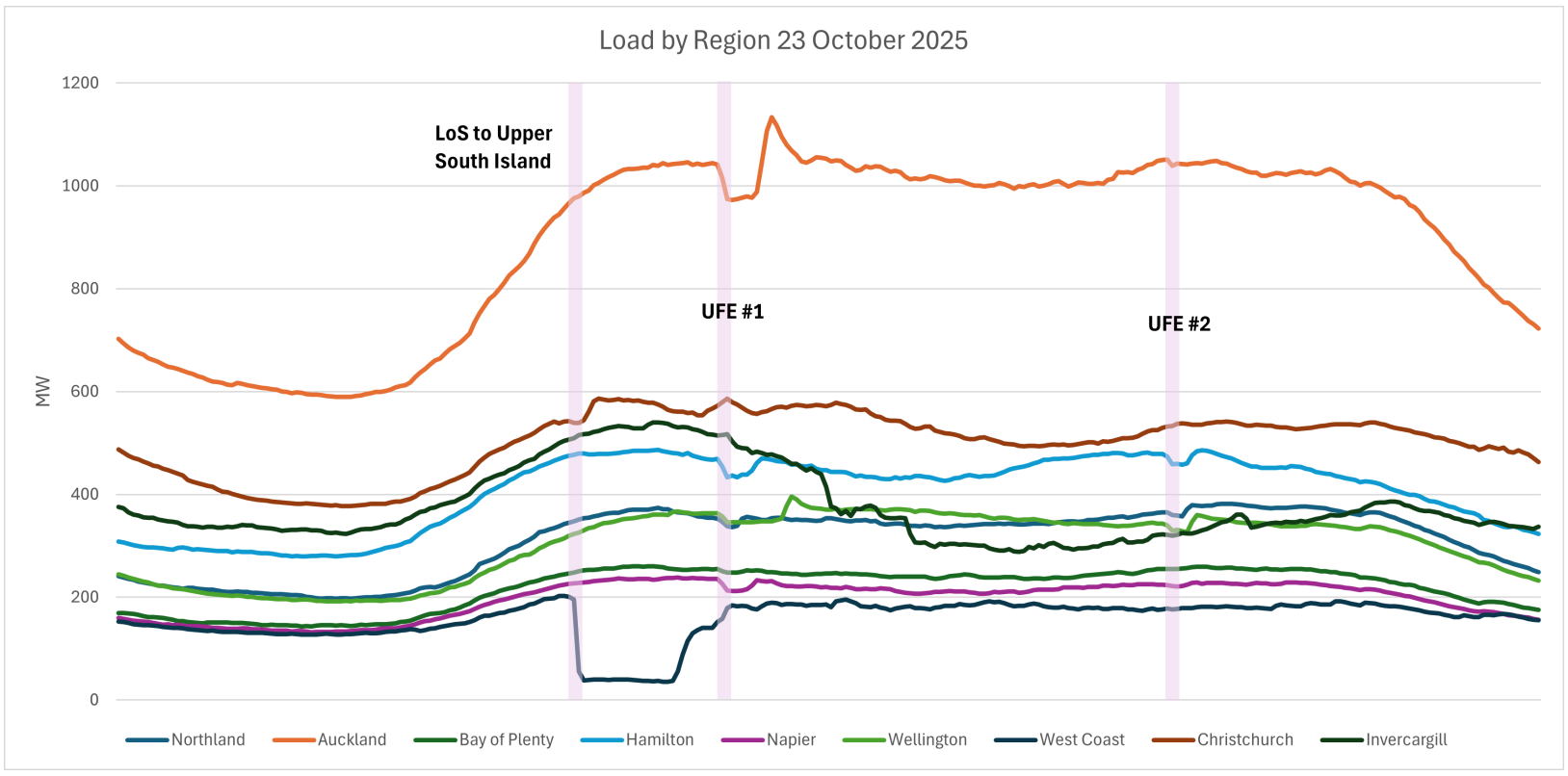
Weekly Insight - High renewable share in recent weeks

Severe weather conditions across the country over the past week have placed significant pressure on New Zealand's power system, resulting in several notable operational events and challenges for system security.

On **Thursday 23 October**, storm activity in the upper South Island contributed to a **loss of supply (LoS)** at ~7:40am, affecting the top half of the South Island and West Coast for over an hour. The event coincided with transmission line faults during high winds and heavy rain. This was then followed by an **under-frequency event (UFE)** at 10:12am, the same time that Pole 3 of the HVDC tripped. Later that same day, at 5:42pm, there was another **UFE** as the system responded to the sudden loss of generation at Tauhara and Te Huka geothermal stations. The frequency excursions were contained within operational limits and fast-acting reserves helped to stabilise the grid. These three significant events made for one of the busiest days for the National Coordination Centre in recent history.

Figure 1 below shows the load profile of the New Zealand electricity grid by major region on 23 October. Several disruptions can be seen throughout the day.

Figure 1. Regional load profiles on 23 October 2025



Severe weather conditions returned, and on **Tuesday 28 October**, another major **LoS event** impacted **the Hawke's Bay region**, temporarily interrupting supply to parts of the East Coast. Stormy weather and lightning strikes disrupted the Whirinaki-Waireiki Wairakei and Harapaki-Tauhara circuits (see Figure 2) at about 2:29am, tripping a large portion of the region's generation and load. With reduced generation availability and elevated demand due to cooler temperatures, the System Operator then issued a **Low Residual Notice** for the **morning peak period**, signalling tight supply margins and the need for prudent management of generation and reserves.

Figure 2. Lightning impacted area, tripping East Coast circuits

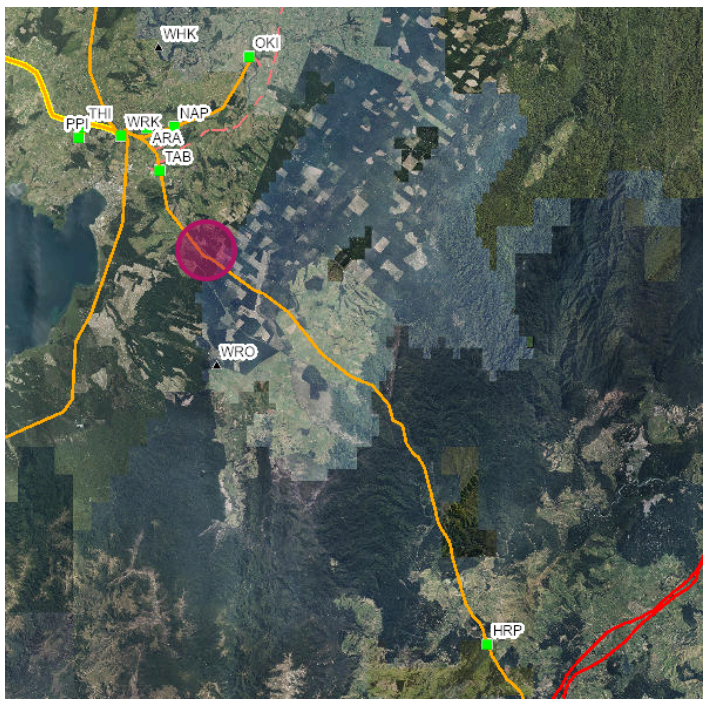


Figure 3. Hawke's Bay load profile on 28 October

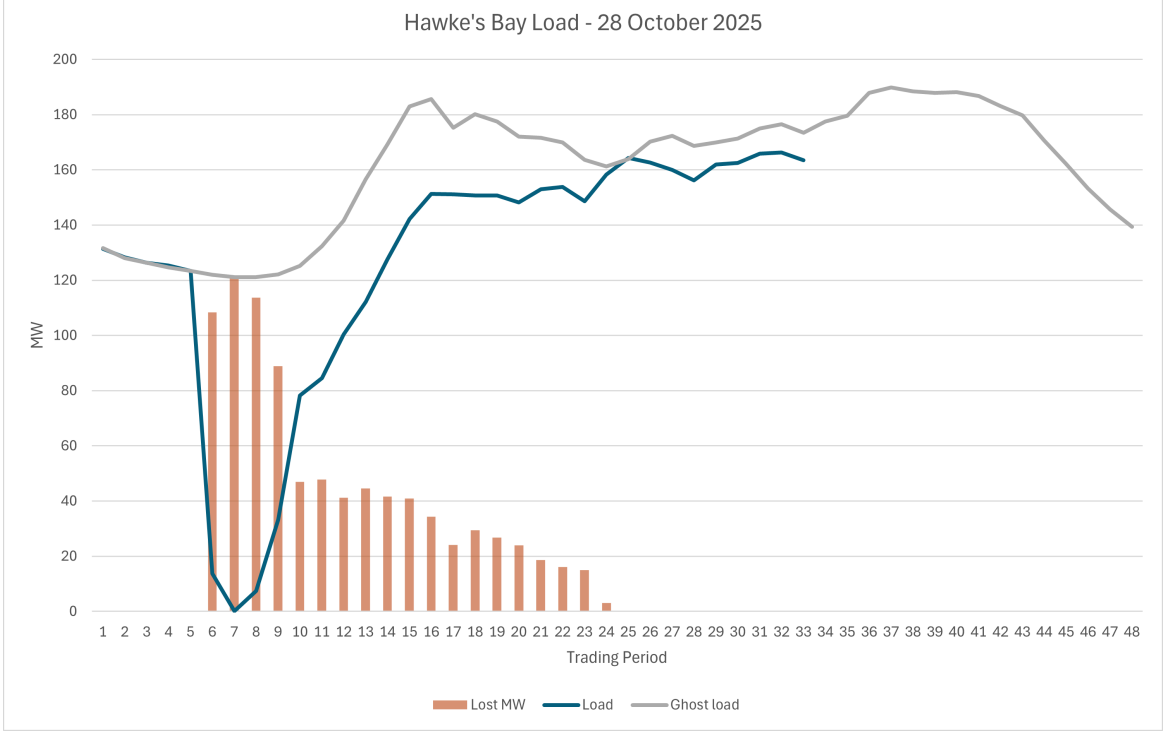


Figure 3 shows the load profile of the Hawke's Bay region on 28 October, compared with a 'ghost' load profile which estimates what load would have looked like on the day without the LoS event.

