Market Operations Weekly Report - Week Ended 10 August 2025

Overview

New Zealand hydro storage has dropped further to 90% of the mean for this time of year. South Island storage is below the mean for this time of year and North Island storage has dropped but is still above the historic mean. Total demand has returned to levels seen in previous years after milder temperatures the week prior.

In this week's insight we look at the generation mix during the top 10 demand periods of all time in New Zealand.

Security of Supply

Energy

New Zealand hydro storage dropped from 94% to 90% of the mean for this time of year. South Island hydro storage dropped from 88% to 85% while North Island storage decreased from 140% to 129%.

Capacity

Capacity margins were mostly healthy with some lower points throughout the week in line with the return to colder weather (from the milder week prior). The lowest residual point occurred on the evening of 5 August at 320 MW.

The N-1-G margins in the NZGB forecast are healthy through to the start of October. 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 increased and returned to similar levels as seen in previous years at 884 GWh last week from 843 GWh the week prior. The highest demand peak was 6,888 MW at 6:00pm on Monday 4 August.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week increased to $161/MWh from $126/MWh the week prior. Wholesale prices peaked at $332/MWh at Ōtāhuhu at 5:30pm on Wednesday 6 August.

Generation Mix

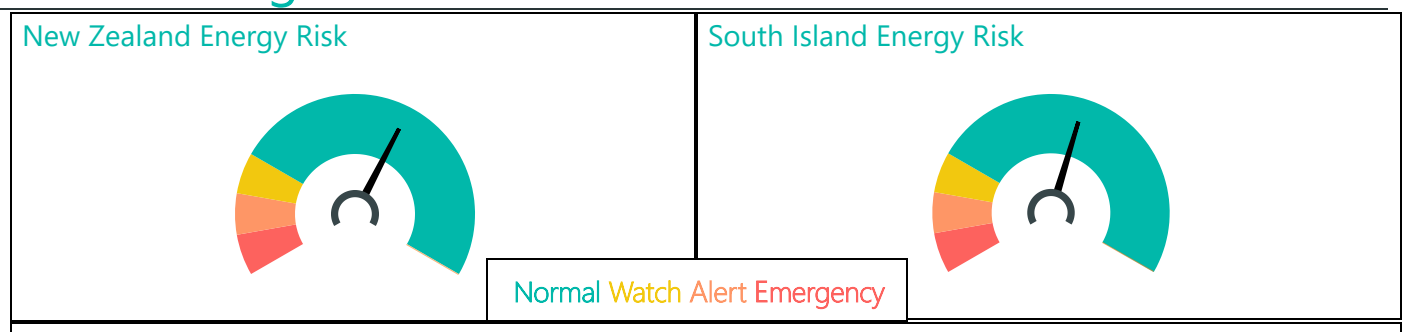
Hydro generation contribution decreased from 62% to 59% of the generation mix last week. Wind generation increased from 8% to 9% of the mix. Thermal generation increased from 6% to 9% in line with increased demand. The geothermal share decreased from 22% to 20%.

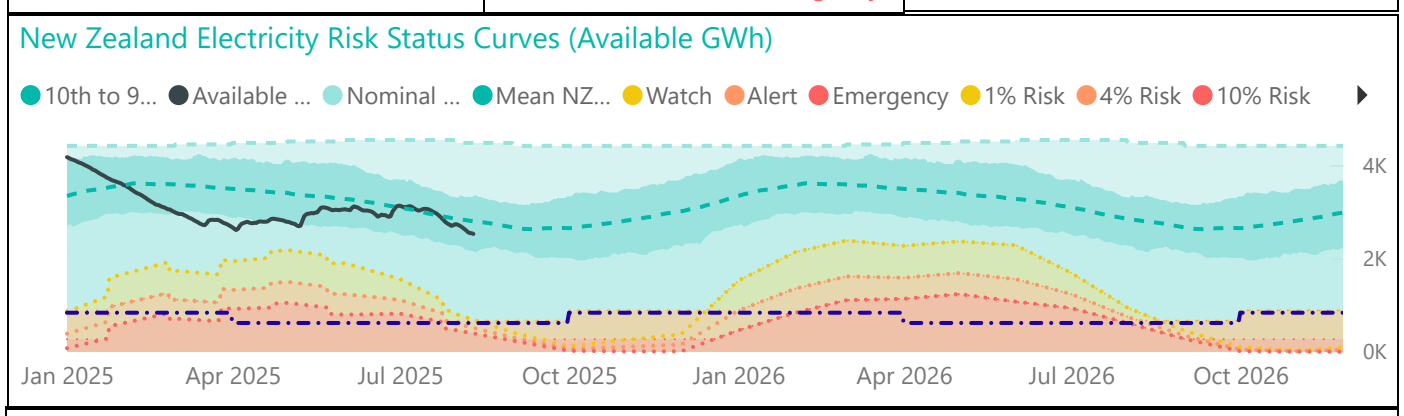
HVDC

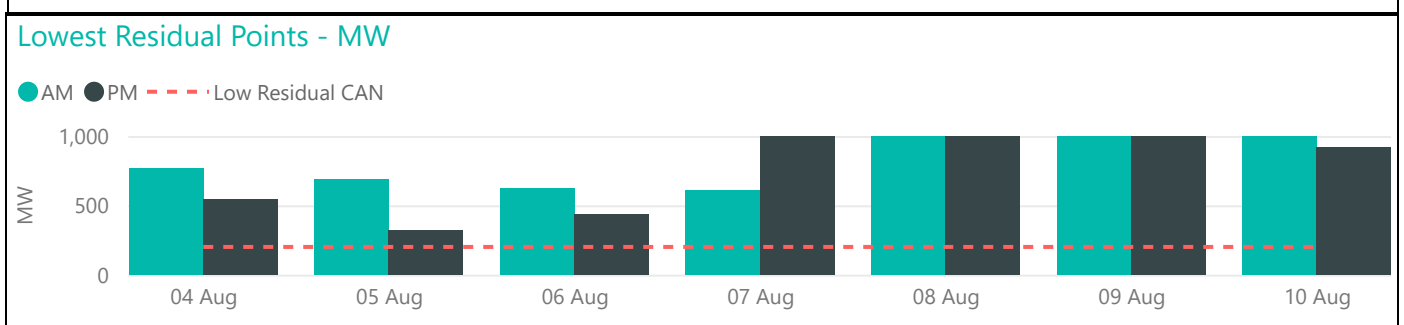
HVDC flow last week was predominantly northward with overnight periods of southward flow coinciding with periods of lower North Island demand. In total, 33 GWh was sent north and 11 GWh was sent south.

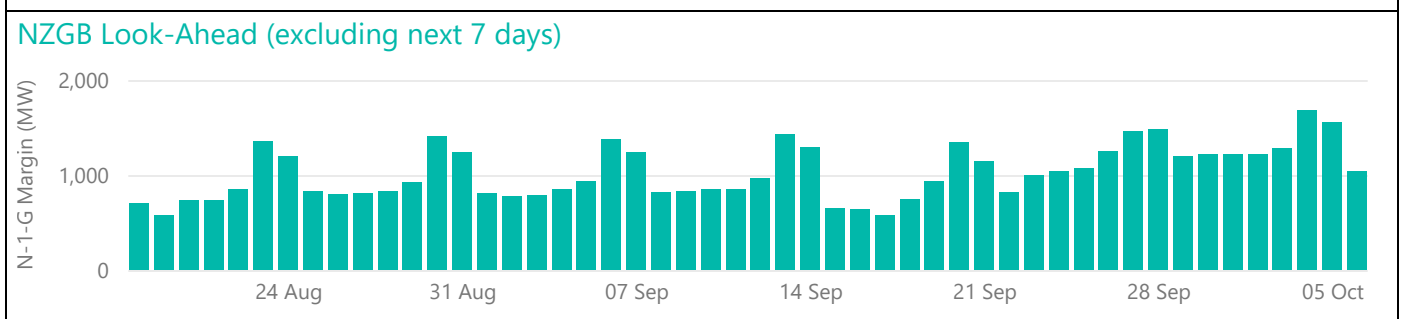
Evolving market resource co-ordination: Tie-breaker provisions consultation

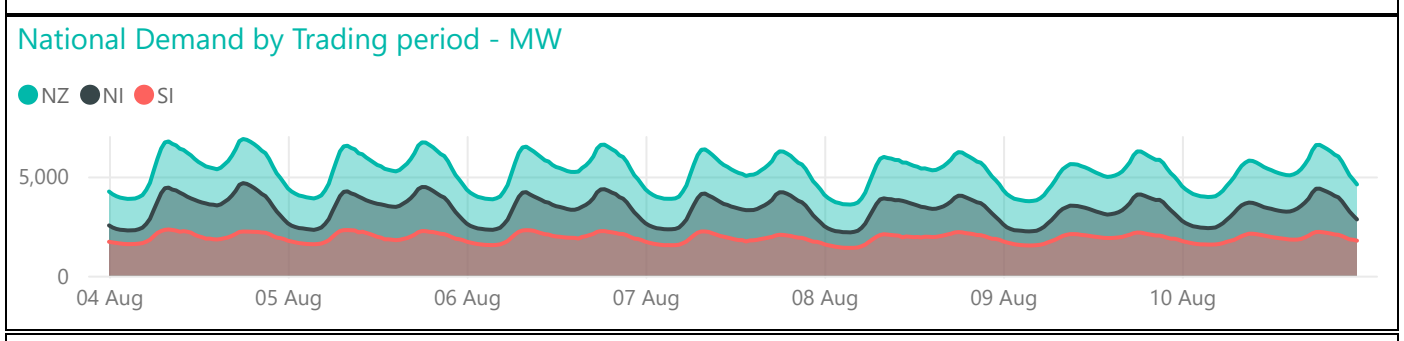
On 24 July, Transpower in its role as System Operator published a consultation asking for feedback on how tie-breaker situations should be resolved for multiple competing generator offers in the wholesale electricity market. See consultation pack here. Submissions are due by 5pm Thursday 14 August, with one week for cross-submissions closing Thursday 21 August.

