Market Operations Weekly Report - Week Ended 8 February 2026

Overview

New Zealand hydro storage now sits below the 90th percentile at 115%. However, hydro combined with strong wind, solar and geothermal continues to maintain the high level of renewable generation in the mix we have observed in the last four months.

This week's insight looks at the differences between 1 minute, 5 minute and 30 minute aggregate average intermittent generation and the continued growth of intermittent generation.

Security of Supply

Energy

National hydro storage decreased from 117% to 115% of the historic mean. South Island hydro storage decreased from 113% to 110% of the historic mean, and North Island storage increased from 158% to 166%.

Capacity

Residuals were healthy with only the lowest residual occurring at 947 MW during the morning peak of Tuesday 3 February.

The N-1-G margins in the NZGB forecast are healthy through to the end of March. 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 increased from 700 GWh to 710 GWh the week before and has been lower than that observed at this time of year since 2023. The highest demand peak of 5,395 MW occurred at 5:30 pm on Monday 2 February.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week was $23/MWh, increasing from $2/MWh the week prior. Wholesale prices peaked at $250/MWh at Ōtāhuhu at 9 pm on Wednesday 4 February. There were several instances of price separation between the North and South islands throughout the week. This first occurred on Monday 2 February when the HVDC flow reached its transfer limit, and Wednesday 4 February during an unplanned HVDC outage and an Under Frequency Event (UFE).

Generation Mix

Total renewable contribution to the mix was 98% last week, the 18th consecutive week above 96%. This consisted of hydro generation which remained above its average at 59% of the generation mix. Wind generation was moderate at 10% of the mix, solar generation was 2% of the mix and the geothermal share was 27% of the mix, above its average contribution of 23%. Thermal generation was at 1% of the mix.

HVDC

HVDC flow was mostly northward last week with some overnight southward HVDC transfer during high wind and low demand periods. In total, 59 GWh was transferred north and 2 GWh was transferred South.

Under Frequency Event

An Under Frequency Event occurred on Wednesday 4 February at 8:30 pm following the unplanned HVDC outage. See the Customer Advice Notice (CAN) for more information.

Consultations

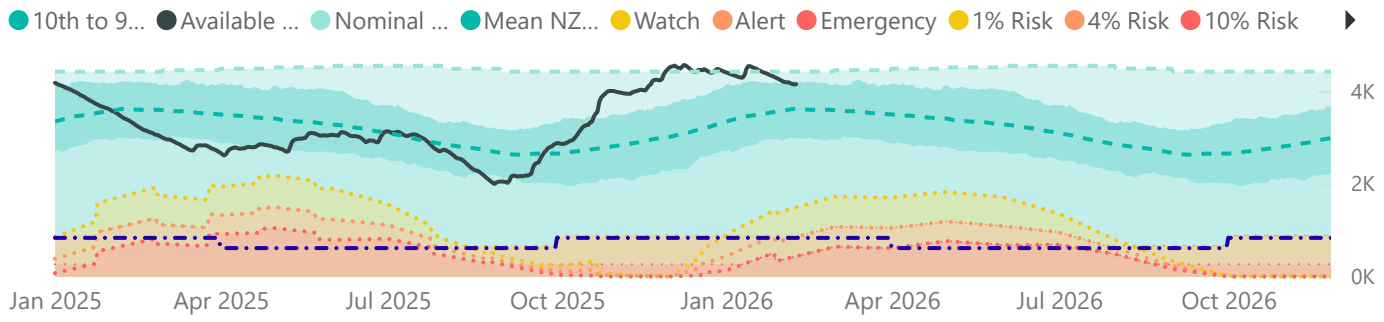
We have released our initial engagement paper as part of the development of a System Operator strategy. This outlines why a refreshed strategy is needed now and describes our approach to shaping the future of system operations. Responses are due by Friday 27 February.

New Zealand Energy Risk

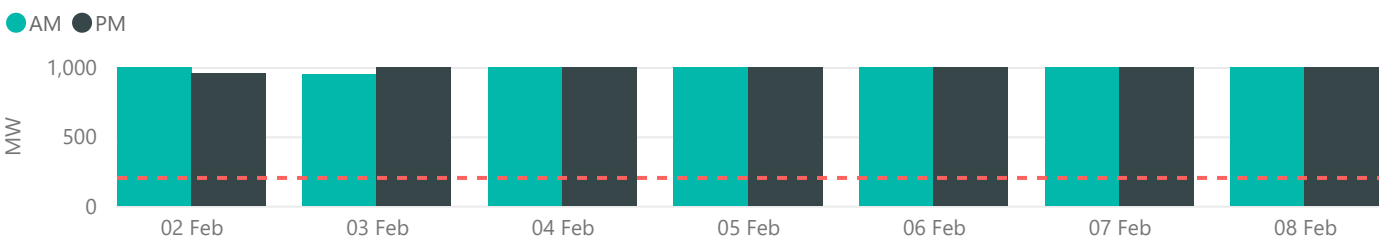
South Island Energy Risk

Normal Watch Alert Emergency

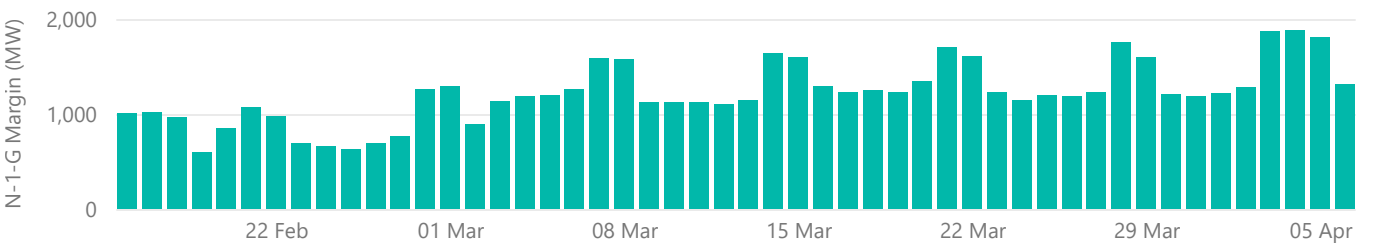
New Zealand Electricity Risk Status Curves (Available GWh)