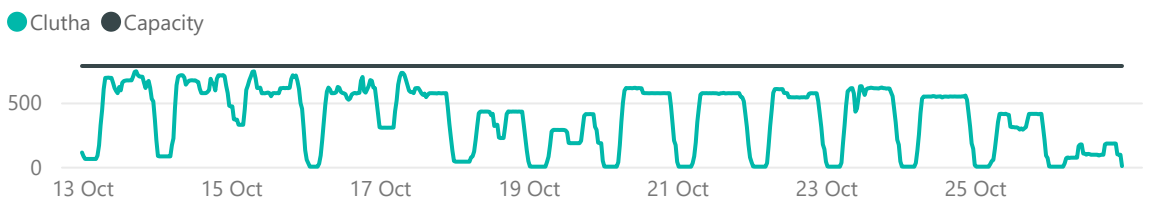
Throughout this extended period, Transpower's operational teams worked closely with generators and distribution companies to restore supply safely and maintain system stability. Reserve activation, demand management, and coordination across the industry were key in resolving the undesirable system impacts of the extreme weather. While all events were managed without prolonged system-wide impacts, the week underscores the **increasing operational challenges posed by extreme weather**, particularly as the power system transitions toward greater renewable generation and more geographically dispersed supply.

The System Operator continues to review the events in detail to identify lessons learned and opportunities to further enhance system resilience under adverse weather conditions.