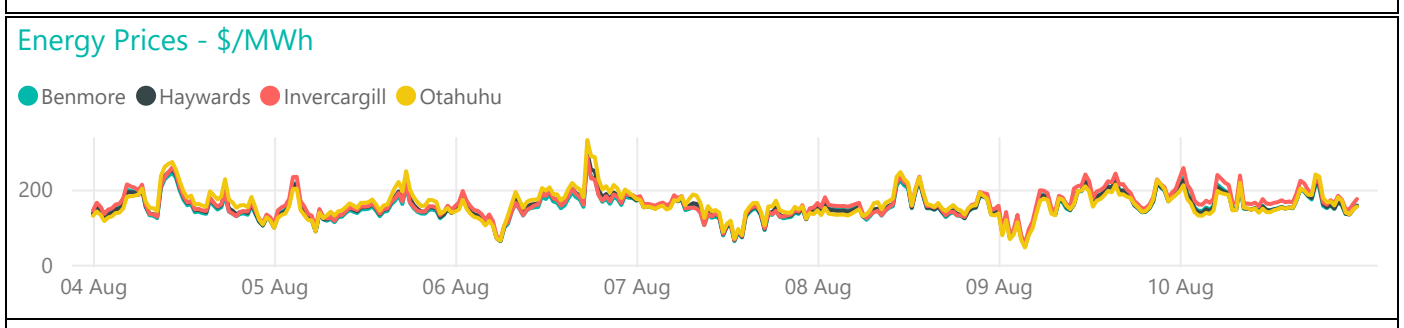


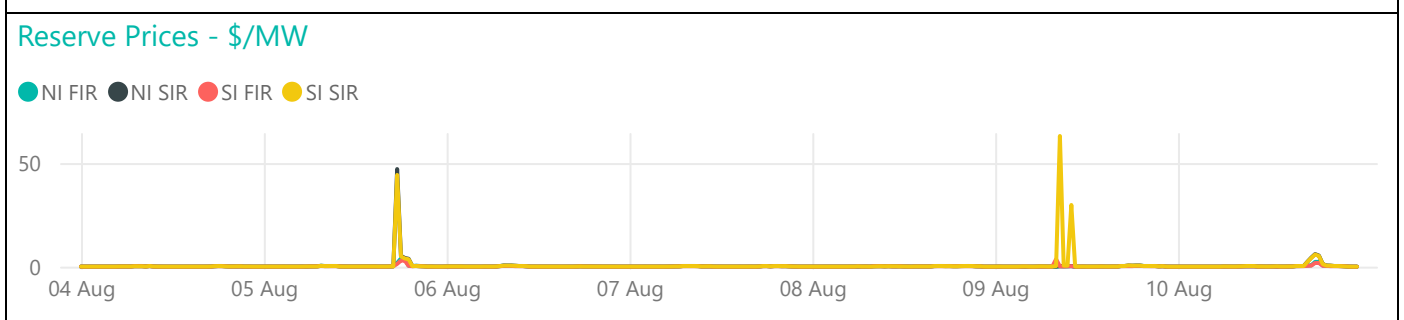


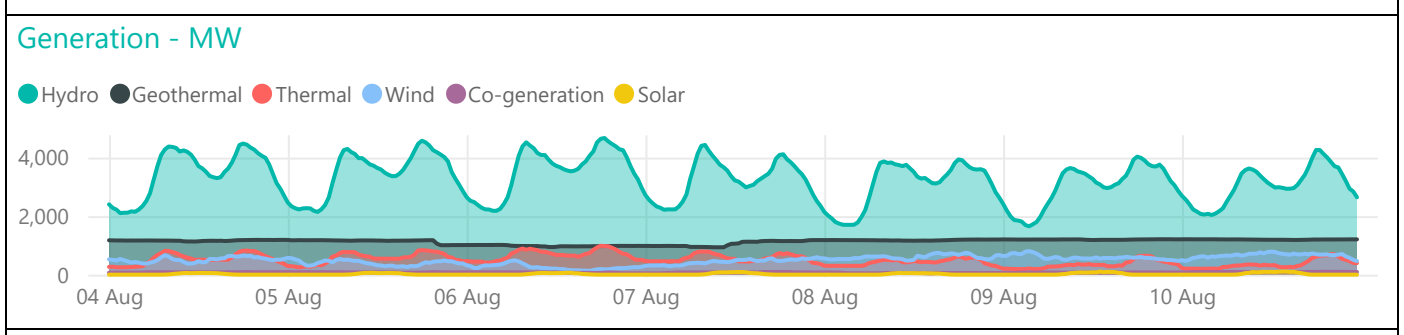


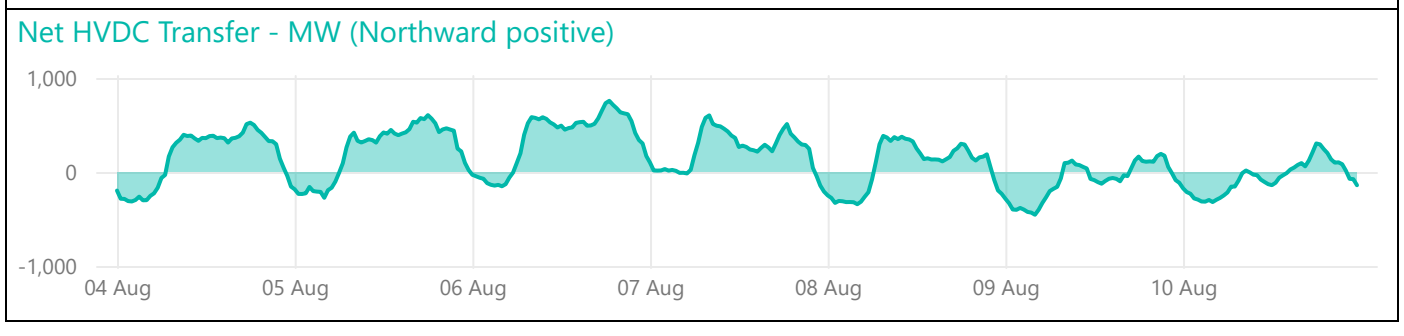












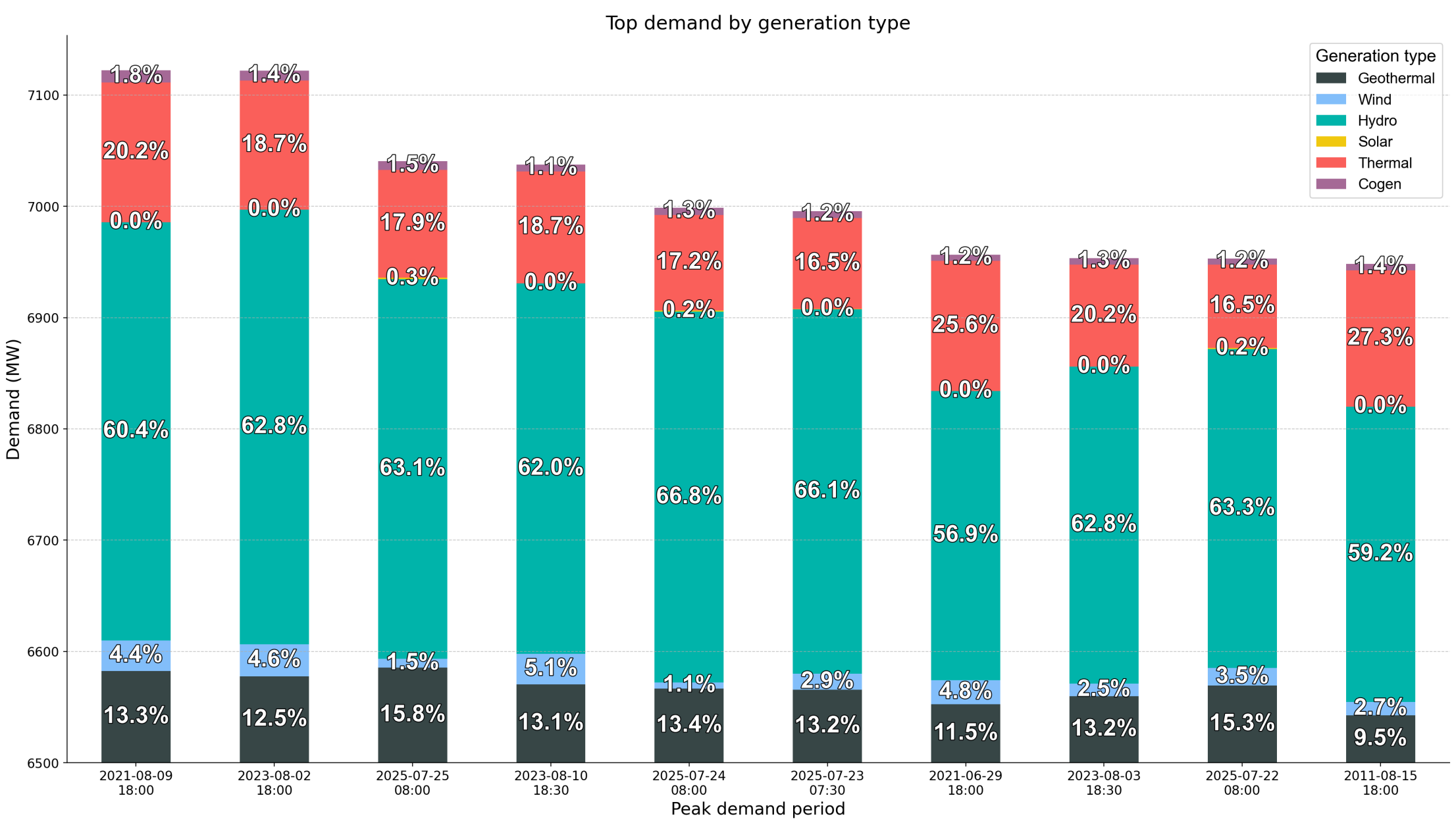
Weekly Insight - Generation mix of the top 10 demand periods

In this week's insight we look at the generation mix during the top 10 demand periods of all time in New Zealand.