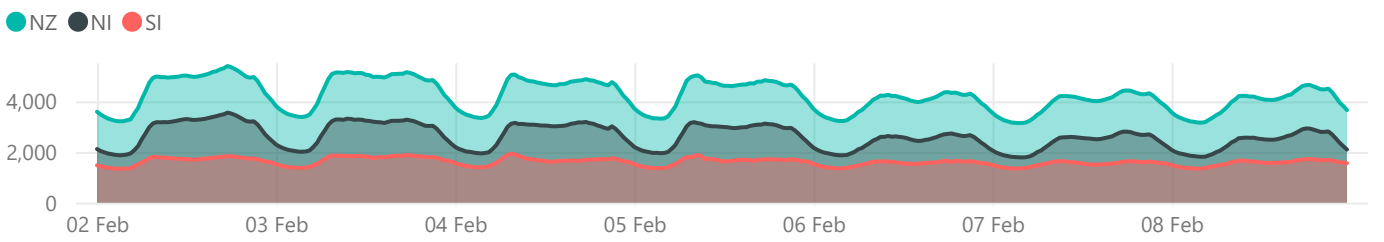
Lowest Residual Points - MW



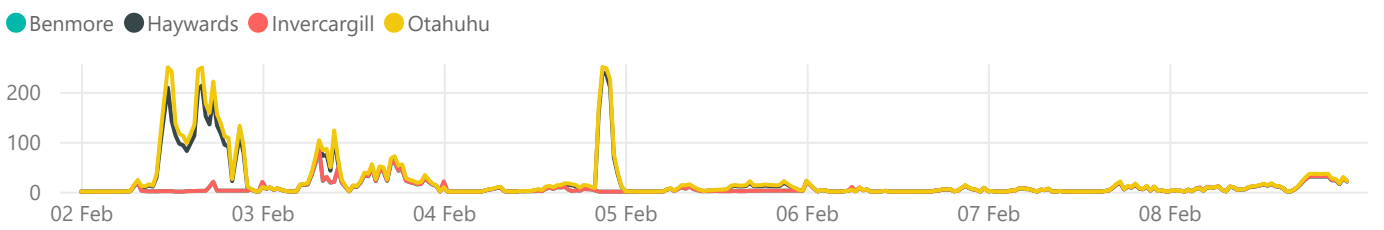
NZGB Look-Ahead (excluding next 7 days)



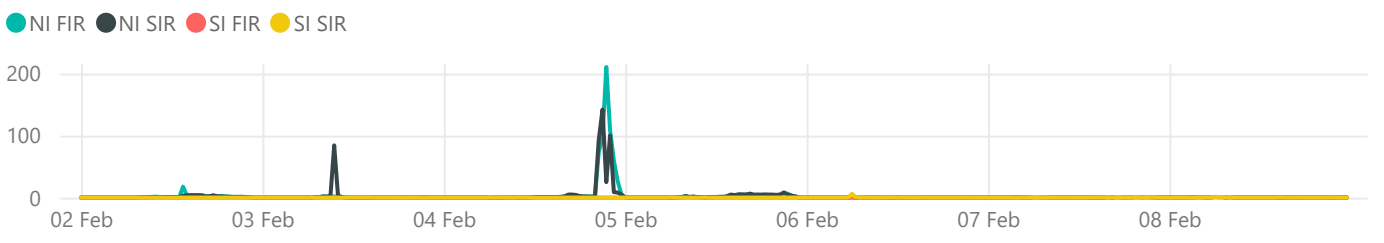
National Demand by Trading period - MW



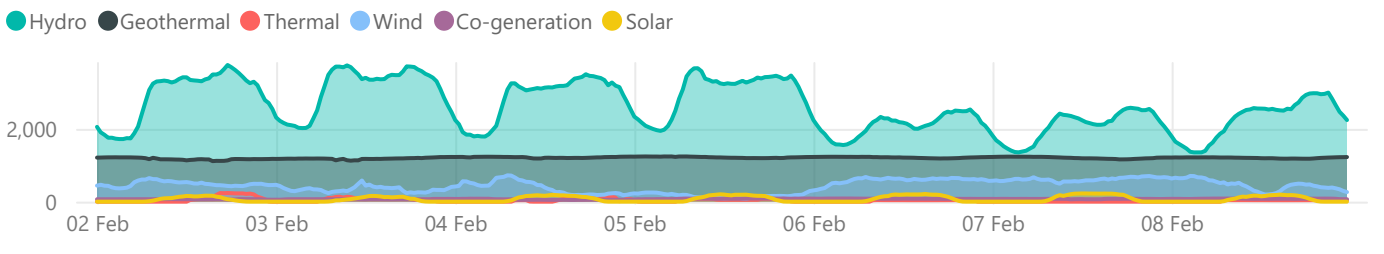
Energy Prices - $/MWh



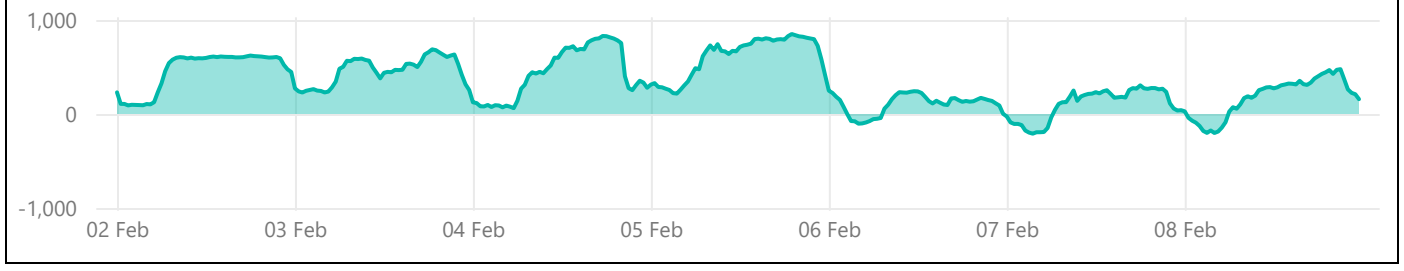
Reserve Prices - $/MW



Generation - MW



Net HVDC Transfer - MW (Northward positive)