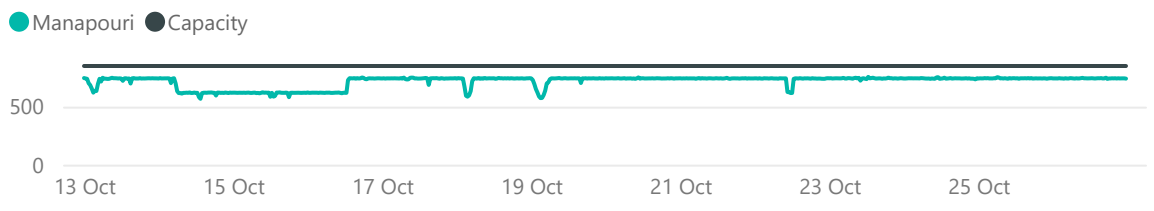
Generation Breakdown - Last Two Weeks

Measured in MW and displayed at trading period level for last 14 days

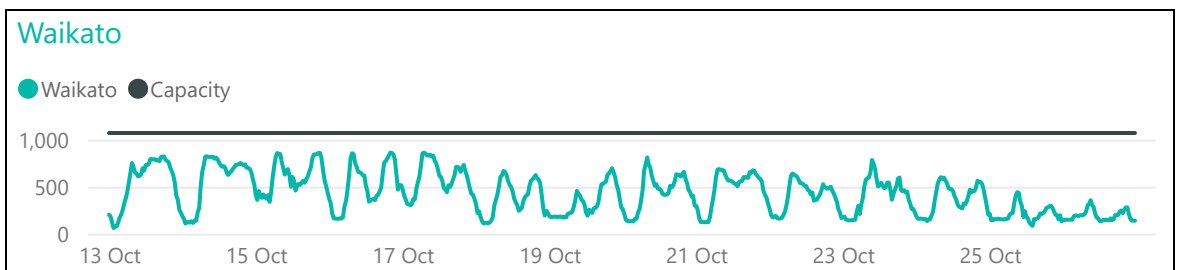
Clutha



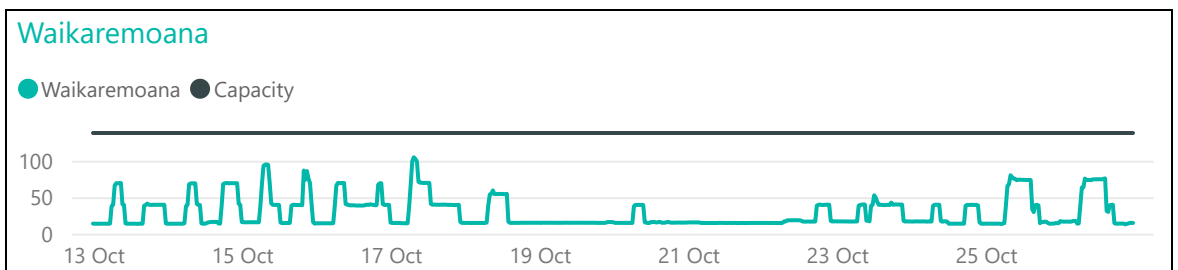
Manapouri



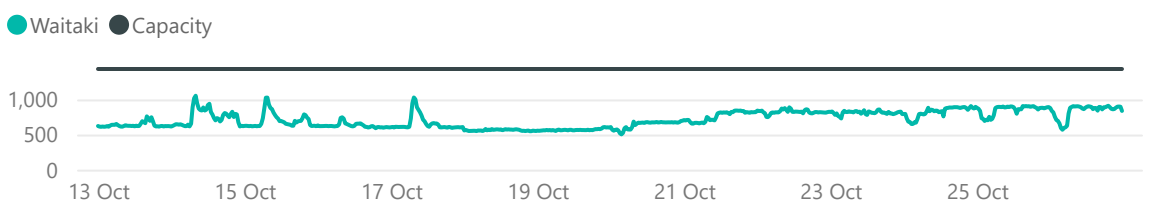
Waikato



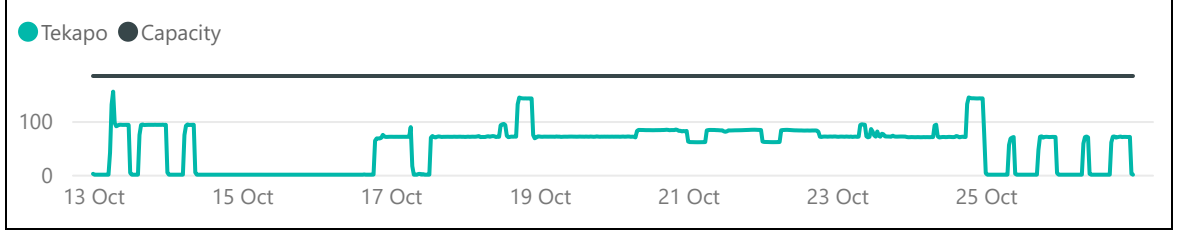
Waikaremoana



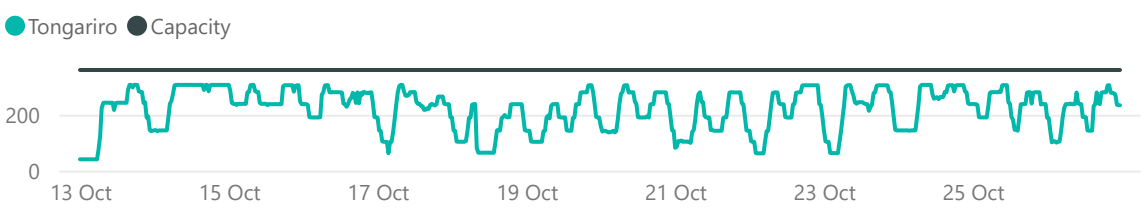
Waitaki



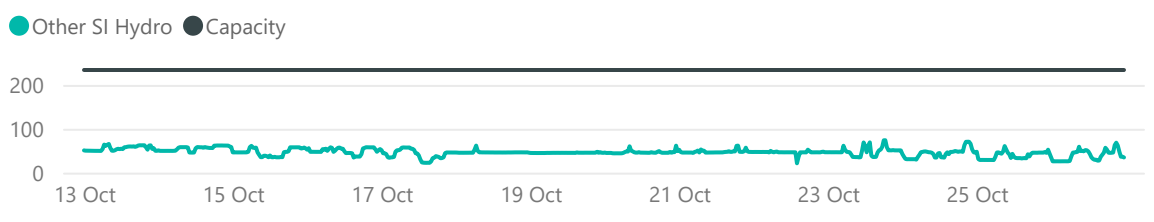
Tekapo



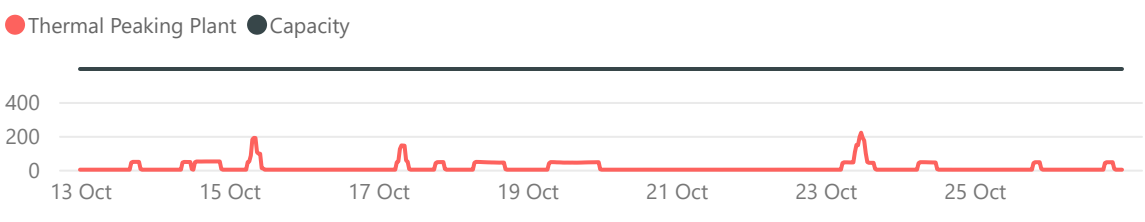
Tongariro



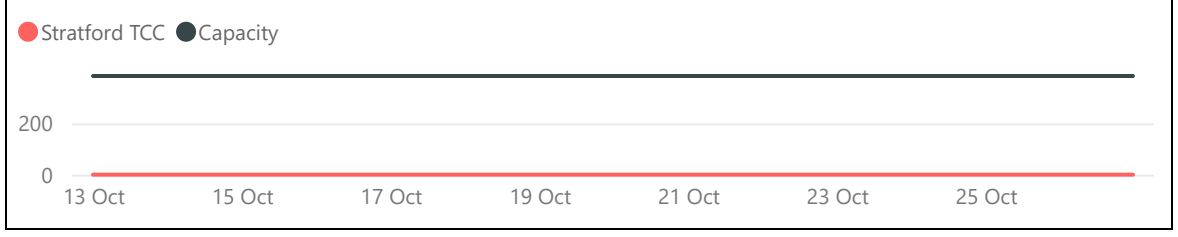
Other SI Hydro



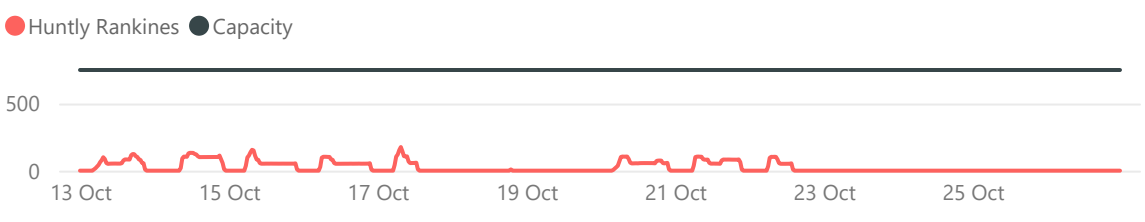
Thermal Peaking Plant



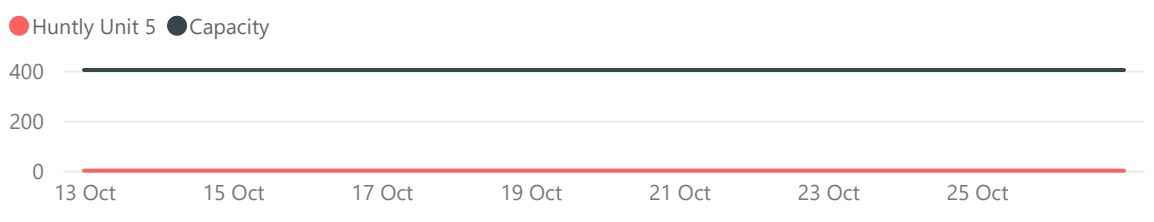
Stratford TCC



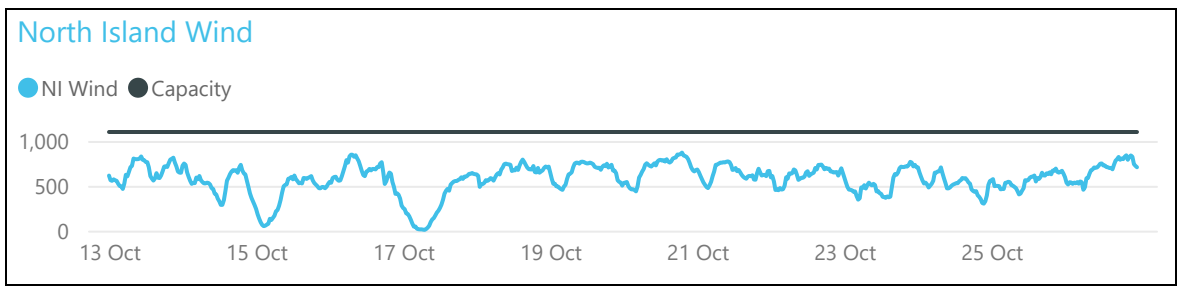
Huntly Rankines