Electricity demand peaked at 7,015 MW on the morning of 25 July, which was the third highest level of electricity use Aotearoa has ever seen. Three other mornings also cemented their spot on the top 10 all-time peak demand list. All but one of these top 10 peaks has happened since the all-time-record was set in August 2021 (which came in over 7,100 MW), showing that our peaks are getting higher. The obvious outlier in this group is a peak from 2011 when much of New Zealand experienced snowfall. By looking closer at this peak, we can see that thermal generation contributed 27.3% of the generation mix. The contribution of thermal generation during our highest peaks has since decreased from this time due to the decommissioning of several thermal units. On the other hand, the contribution of baseload geothermal generation has increased since 2011 due to the investment in this generation source.

There is also a close relationship between the relative contribution of thermal generation and hydro generation. Abundant hydrology in 2023 and 2025 meant that hydro generators could run harder throughout the peak periods requiring less from thermal unit generation. In 2021, there were some periods of lower hydrology meaning that thermal generation had committed more to the price stack than it would have otherwise.

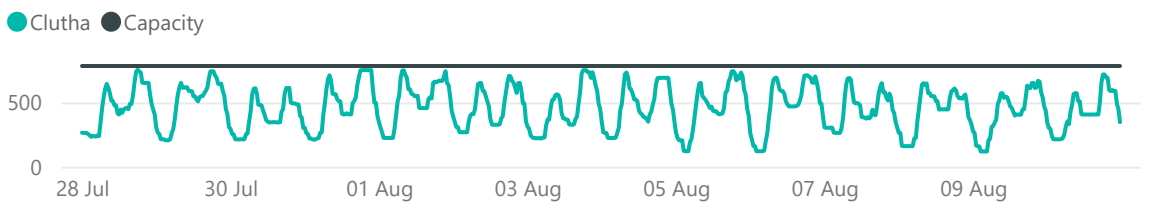
Wind and solar generation are an intermittent source of generation and their contribution to peaks are not consistent. In two recent weekly insights, we discussed the impact of renewable generation on energy and peak capacity supply. These insights concluded that while increased investment in diverse generation sources plays a key role in decarbonising the electricity system and increasing overall energy supply reliability, intermittent generation has limitations when it comes to contributing firm capacity on average. To help manage peak capacity risks with the growing supply from intermittent generation we also need growth in firm, flexible resources such as batteries, demand response and peaking generation.