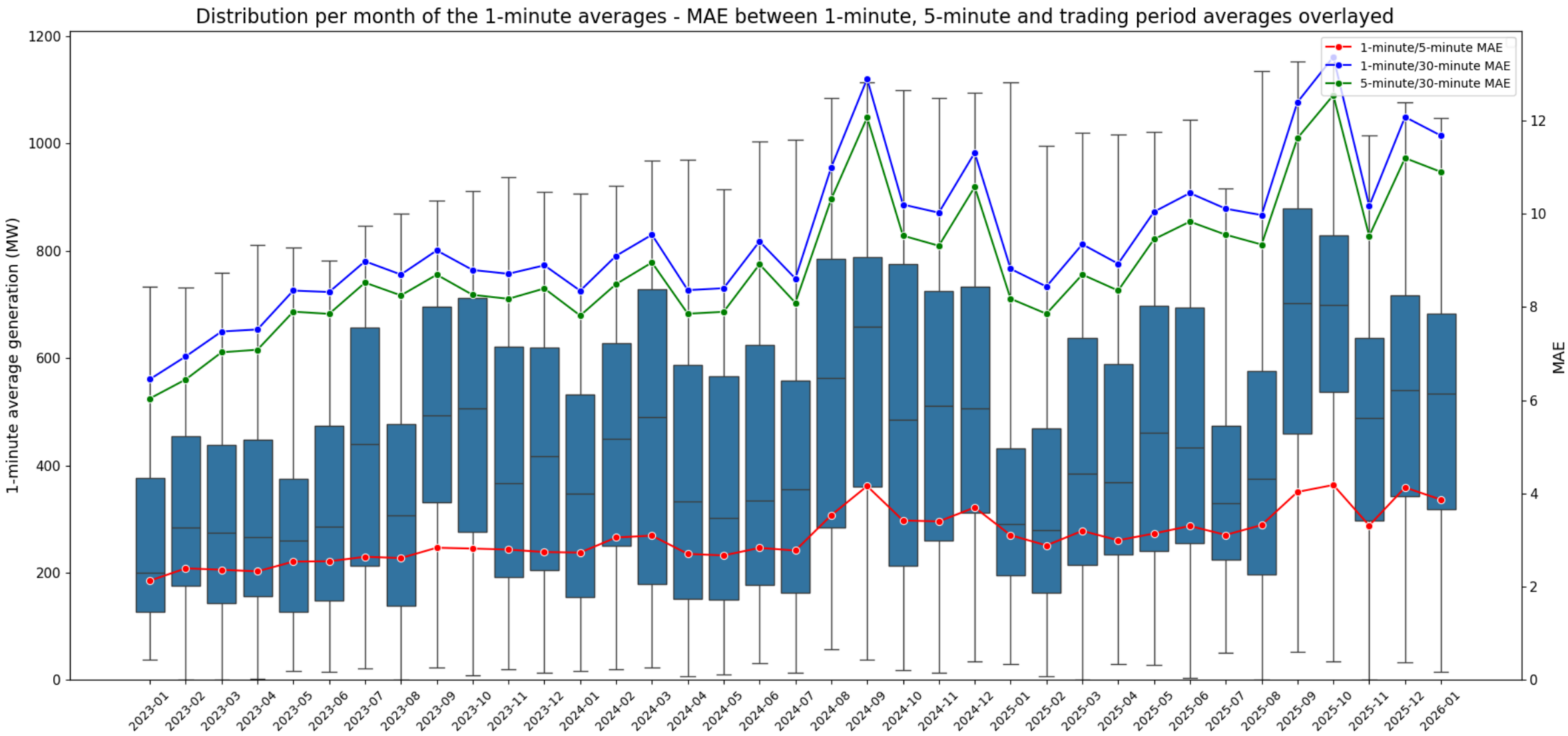
Weekly Insight - Growing intermittent generation and differences in aggregate information

This week's insight looks at the growth of intermittent generation over the last four years and how the averages across a trading period and a 5-minute dispatch can differ from those close to real time (1-minute average).

The figure below reflects the growing intermittent generation growth and the increasing errors between the averages. As the grid becomes increasingly reliant on intermittent generation, the larger the errors we observe between what might be aggregated and potentially offered by an industry participant. Although the errors may be the same proportional to the current installed capacity at the time, these errors still nonetheless reflect actual megawatts that the system operator has to manage in real time.

As shown in our 6 July 2025 insight, wind has the potential to swing drastically. These swings can also occur with solar, when, for example, a sudden and unexpected overcast occurs across solar farms in the middle of the day.

Below is a representation of the average difference between the 5-minute average, 1-minute average and trading period average in terms of the Mean Absolute Error (MAE). These errors show that a 5-minute aggregate can more effectively reflect what is happening closer to real-time.



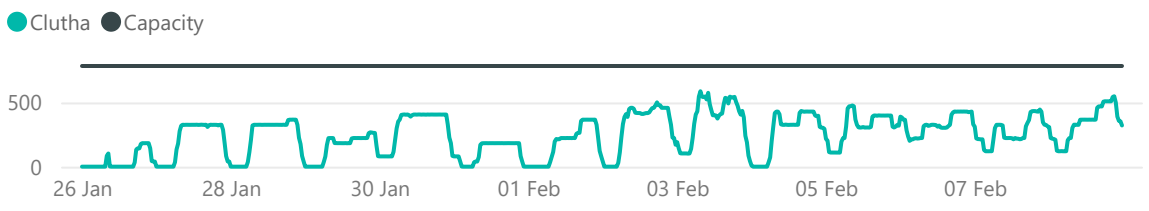
The box and whisker plots above show the distribution of the 1-minute average actual intermittent generation since 2023. This shows not only the mean value increasing but also the variation/range increasing within a month. To better understand the variations within a 30-minute trading period, the blue line shows the difference between the 1-minute average and the 30-minute average as the MAE per month, and the green line shows the difference between the 5-minute average and the 30-minute average. Both these lines have been trending up as intermittent generation has been added, showing the increase in the intra trading period variability. The red line shows the difference between the 1-minute average and the 5-minute average values. While also trending upwards, these errors are much lower.

While there will always be differences between real-time and forecast quantities, the availability of additional flexible resources in real-time can help the system operator better manage this increasing variability as more intermittent generation is commissioned.