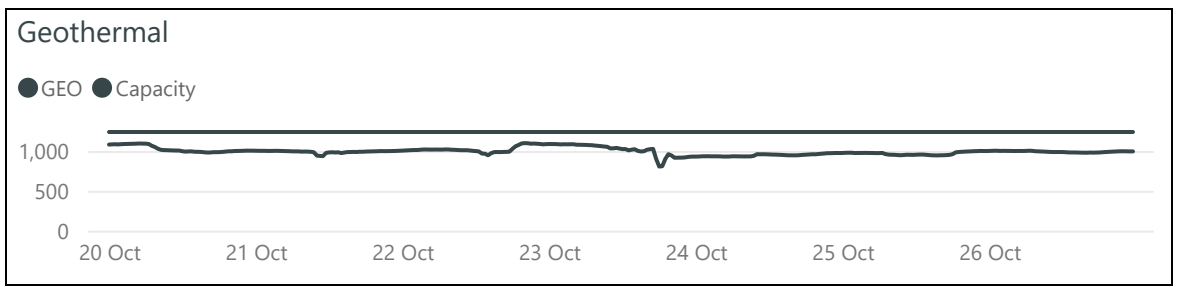
Huntly U5



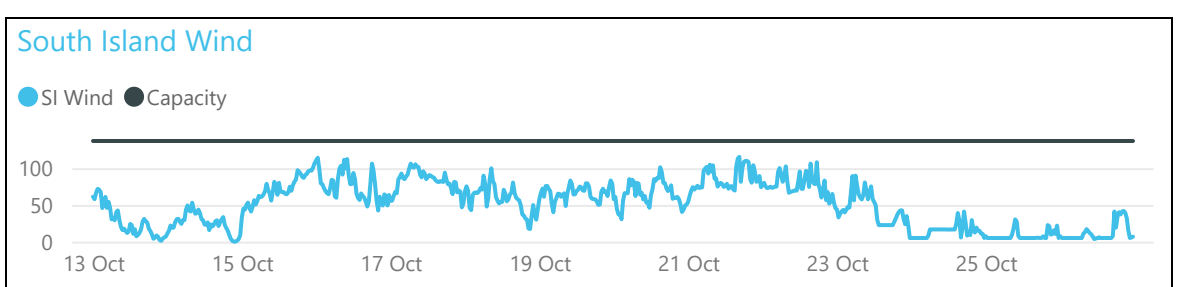
North Island Wind



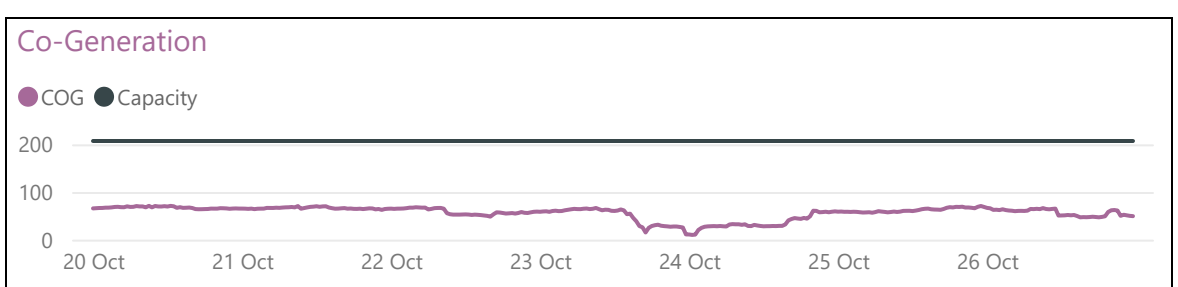
Geothermal



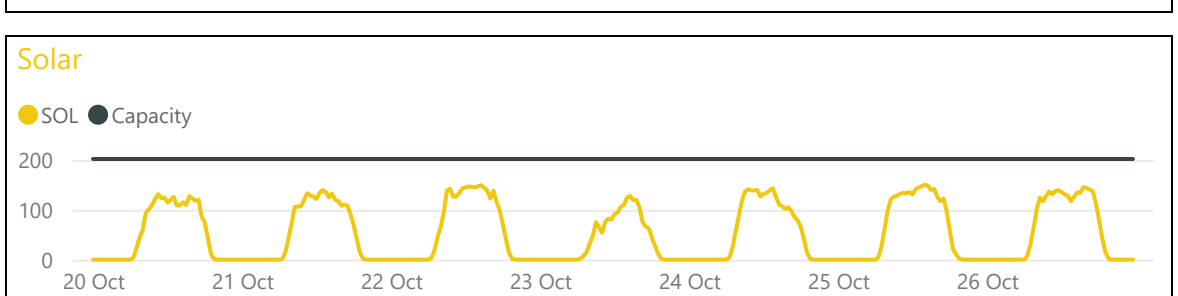
South Island Wind



Co-Generation

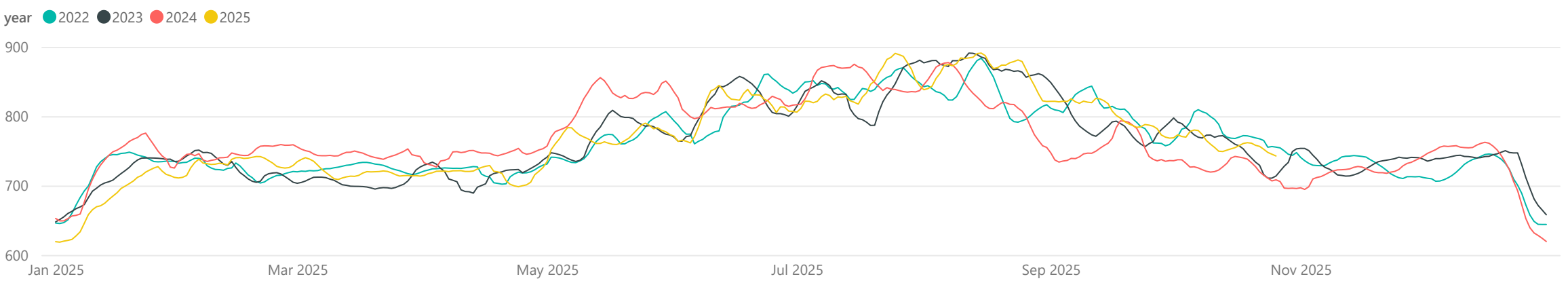


Solar

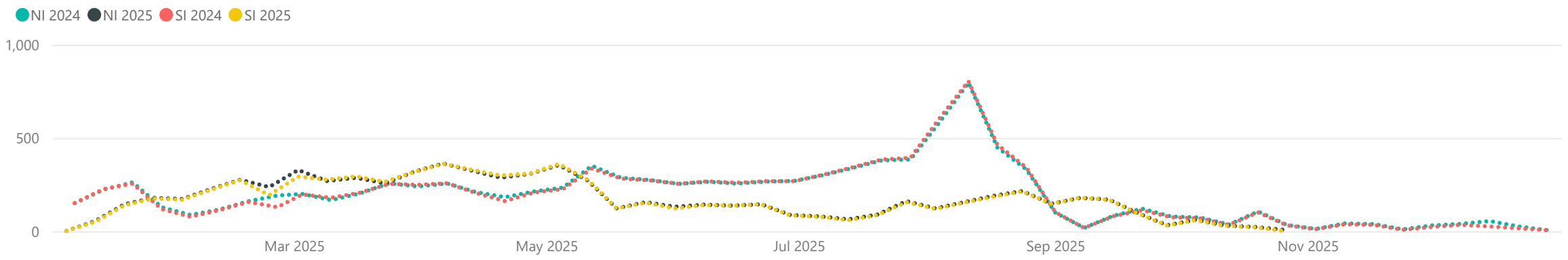


Weekly Profiles

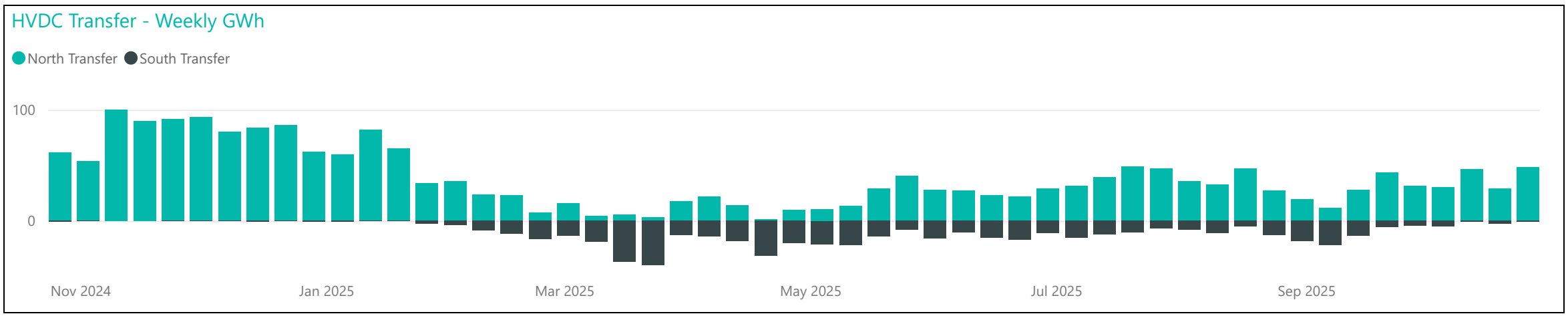
National Weekly Demand - GWh - 7 Day Rolling



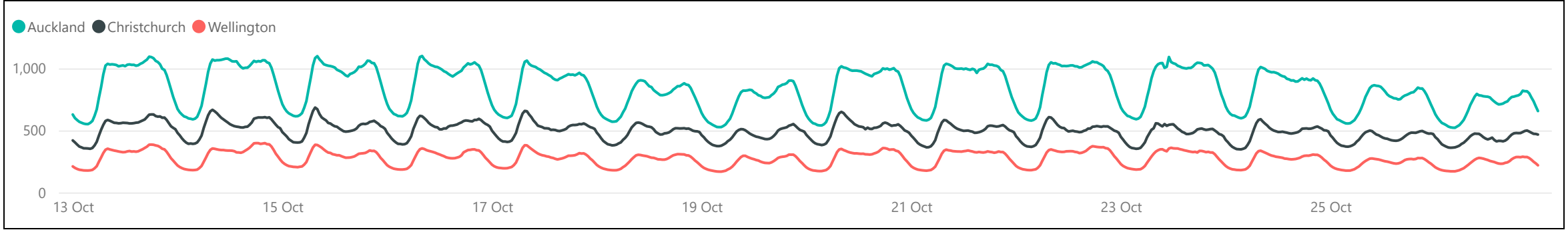
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

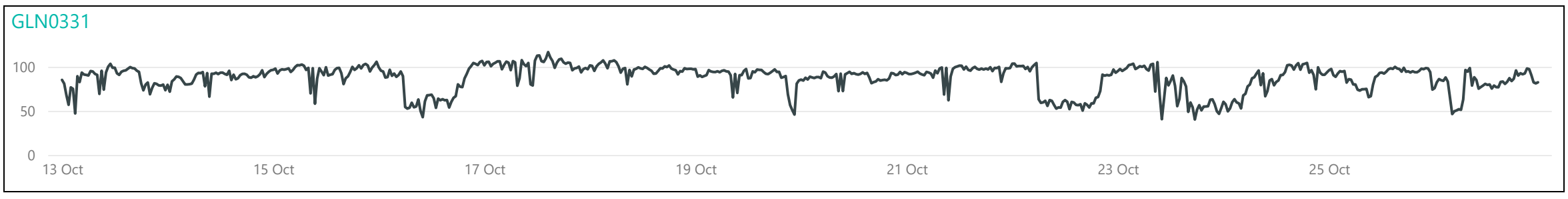


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*

GLN0331



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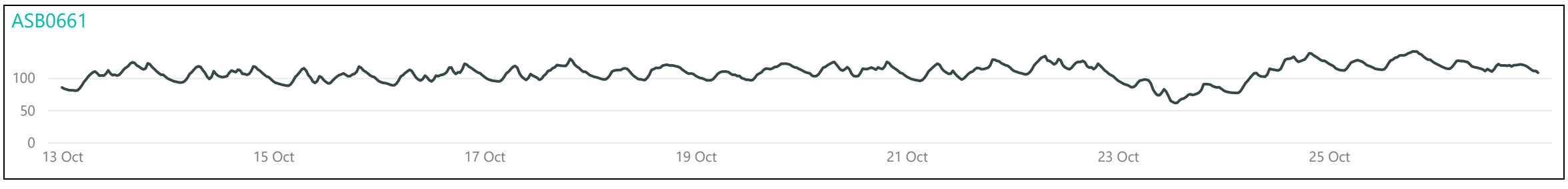