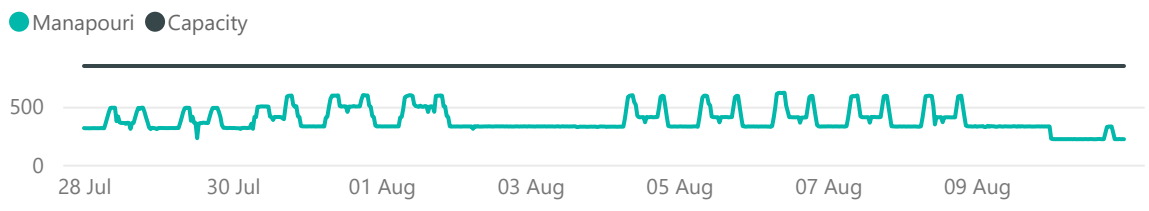
Generation Breakdown - Last Two Weeks

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

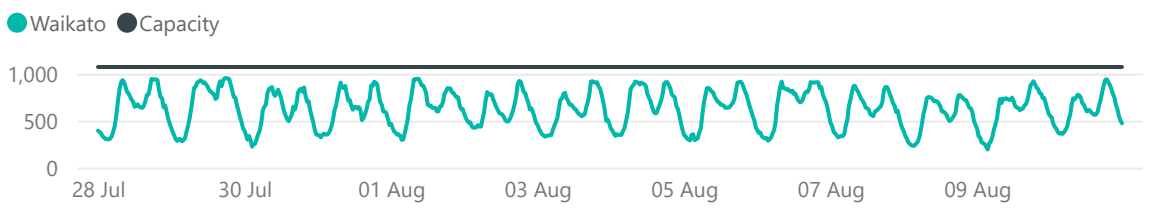
Clutha



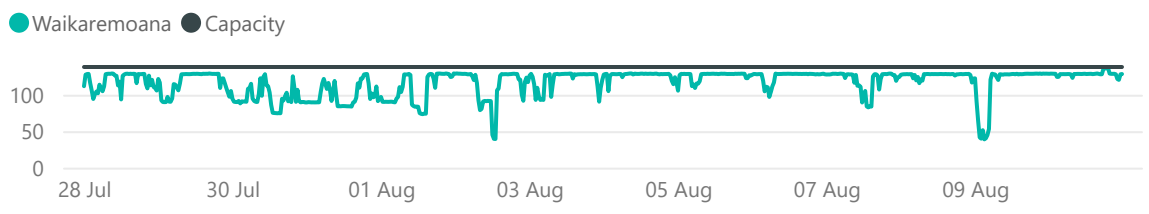
Manapouri



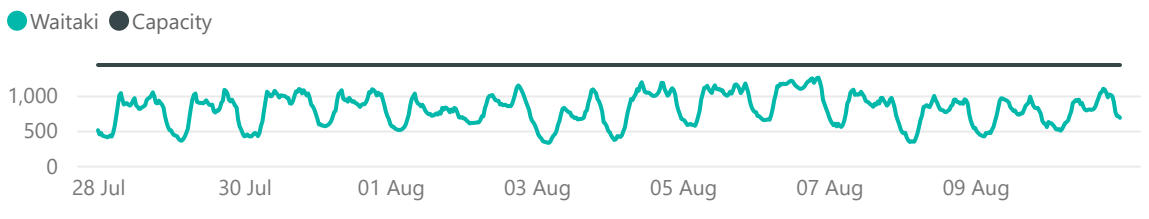
Waikato



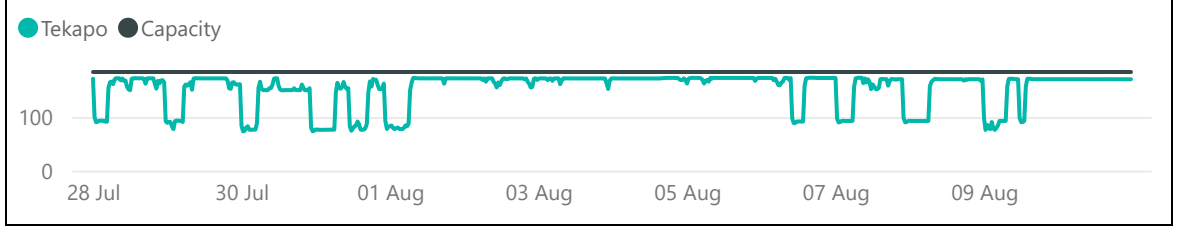
Waikaremoana



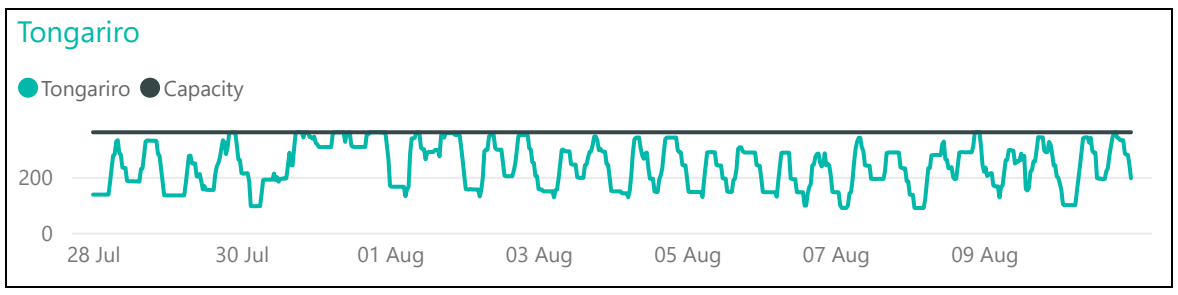
Waitaki



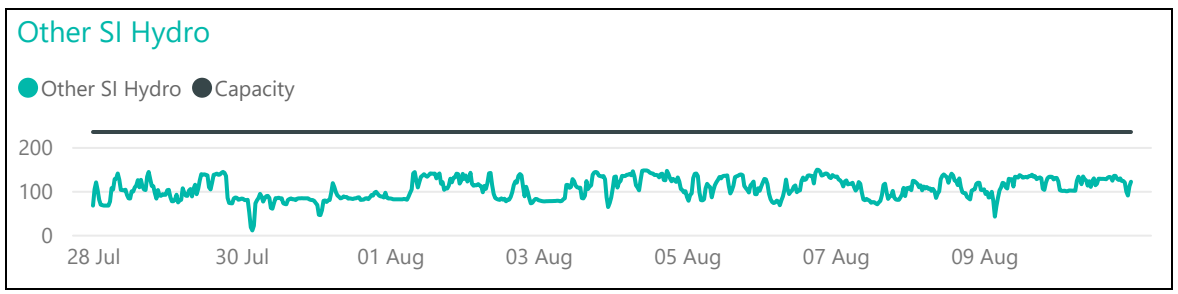
Tekapo



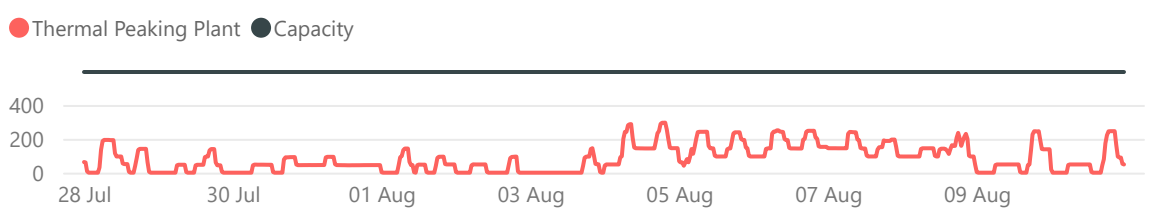
Tongariro



Other SI Hydro

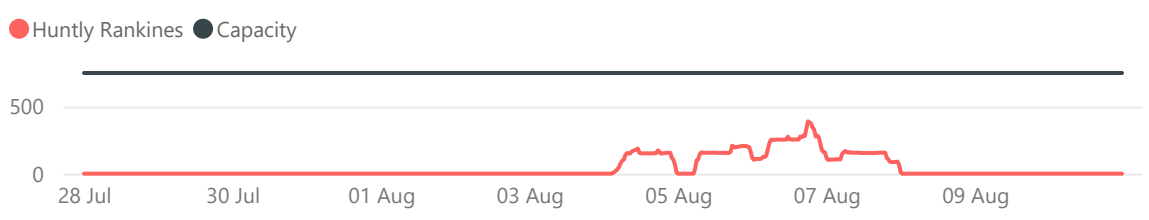


Thermal Peaking Plant

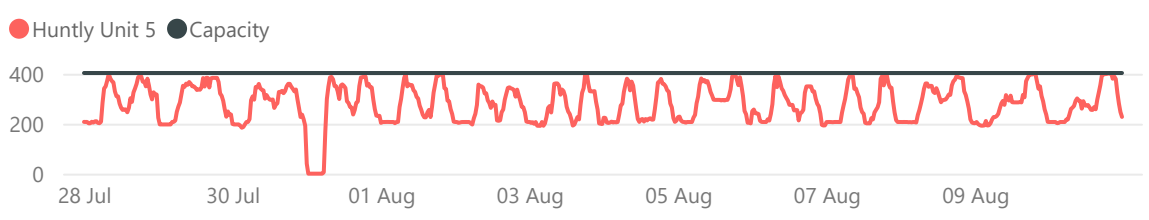


Stratford TCC

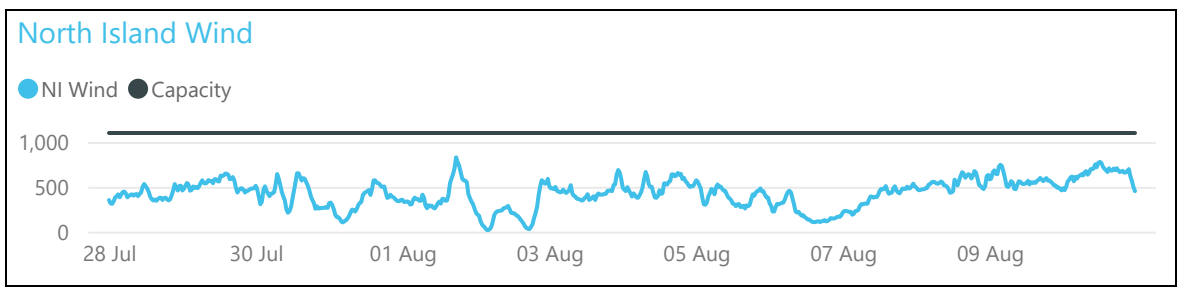
Huntly Rankines



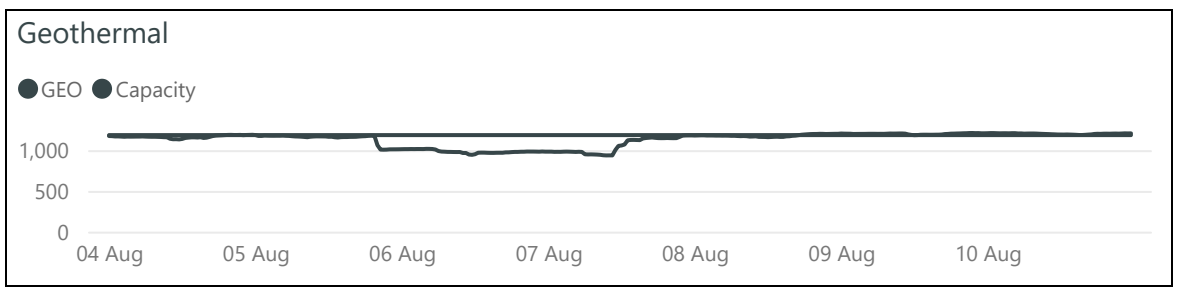
Huntly U5



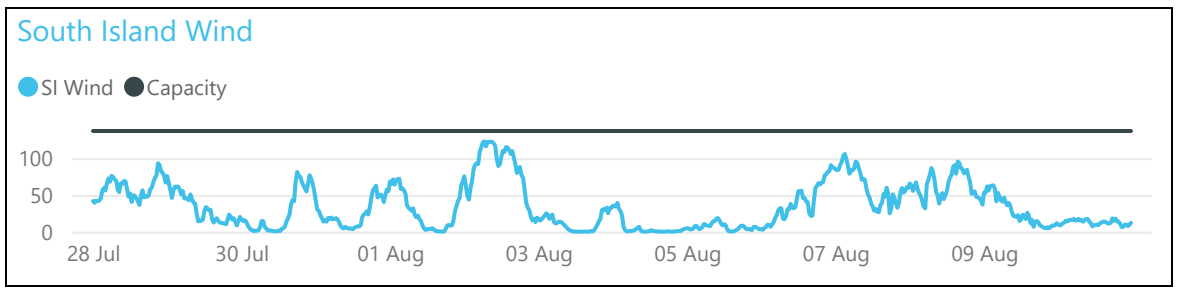
North Island Wind



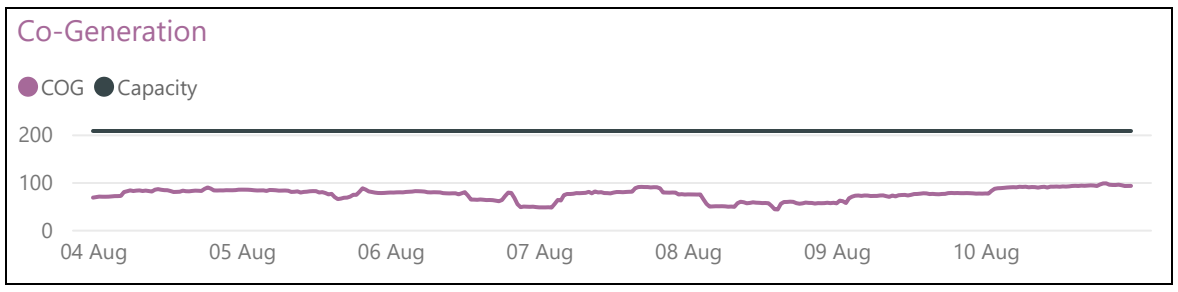
Geothermal



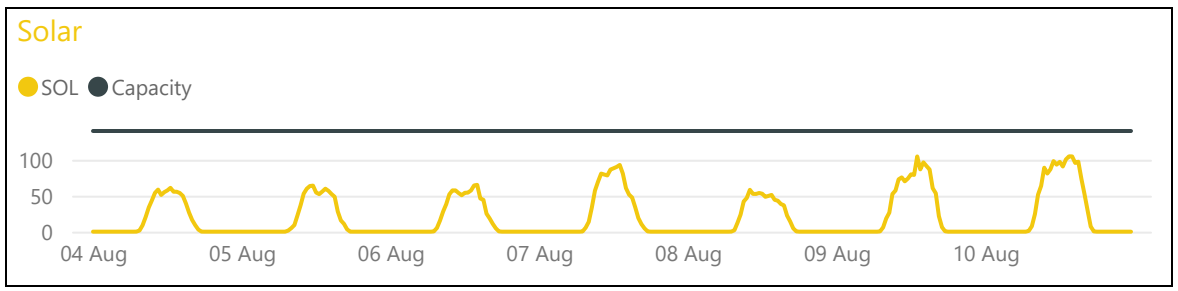
South Island Wind



Co-Generation