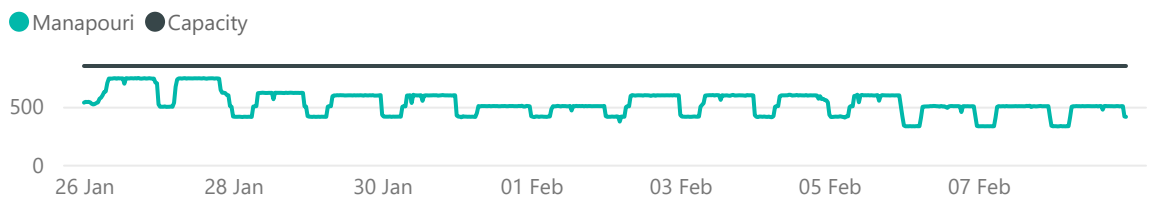
Generation Breakdown - Last Two Weeks

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

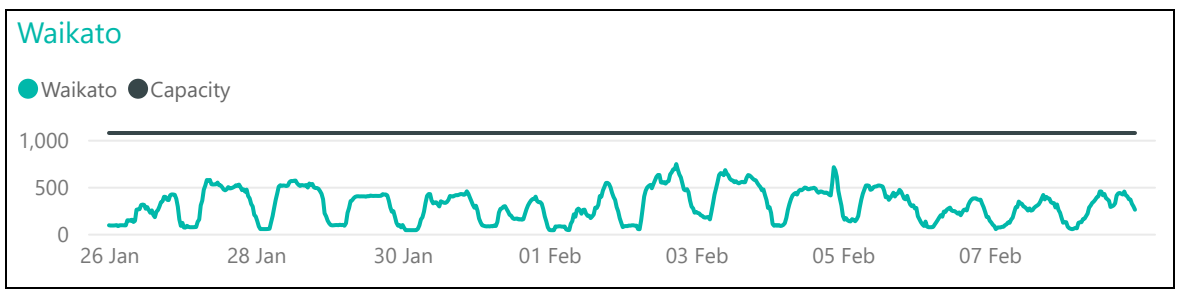
Clutha



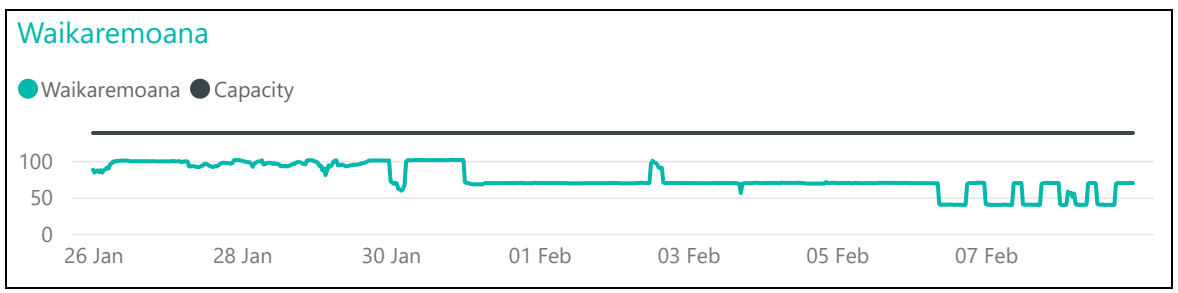
Manapouri



Waikato

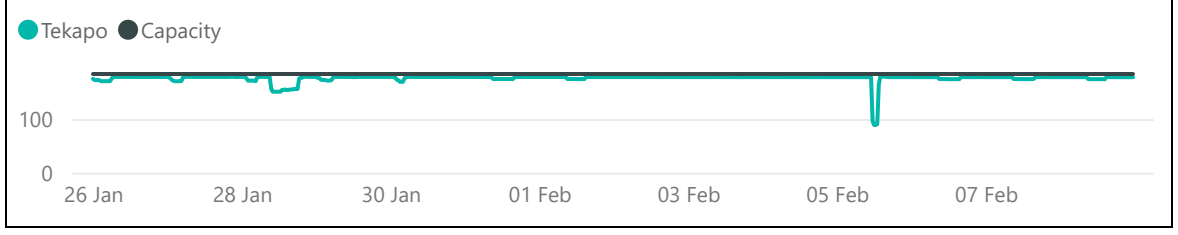


Waikaremoana

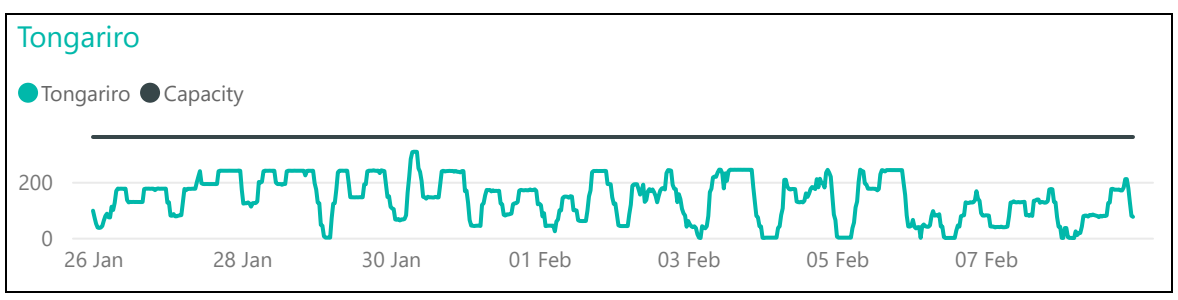


Waitaki

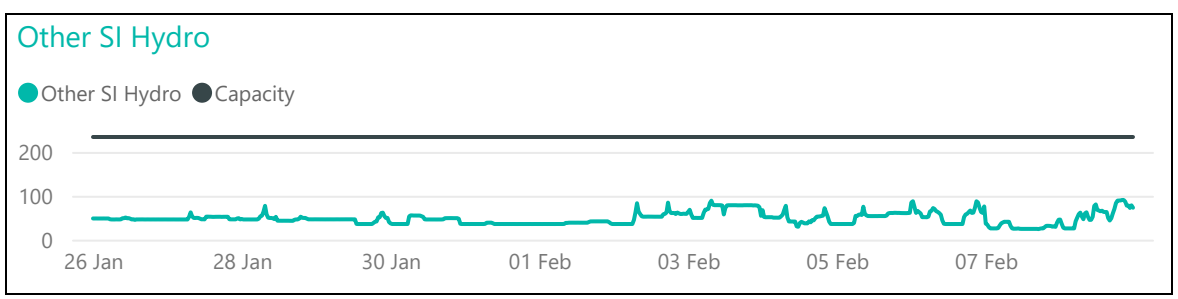
Tekapo