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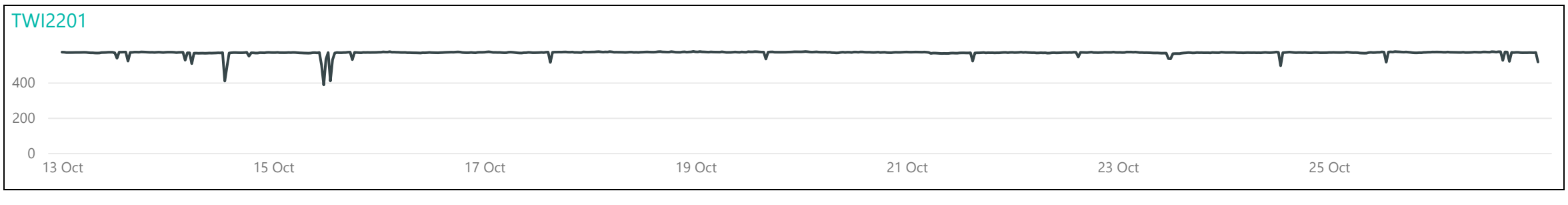
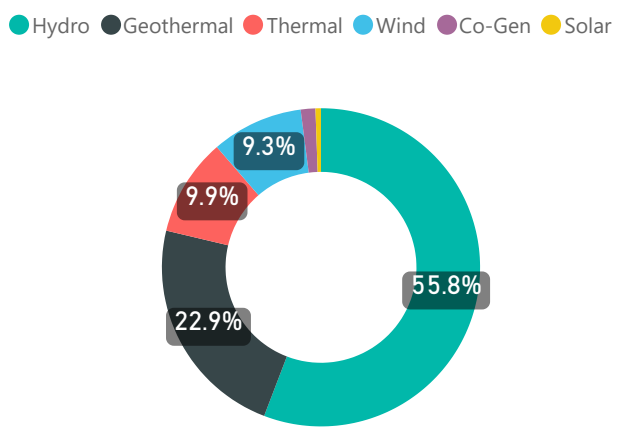


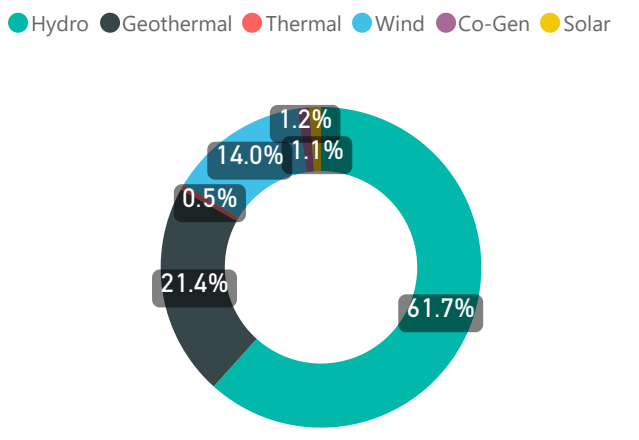
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



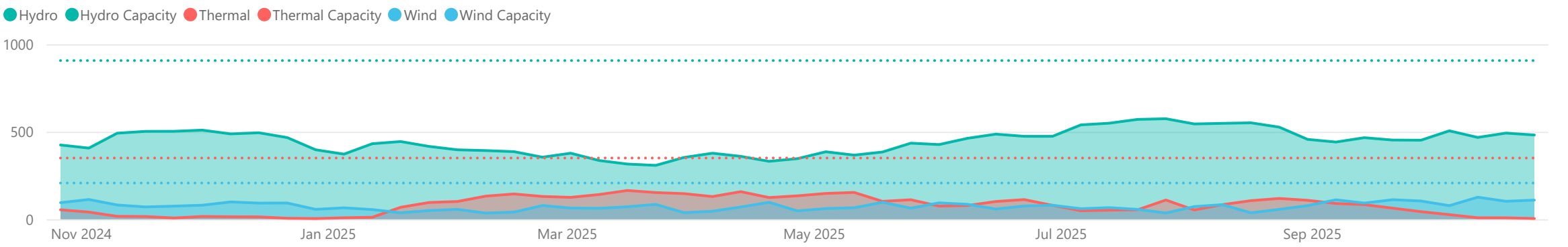
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
98%	21,276	24.0

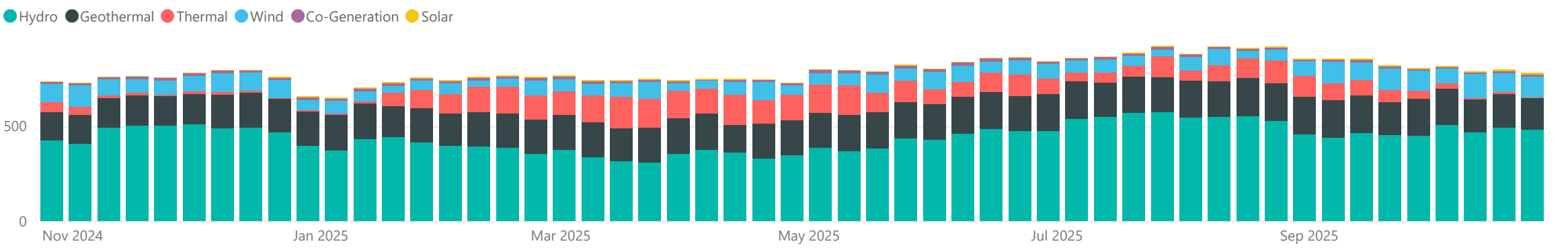
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
89%	65,725	82.6