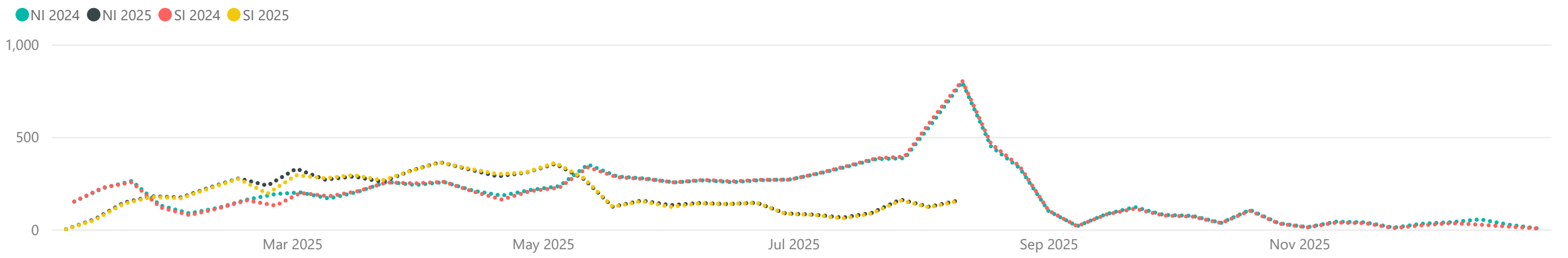
Solar



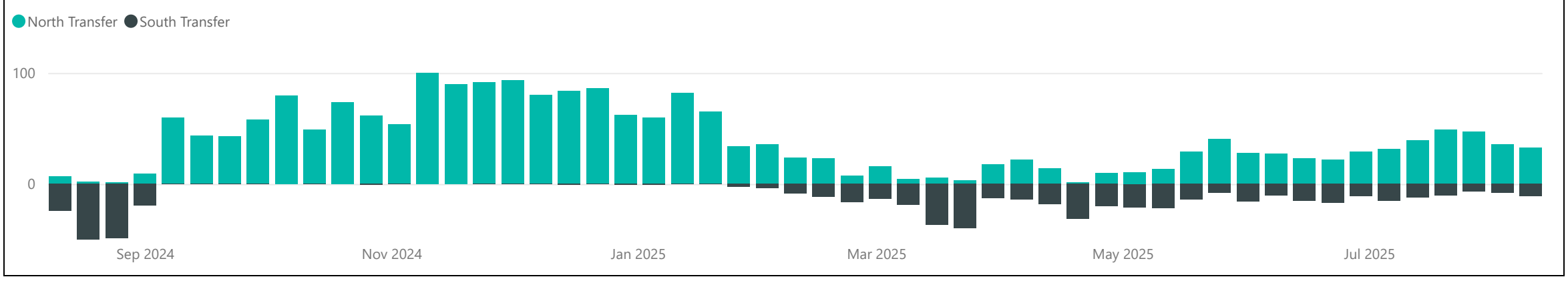
Weekly Profiles

National Weekly Demand - GWh - 7 Day Rolling

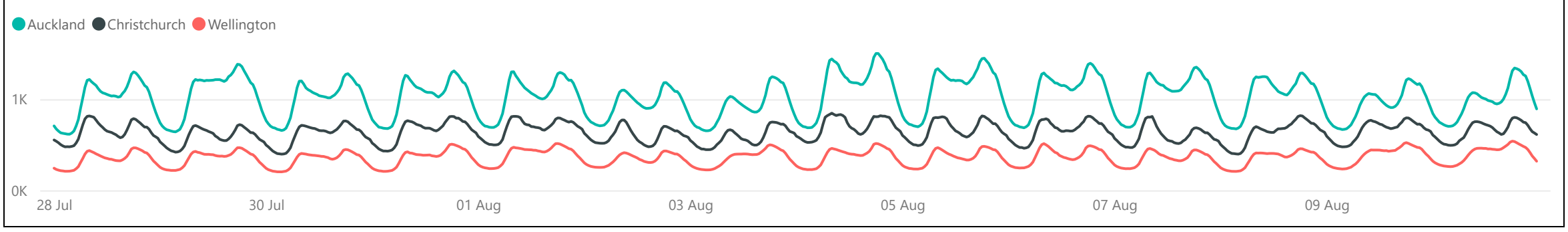
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

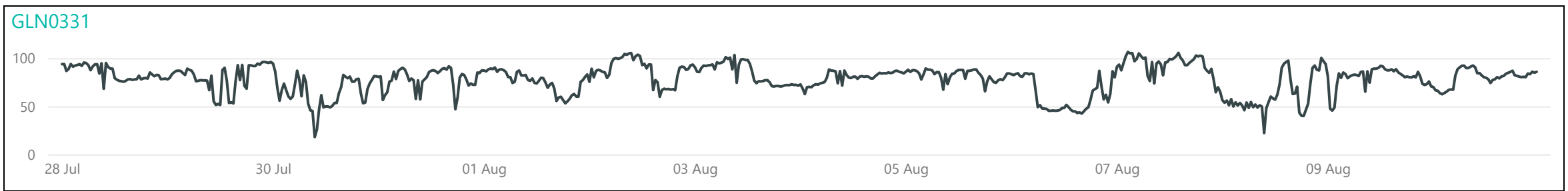


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



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

GLN0331



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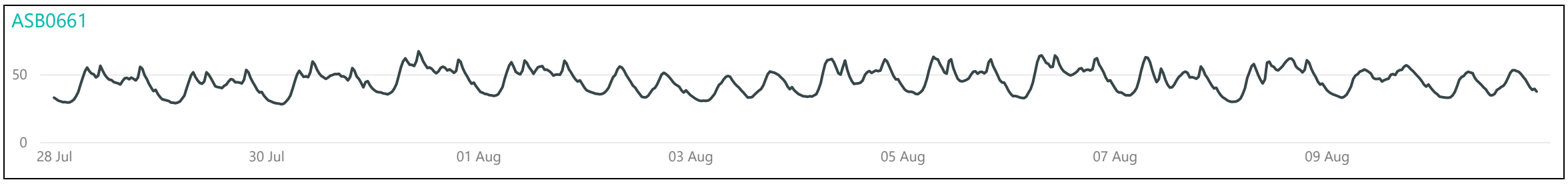

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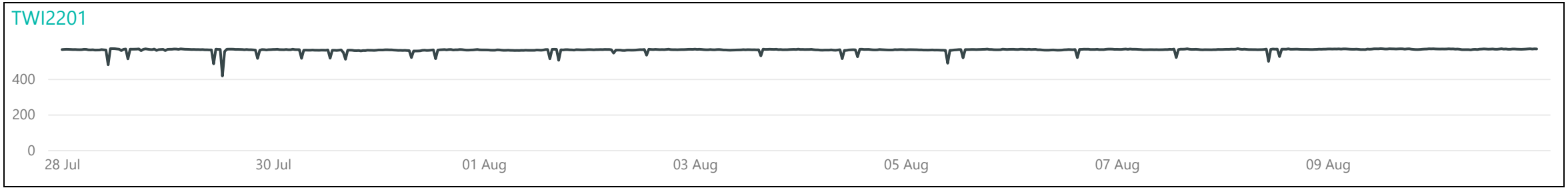
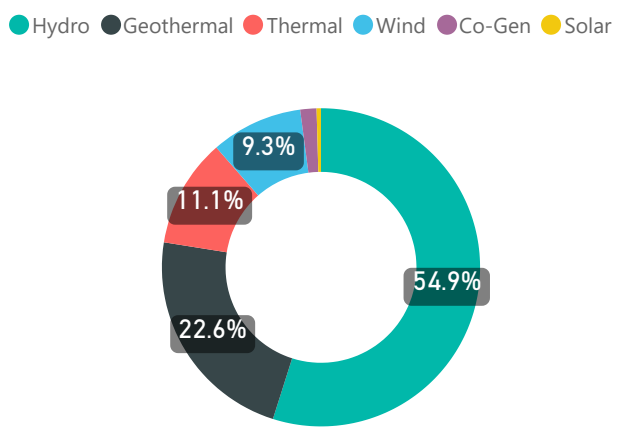


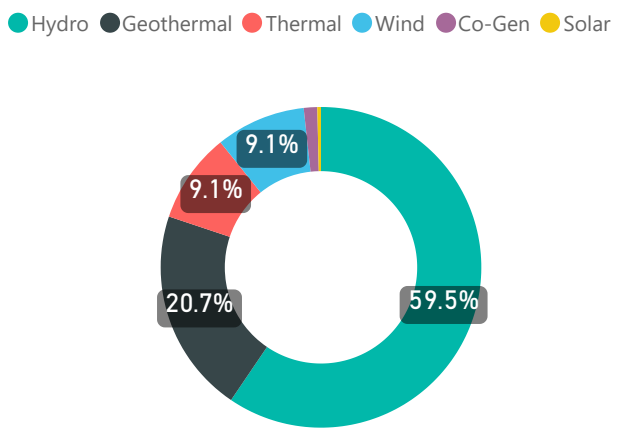
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



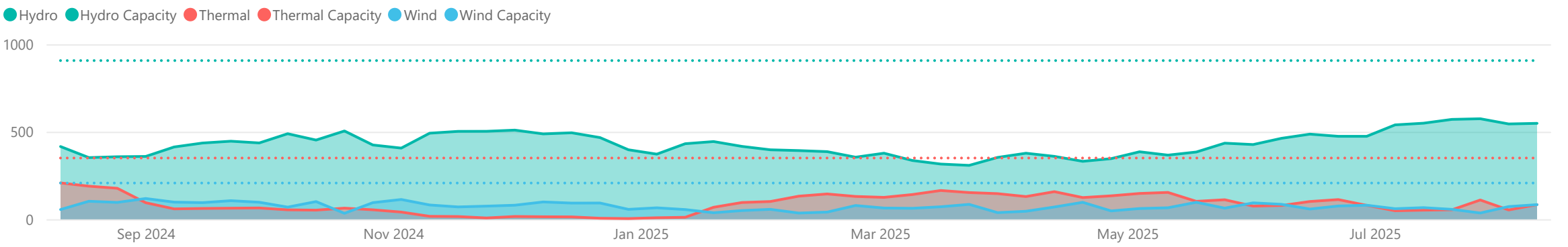
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
90%	63,742	68.3

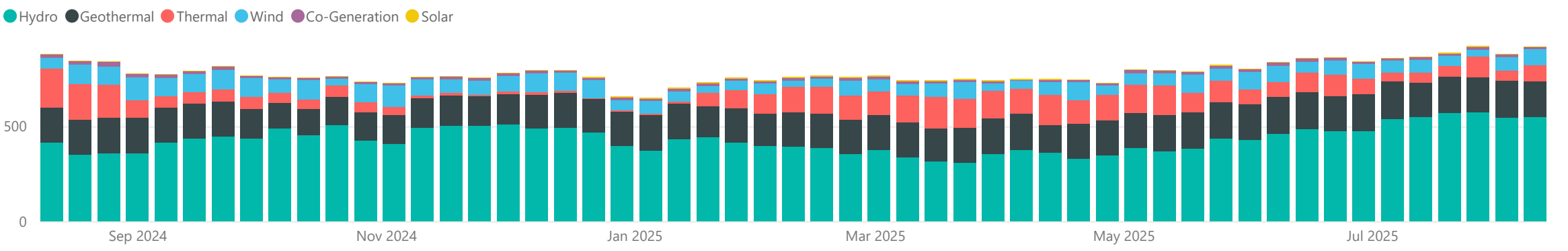
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
87%	69,073	87.6