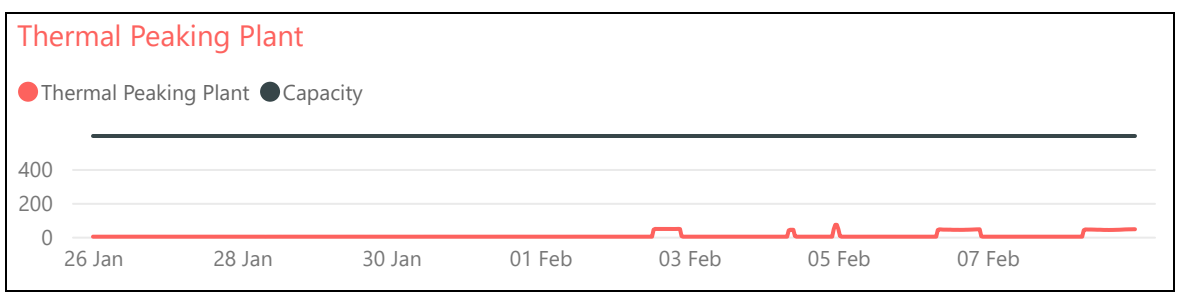
Tongariro



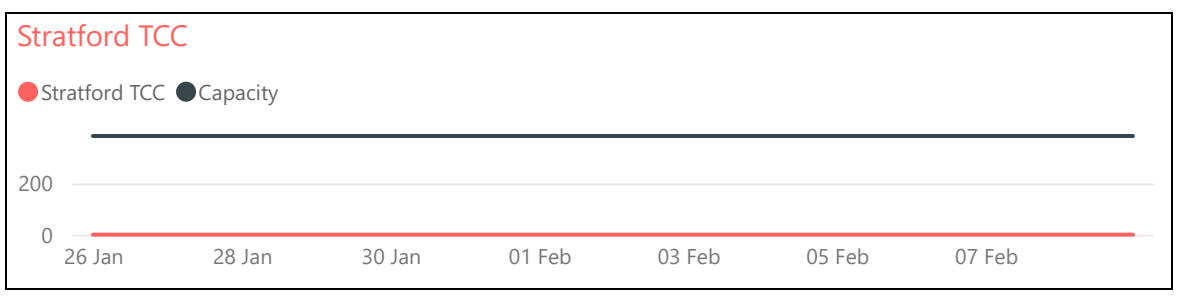
Other SI Hydro



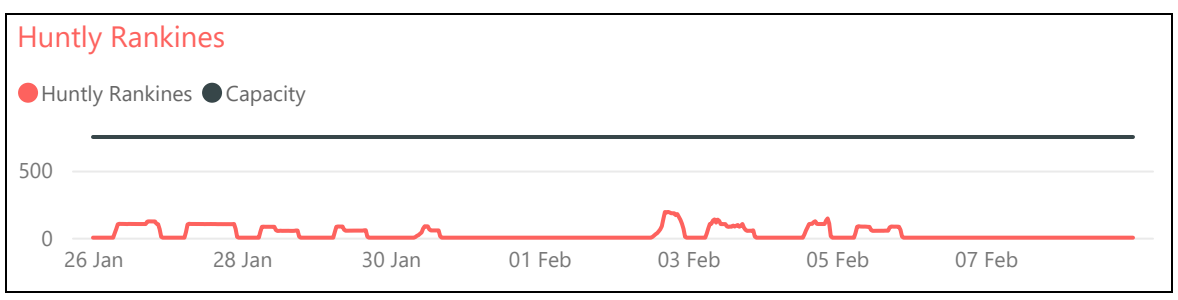
Thermal Peaking Plant



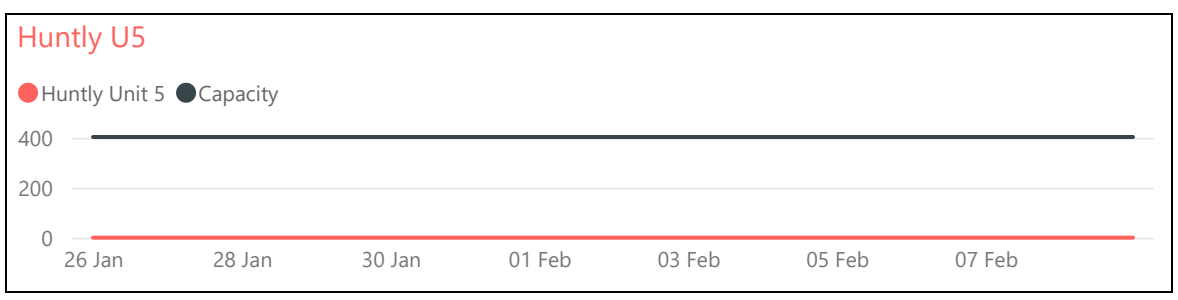
Stratford TCC



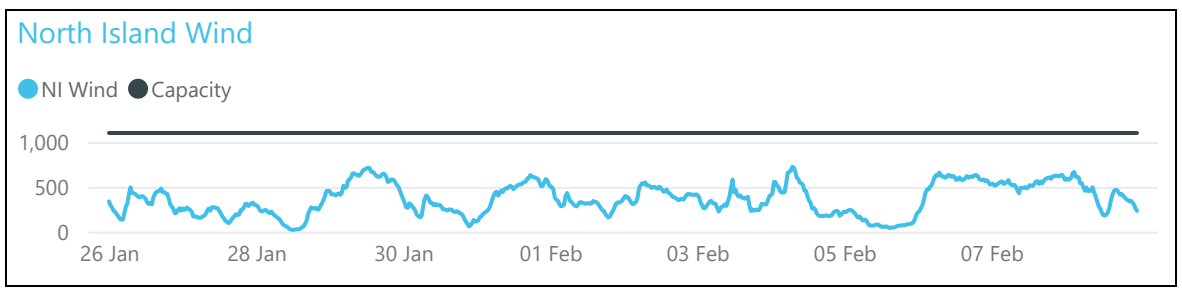
Huntly Rankines



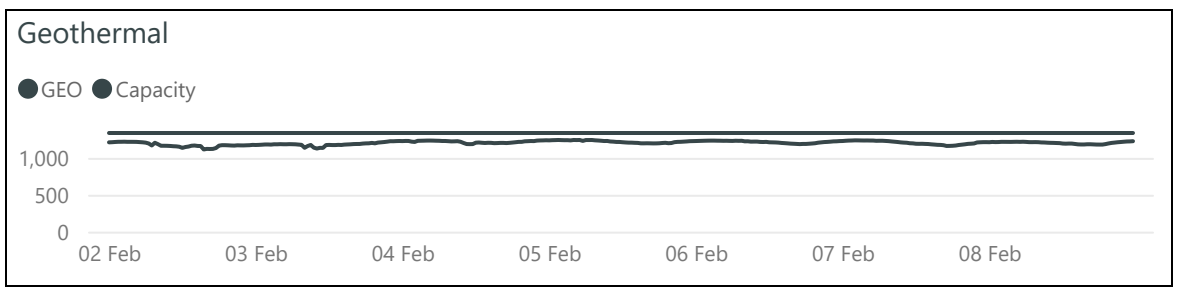
Huntly U5



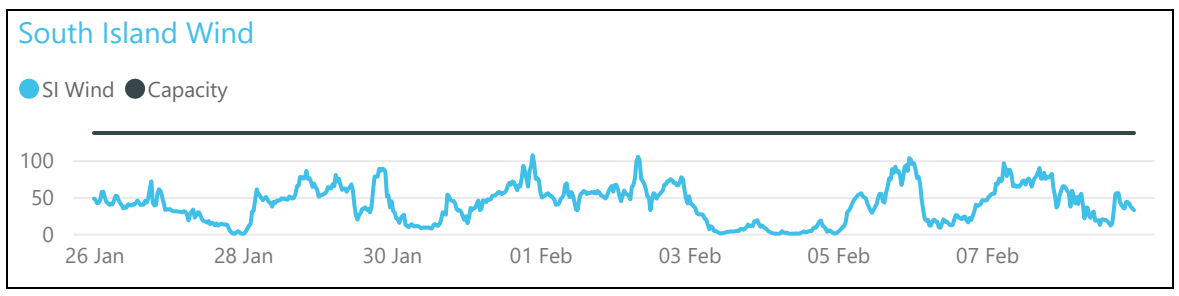