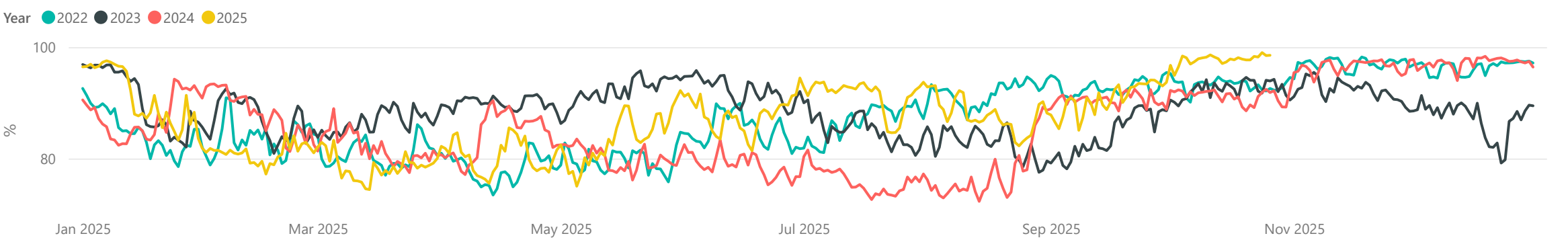
Weekly Generation Mix vs Capacity - GWh



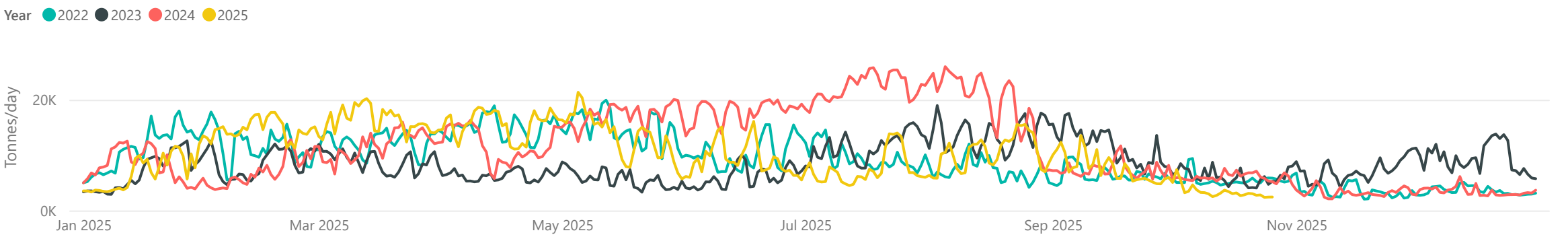
Weekly Generation Mix - GWh



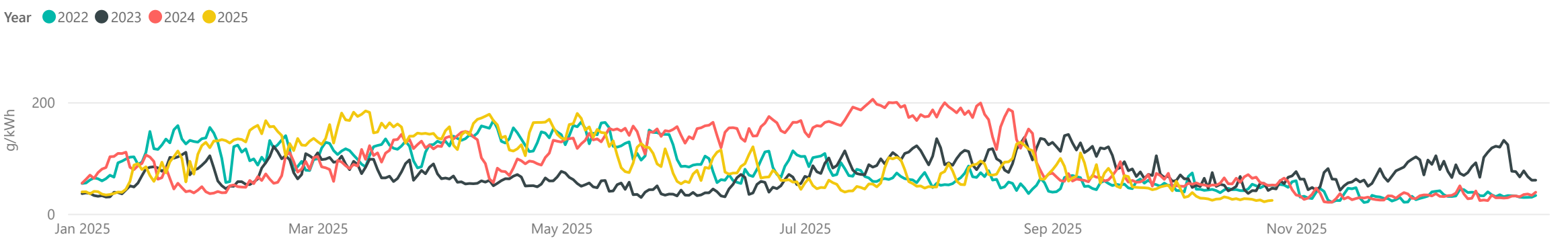
NZ Renewable Percentage



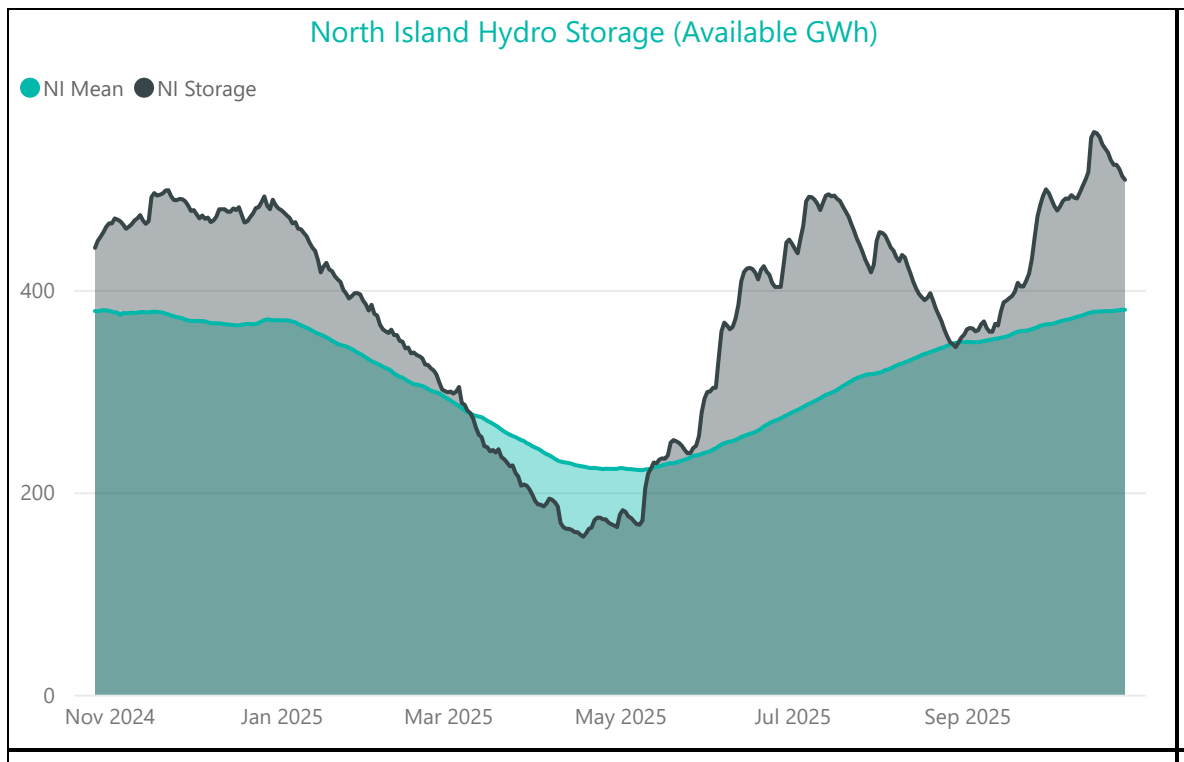
CO2 Tonnes/Day

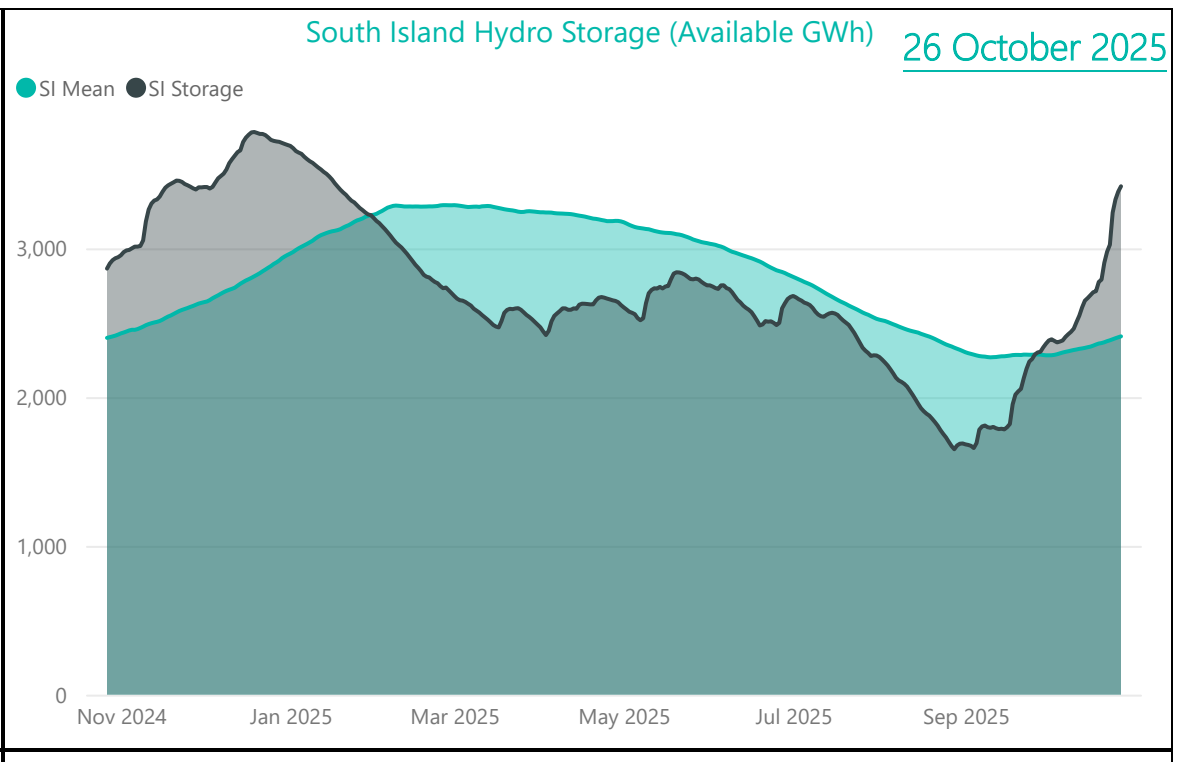


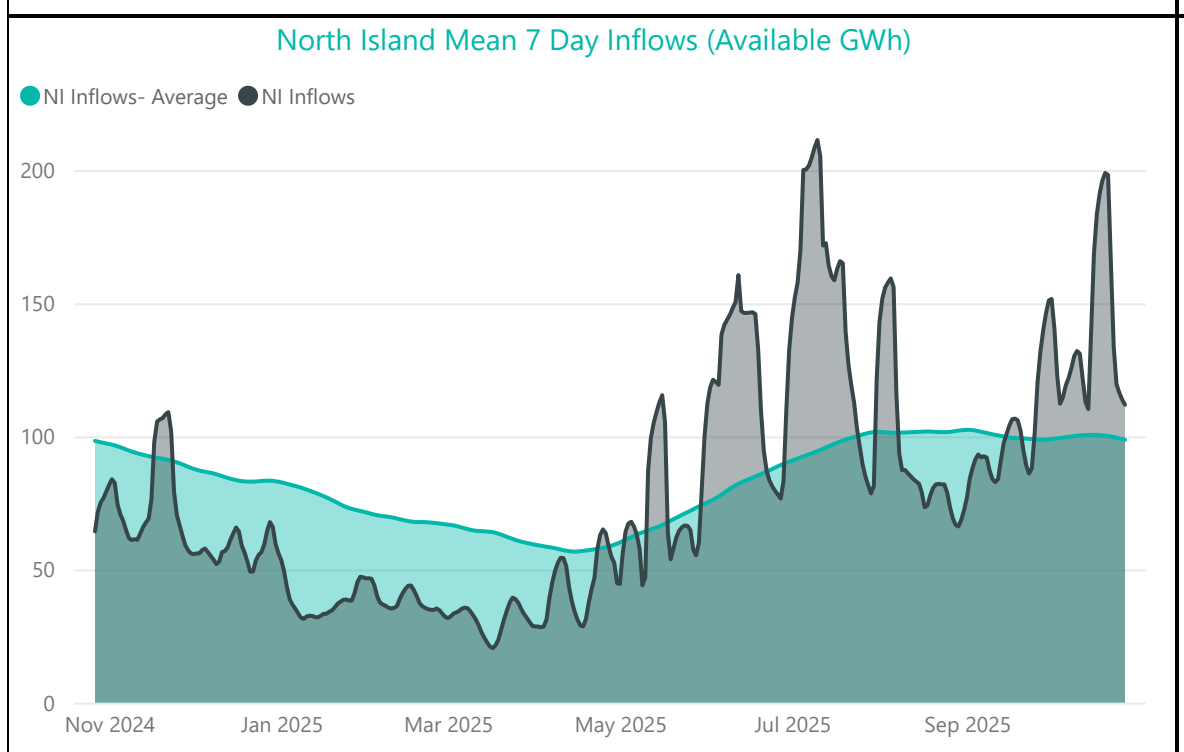
CO2 g/kWh

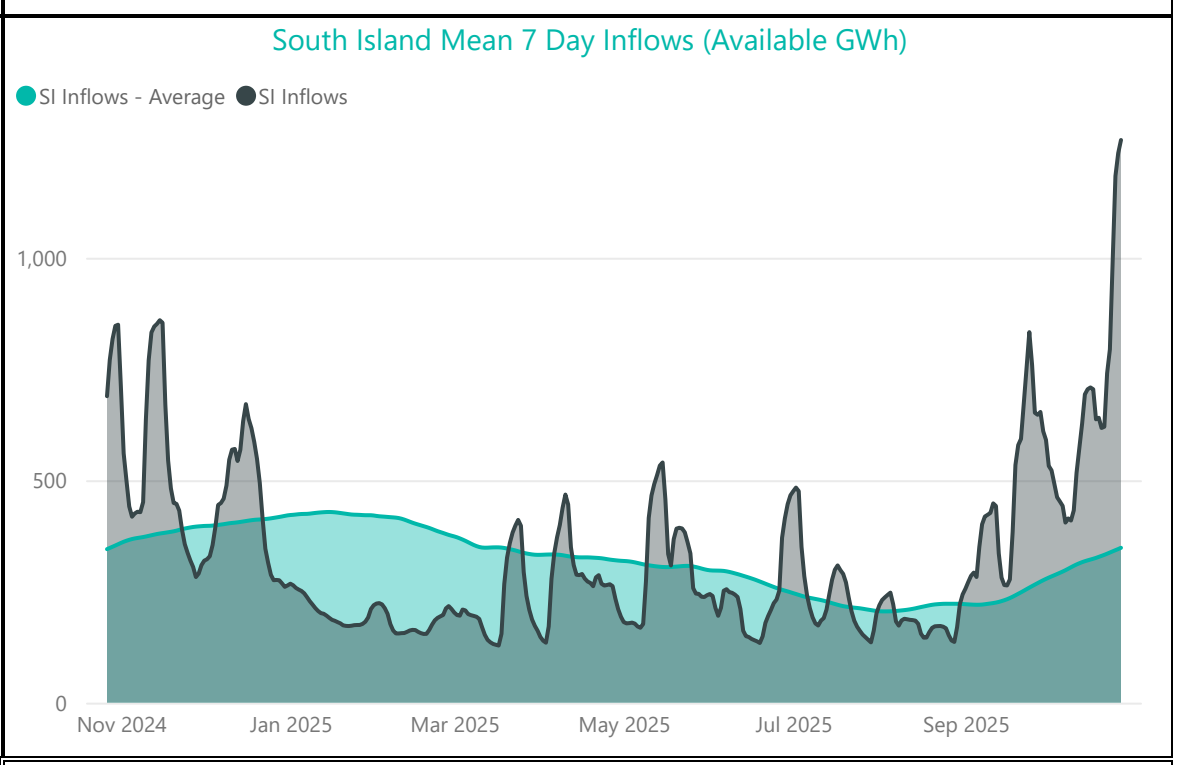


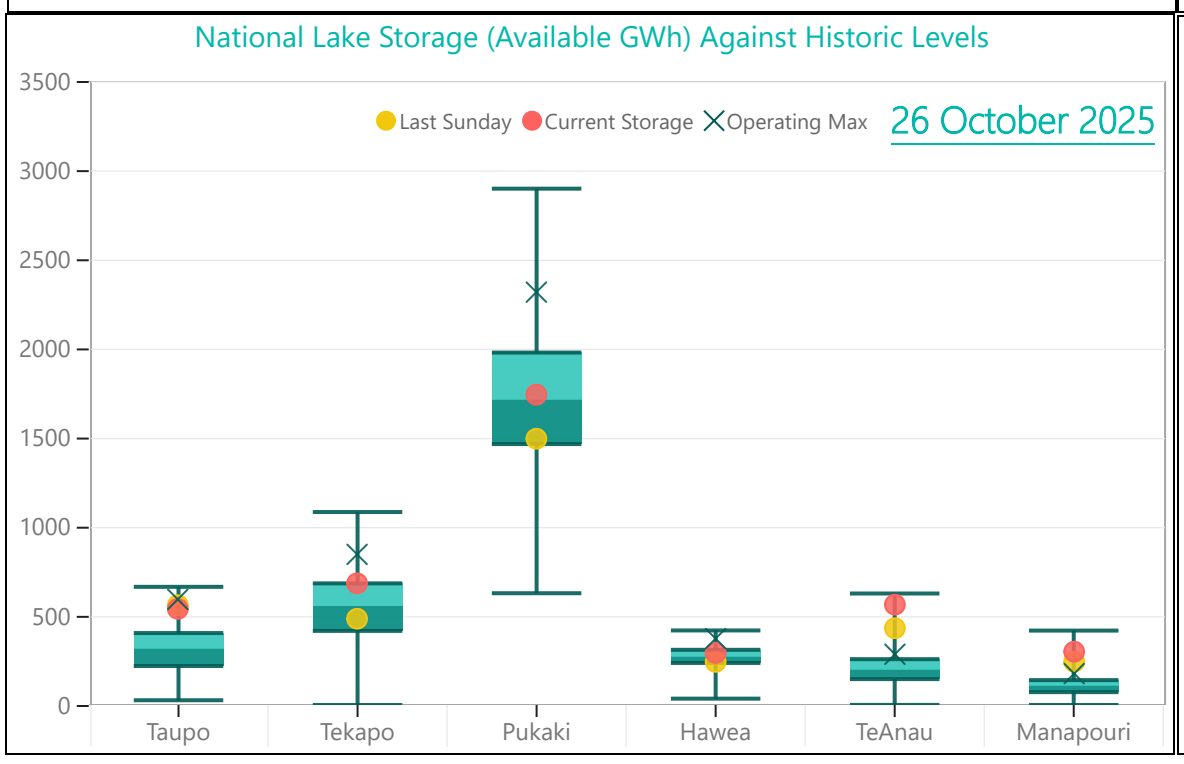
Hydro Storage

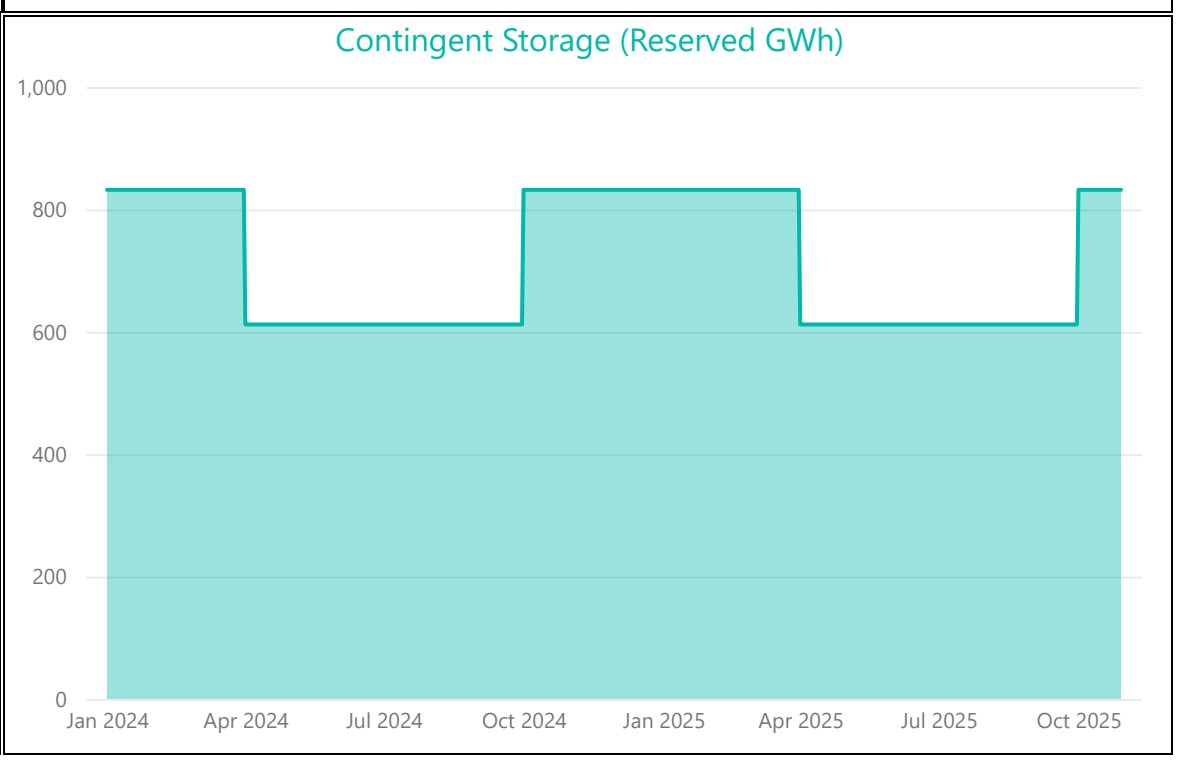












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

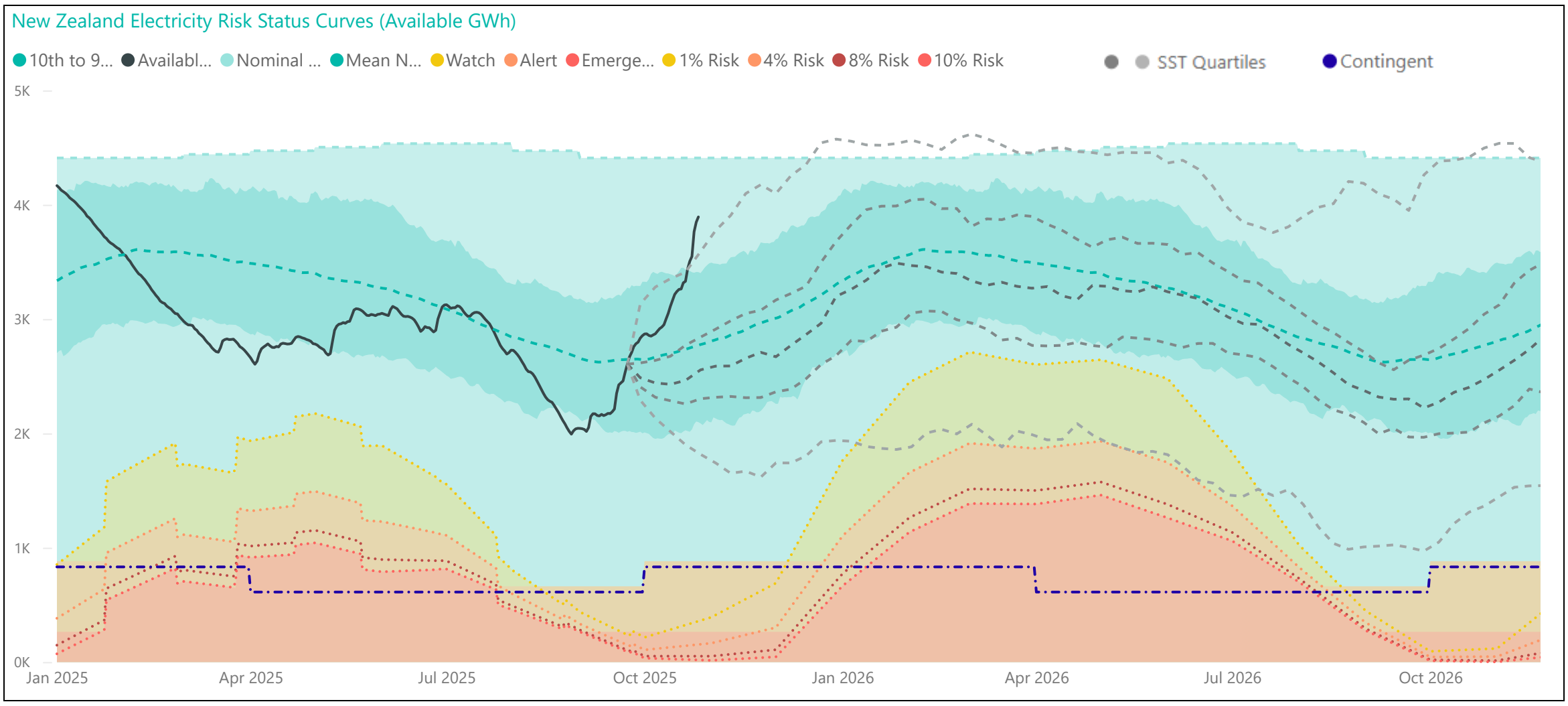
For any inquiries related to security of supply contact market.operations@transpower.co.nz