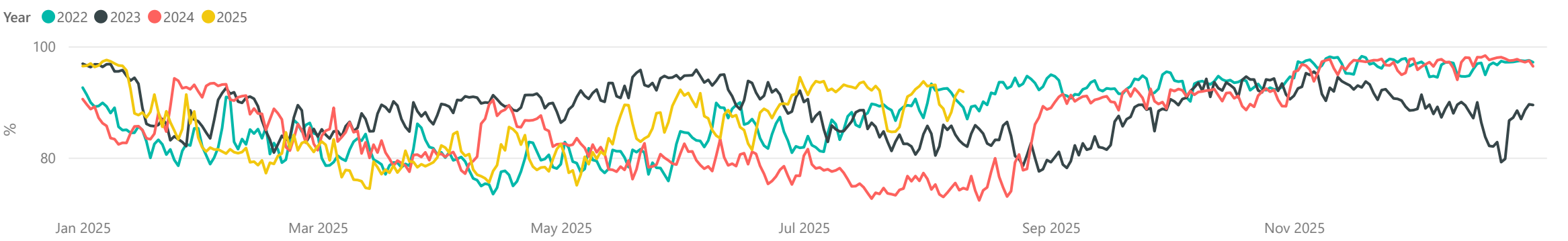
Weekly Generation Mix vs Capacity - GWh



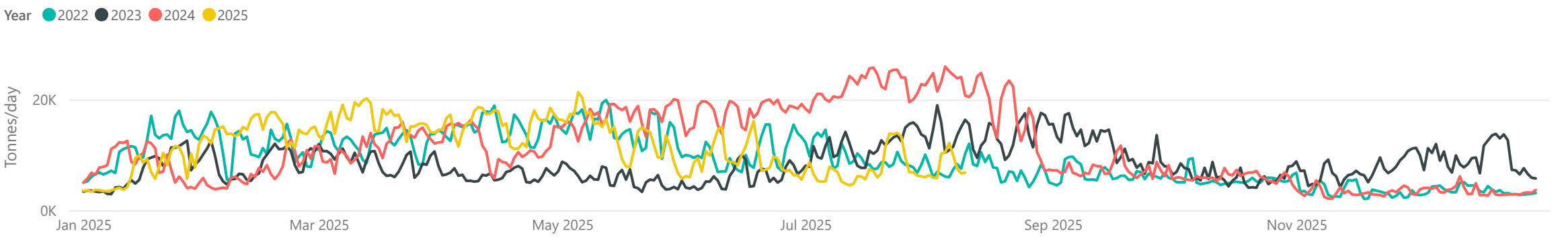
Weekly Generation Mix - GWh



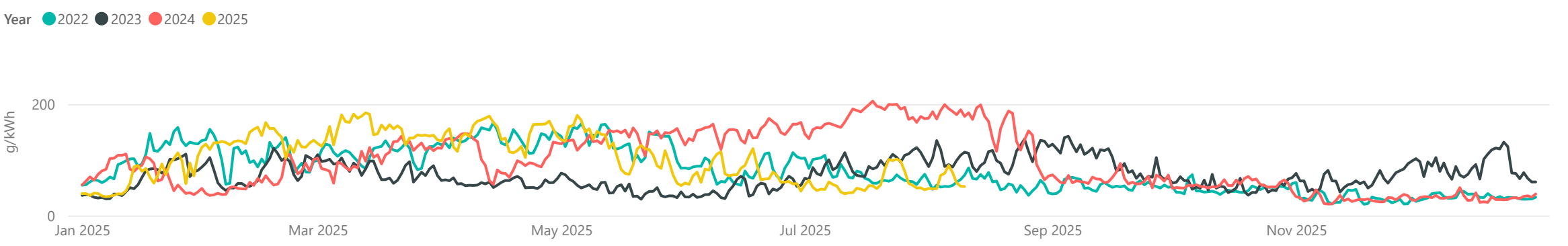
NZ Renewable Percentage



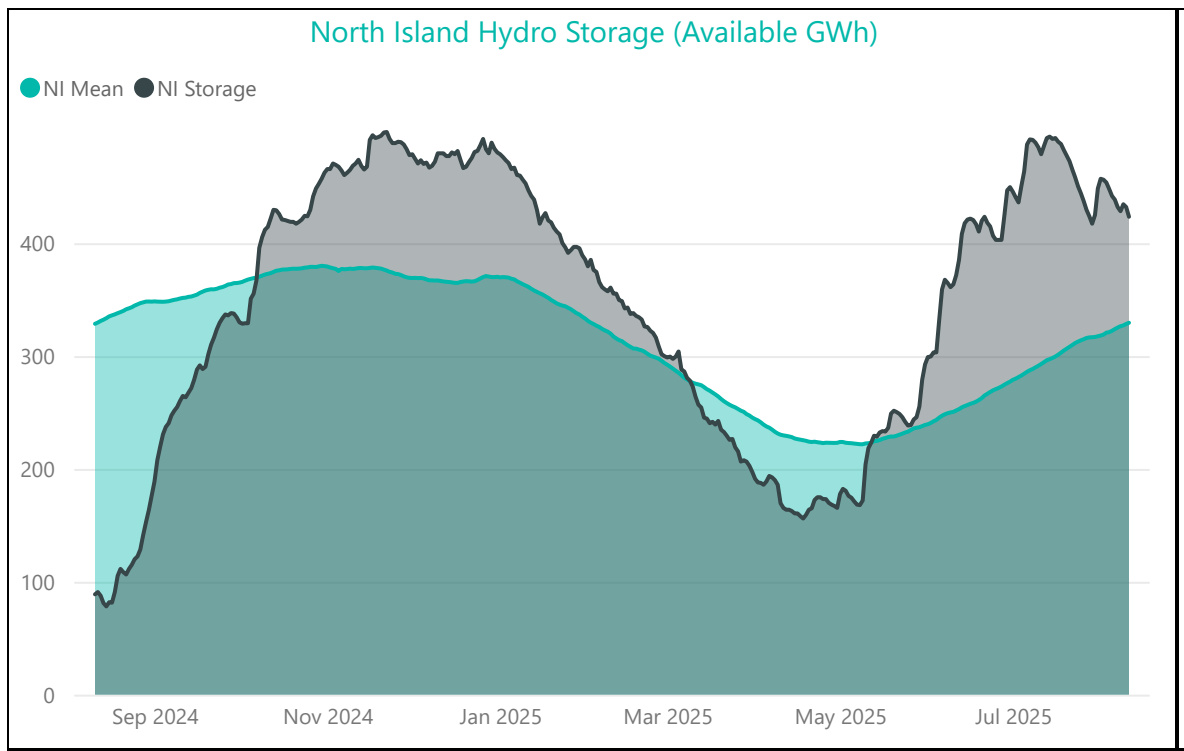
CO2 Tonnes/Day