North Island Wind



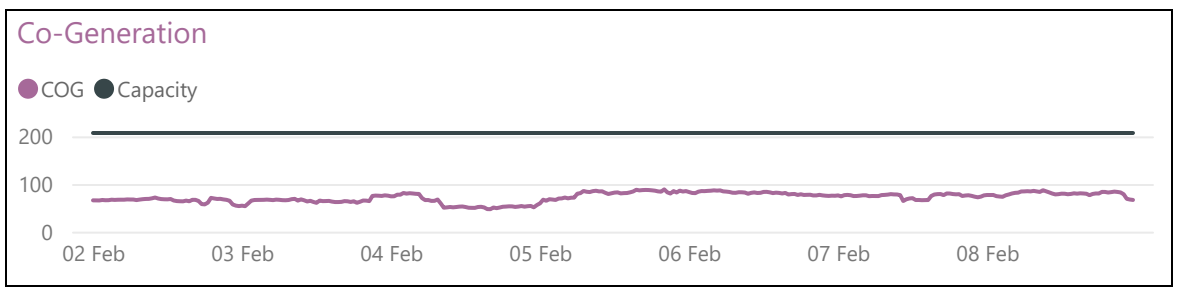
Geothermal



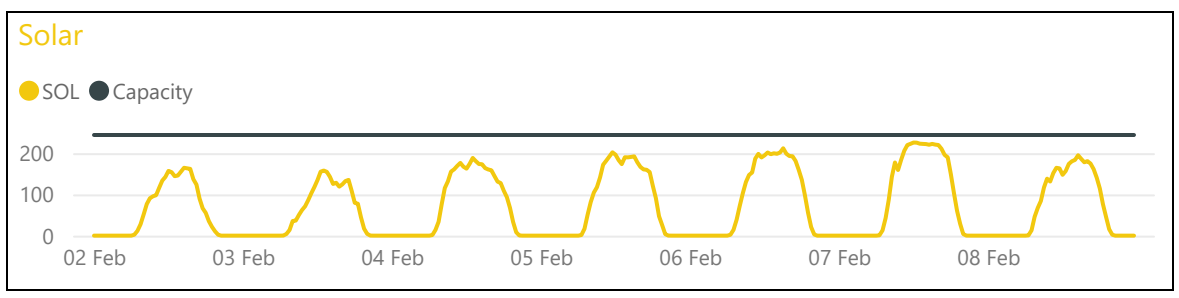
South Island Wind



Co-Generation



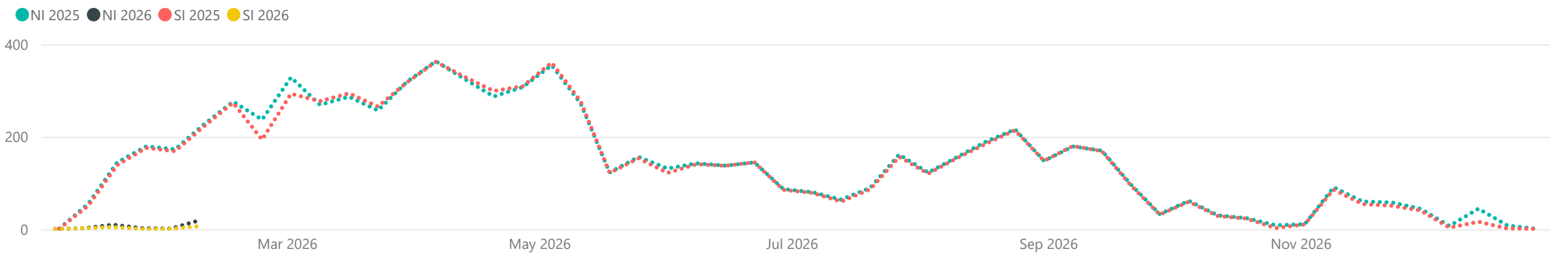
Solar



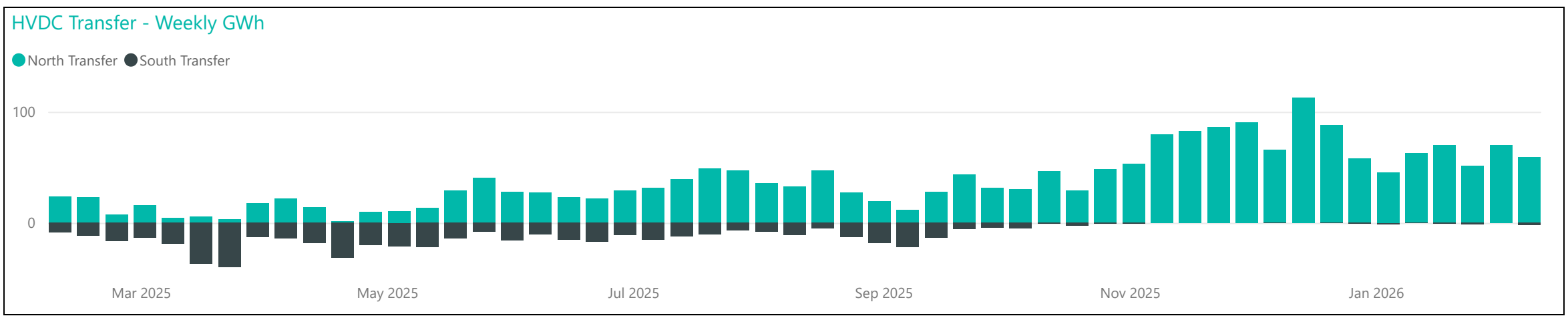
Weekly Profiles

National Weekly Demand - GWh - 7 Day Rolling

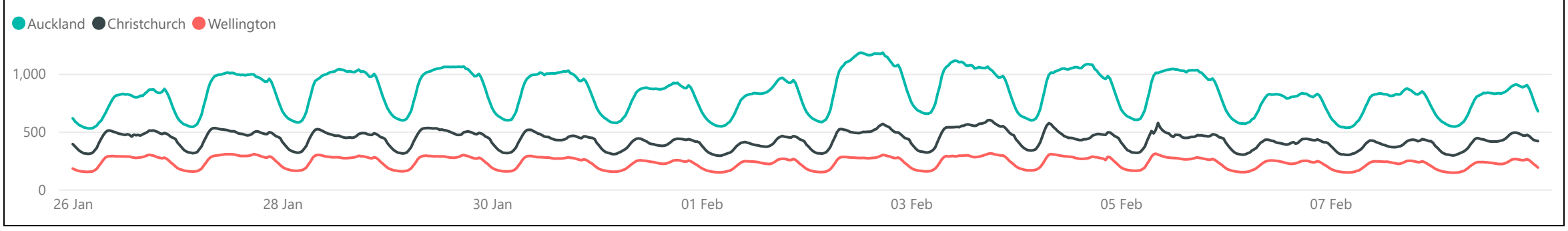
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