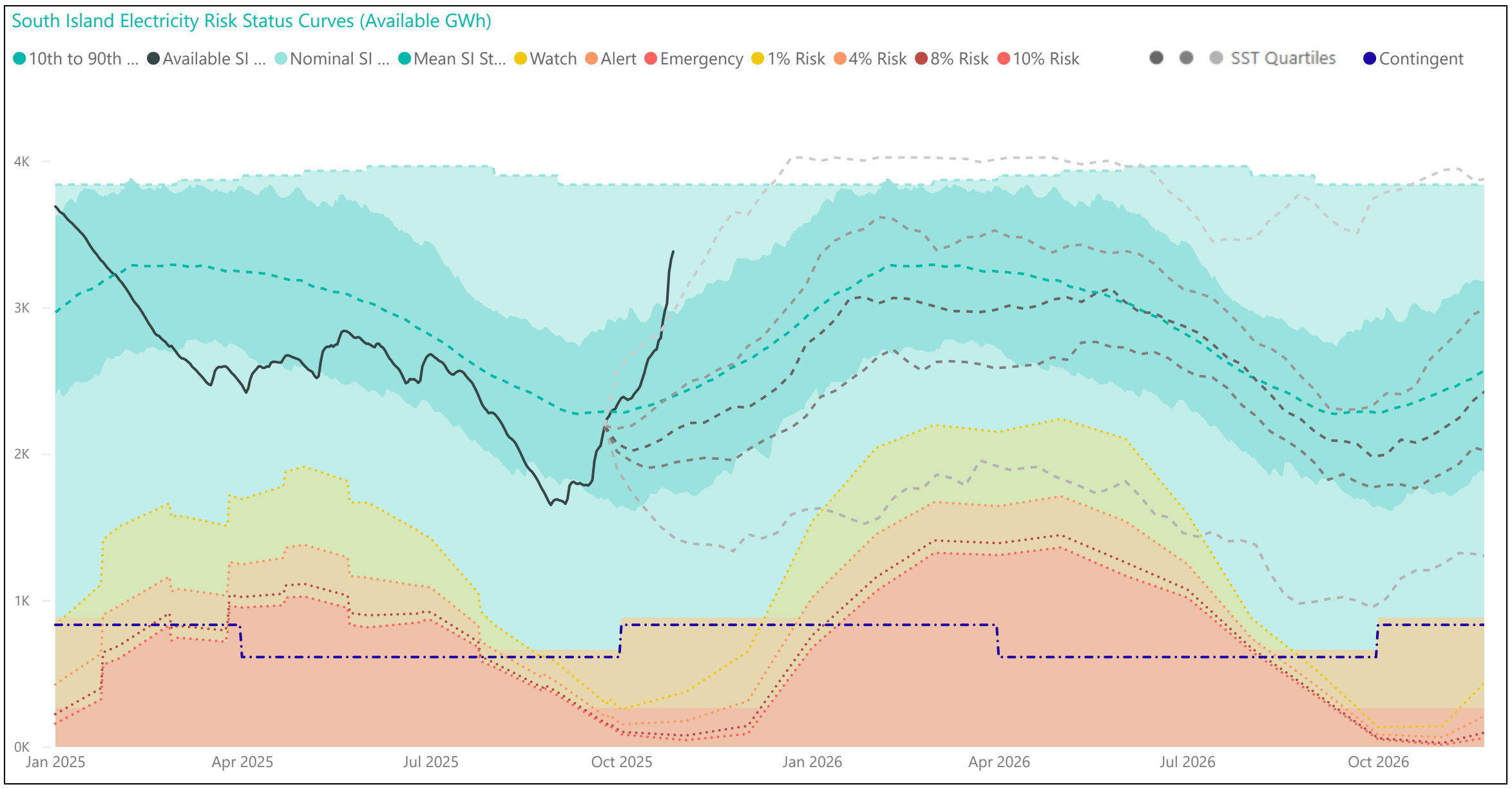
Hydro data used in this report is sourced from *NZX Hydro*.

Electricity risk curves have been developed for the purposes of reflecting the risk of extended energy shortages in a straightforward way, using a standardised set of assumptions.

Further information on the methodology of modelling electricity risk curves may be found here: https://www.transpower.co.nz/system-operator/security-supply/hydro-risk-curves-explanation

Electricity Risk Curves





Electricity Risk Curve Explanation:

Watch Curve - The maximum of the one percent risk curve and the floor and buffer
Alert Curve - The maximum of the four percent risk curve and the floor and buffer
Emergency Curve - The maximum of the 10 percent risk curve and the floor and buffer
Official Conservation Campaign Start - The Emergency Curve
Official Conservation Campaign Stop - The maximum of the eight percent risk curve and the floor and buffer

Note: The floor is equal to the amount of contingent hydro storage that is linked to the specific electricity risk curve, plus the amount of contingent hydro storage linked to electricity risk curves representing higher levels of risk of future shortage, if any. The buffer is 50 GWh.

The dashed grey lines represent the minimum, lower quartile, median, upper quartile and the maximum range of the simulated storage trajectories (SSTs). These will be updated with each Electricity Risk Curve update (monthly).