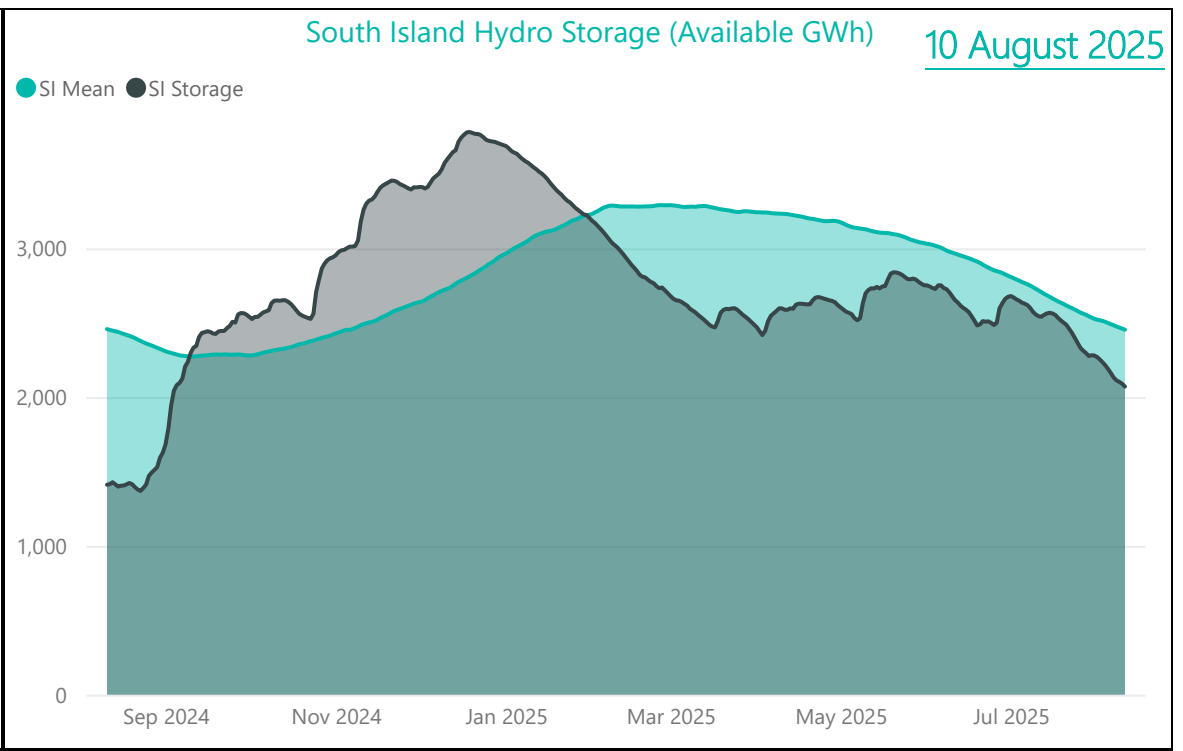


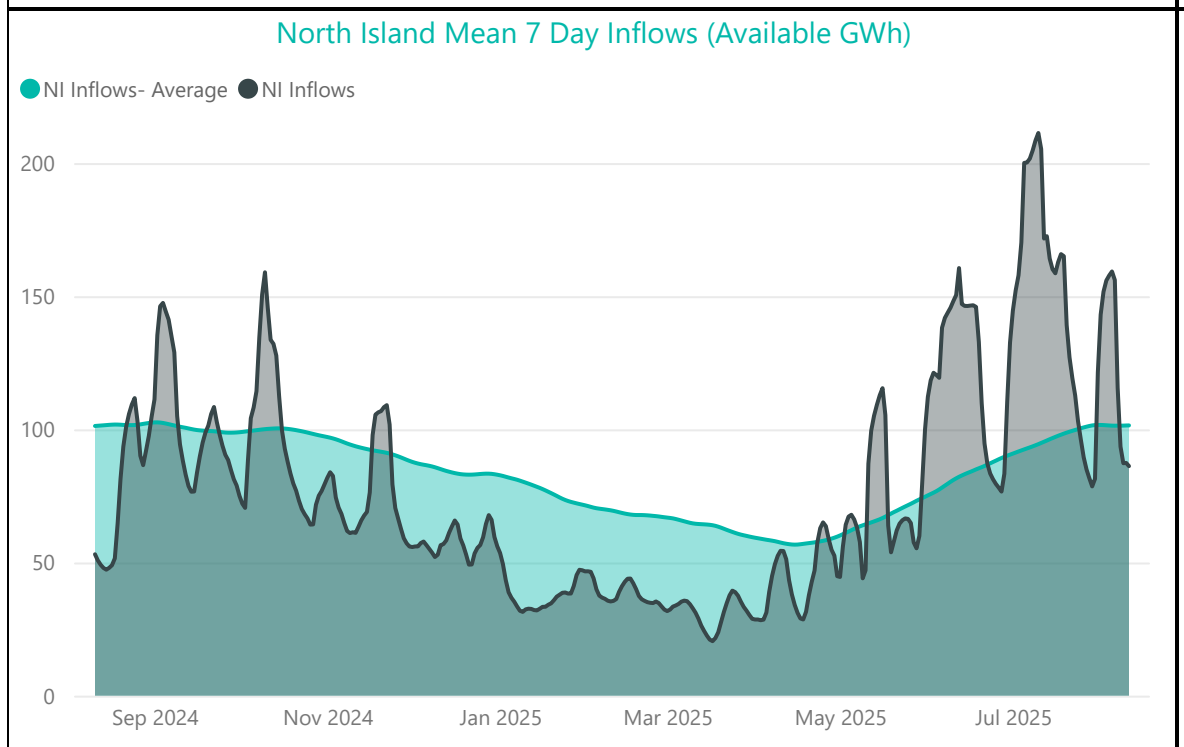
CO2 g/kWh

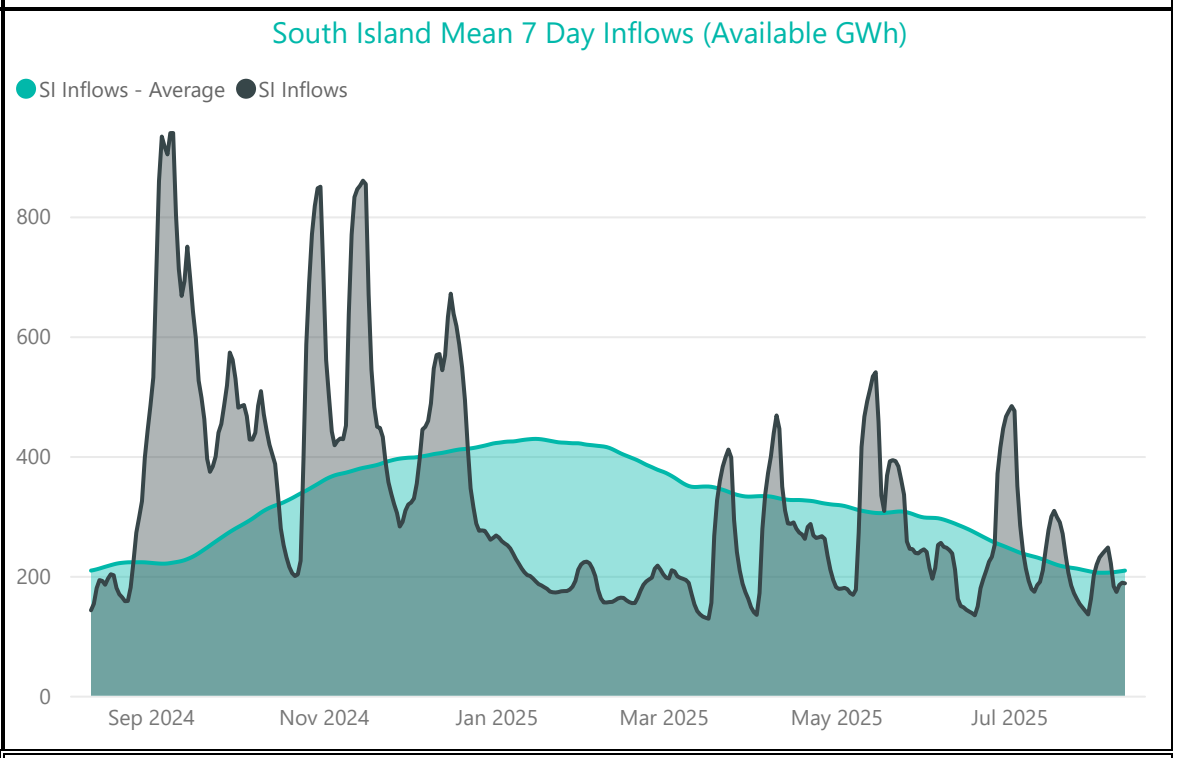


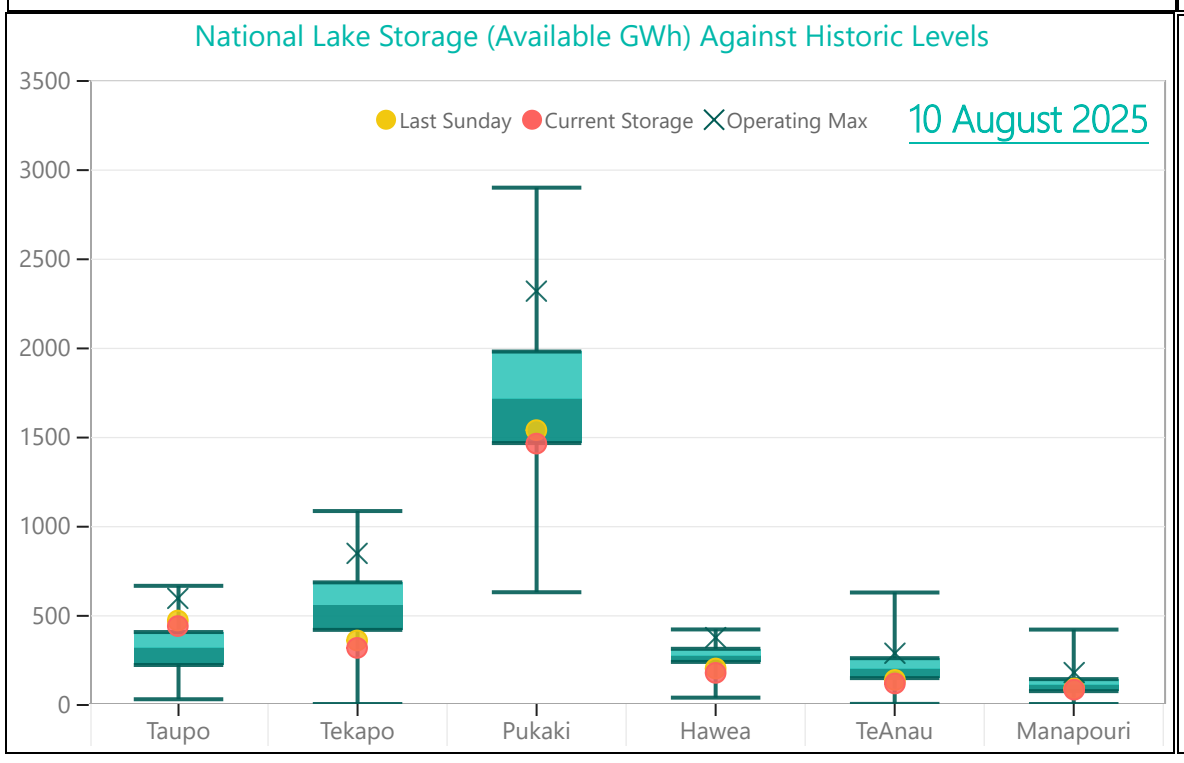
Hydro Storage

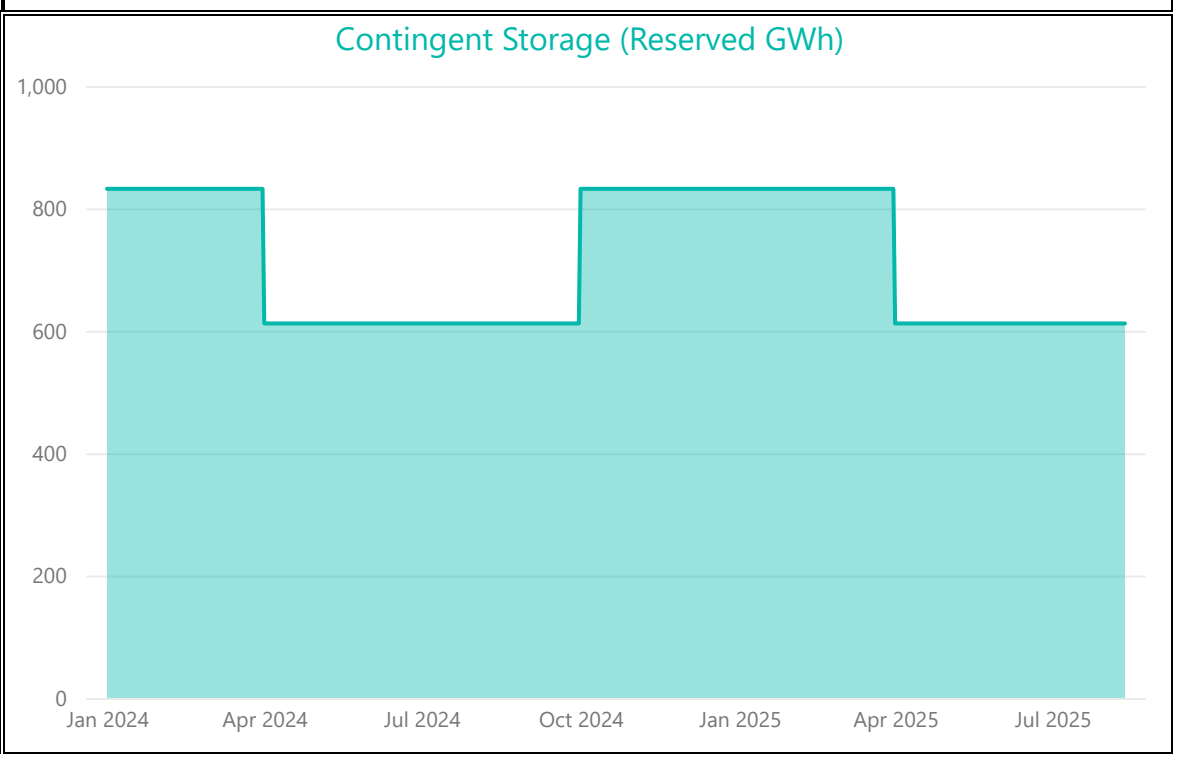












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