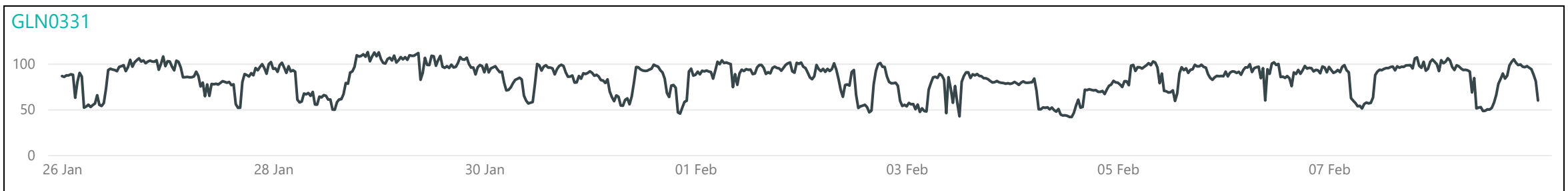


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*

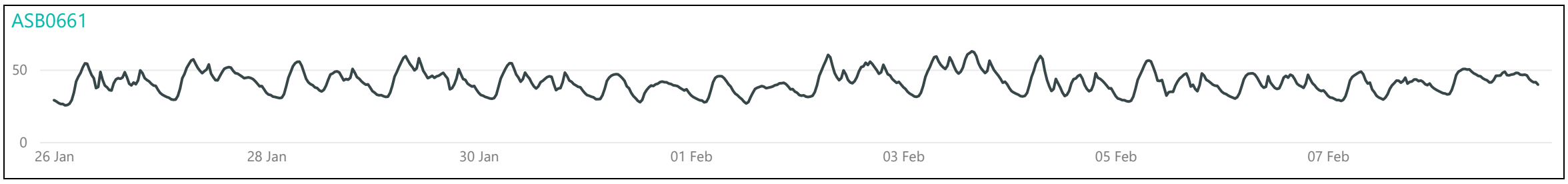


Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*

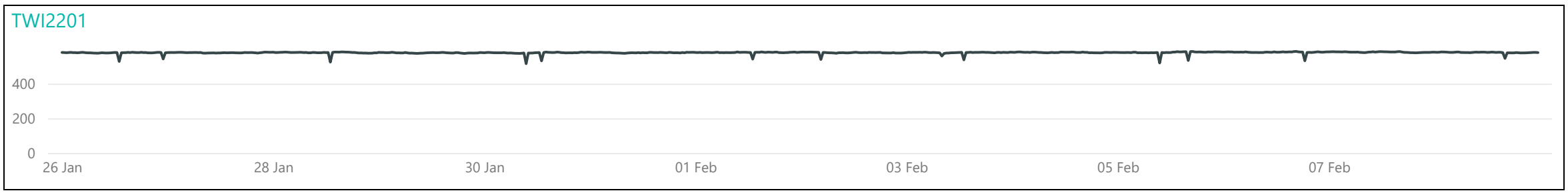
GLN0331



ASB0661



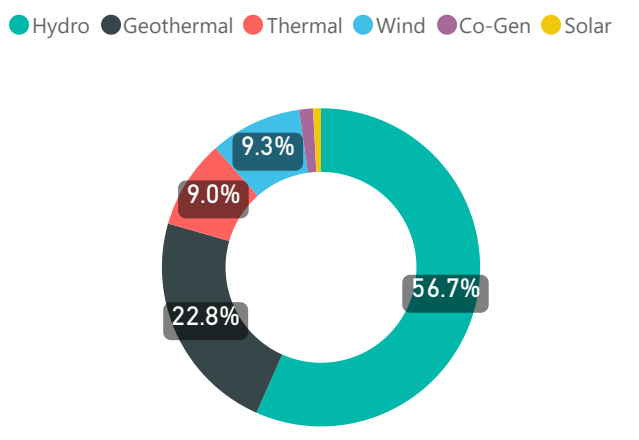
TWI2201



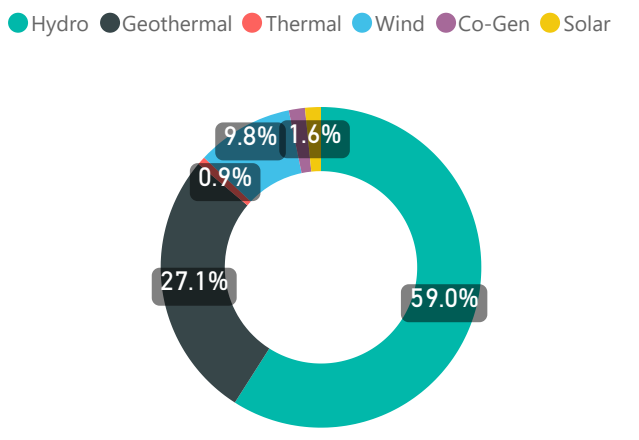
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