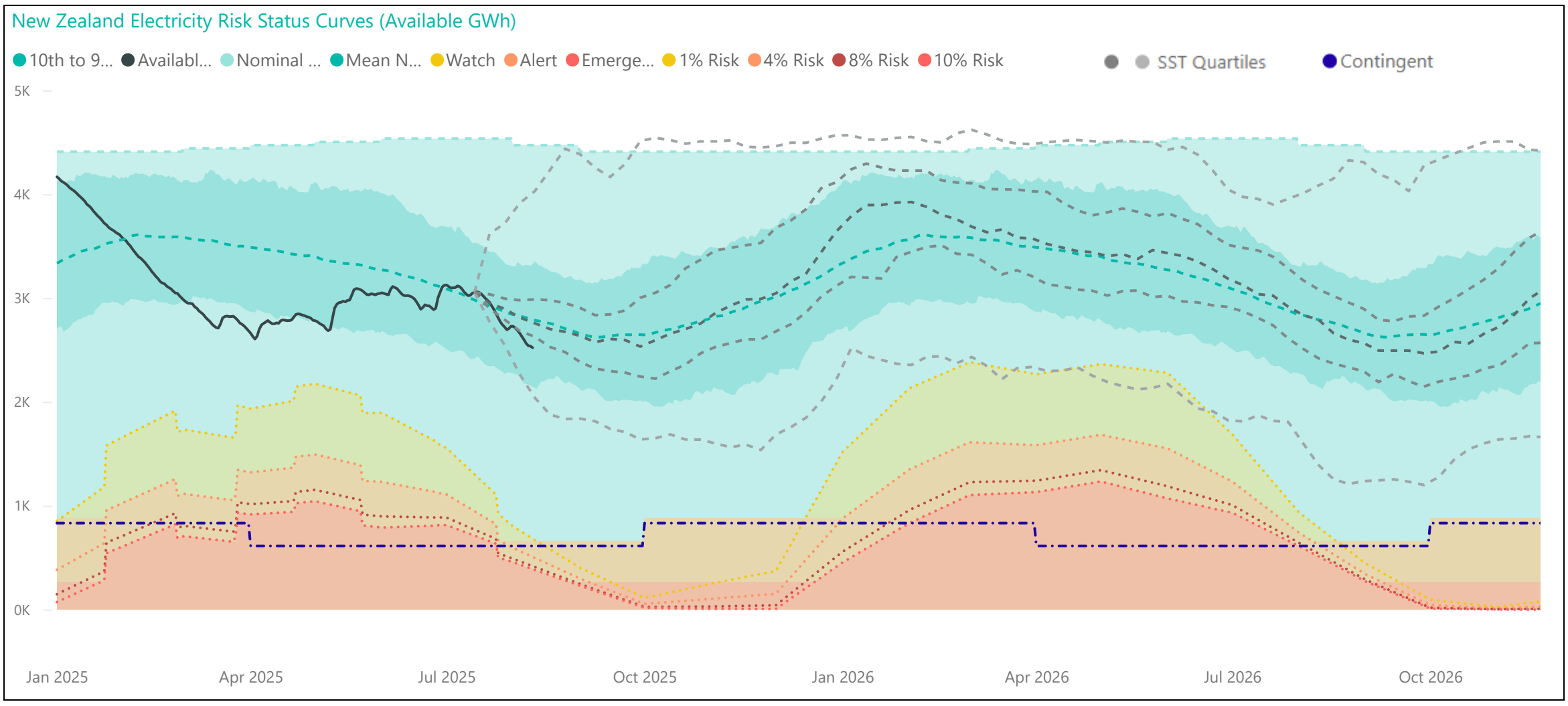
For any inquiries related to security of supply contact market.operations@transpower.co.nz

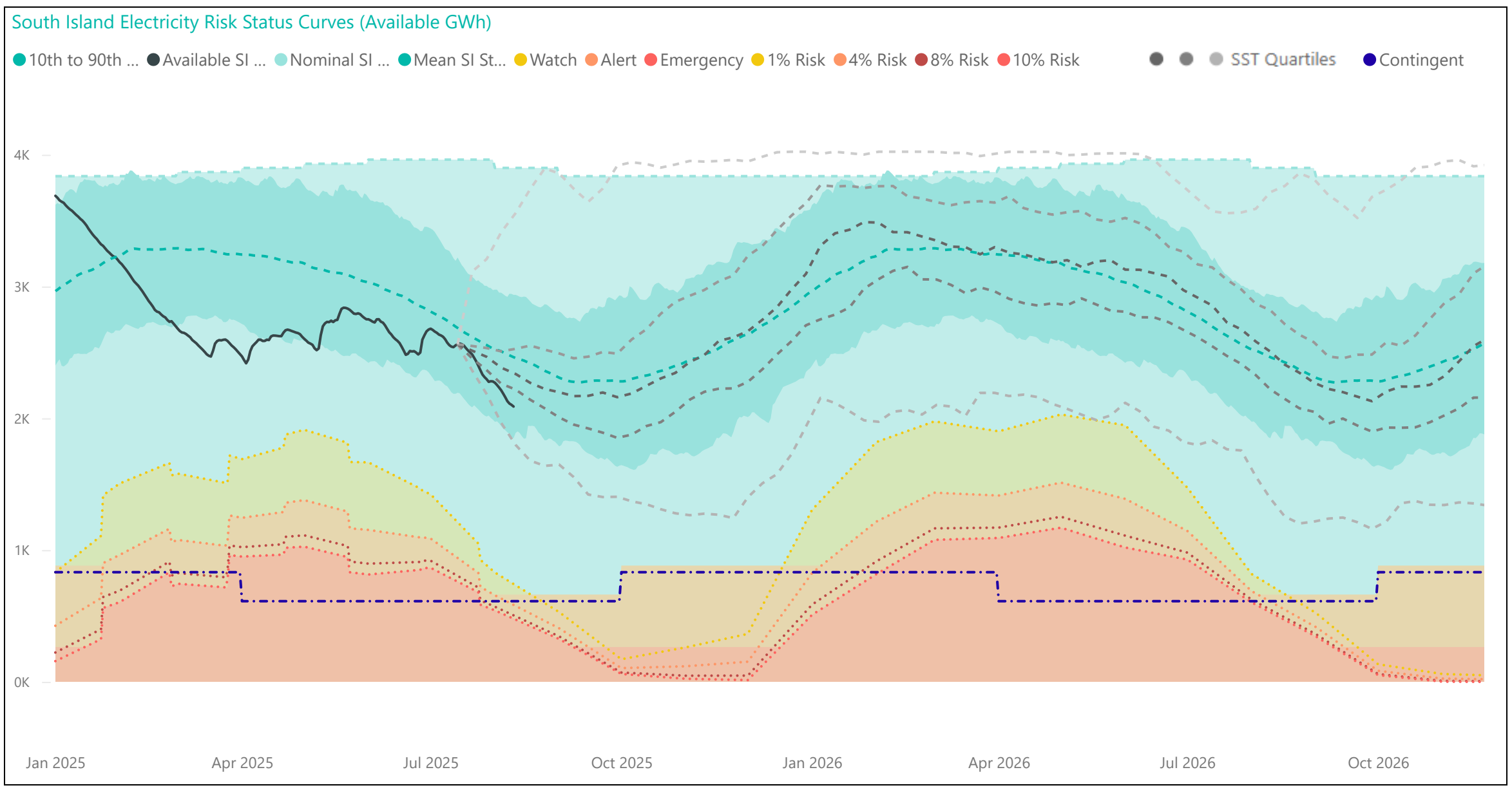
Hydro data used in this report is sourced from *NZX Hydro*.

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).