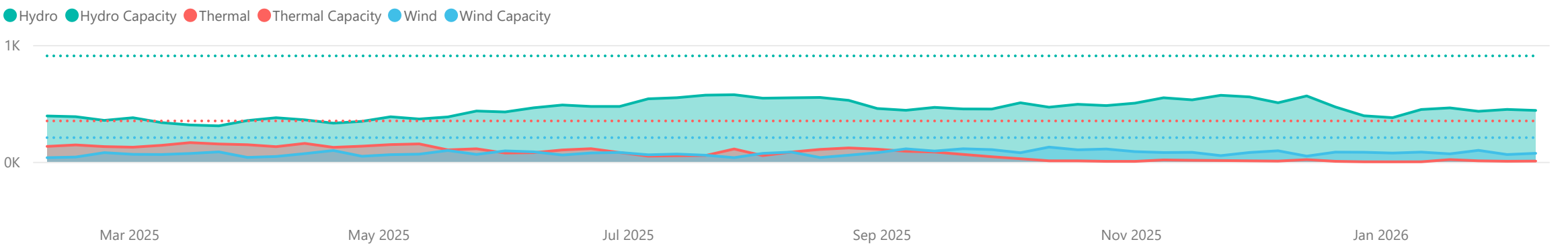
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
98%	23,577	31.7

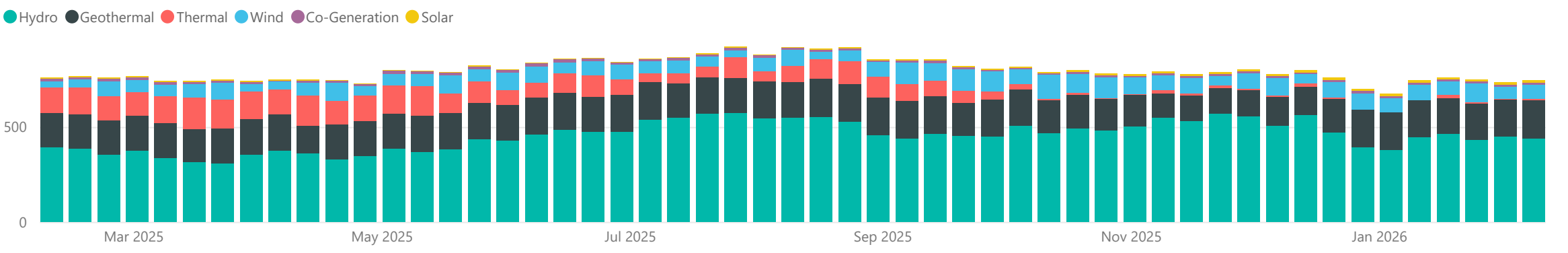
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
90%	60,593	75.8

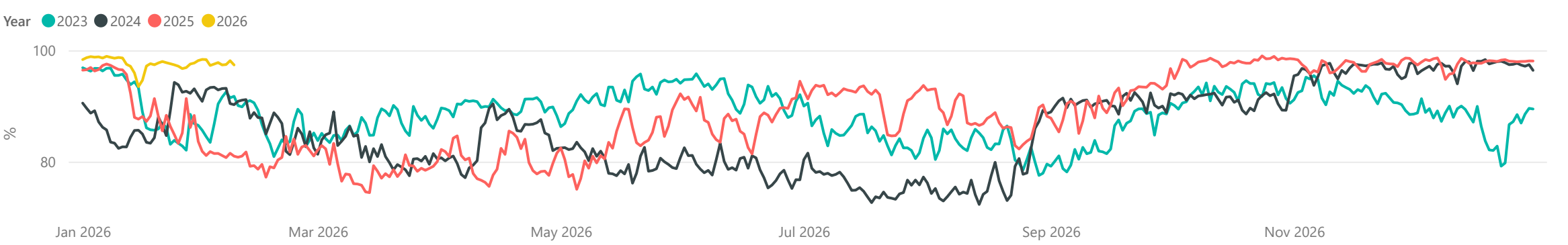
Weekly Generation Mix vs Capacity - GWh



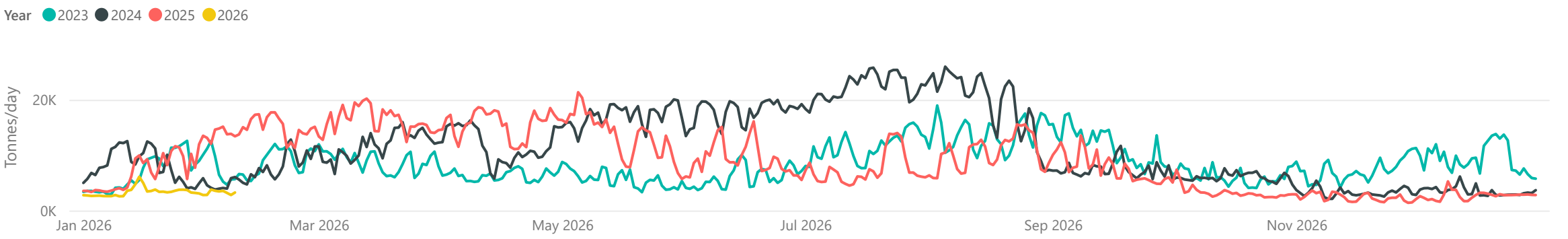
Weekly Generation Mix - GWh



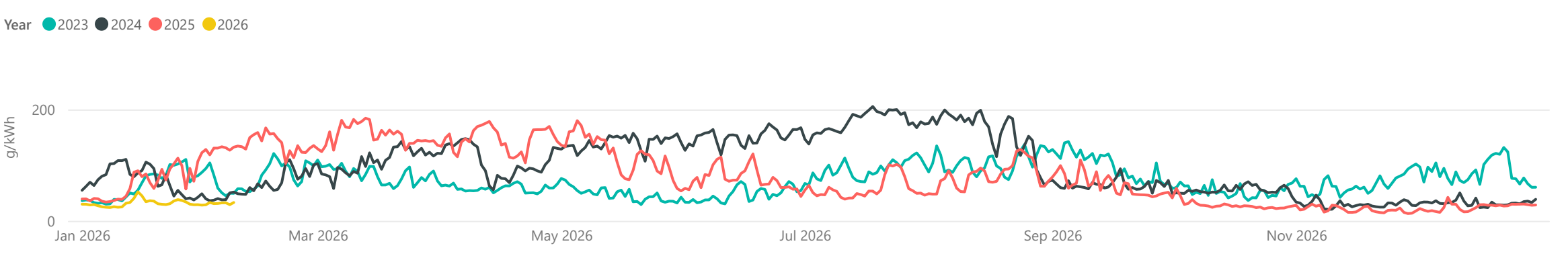
NZ Renewable Percentage



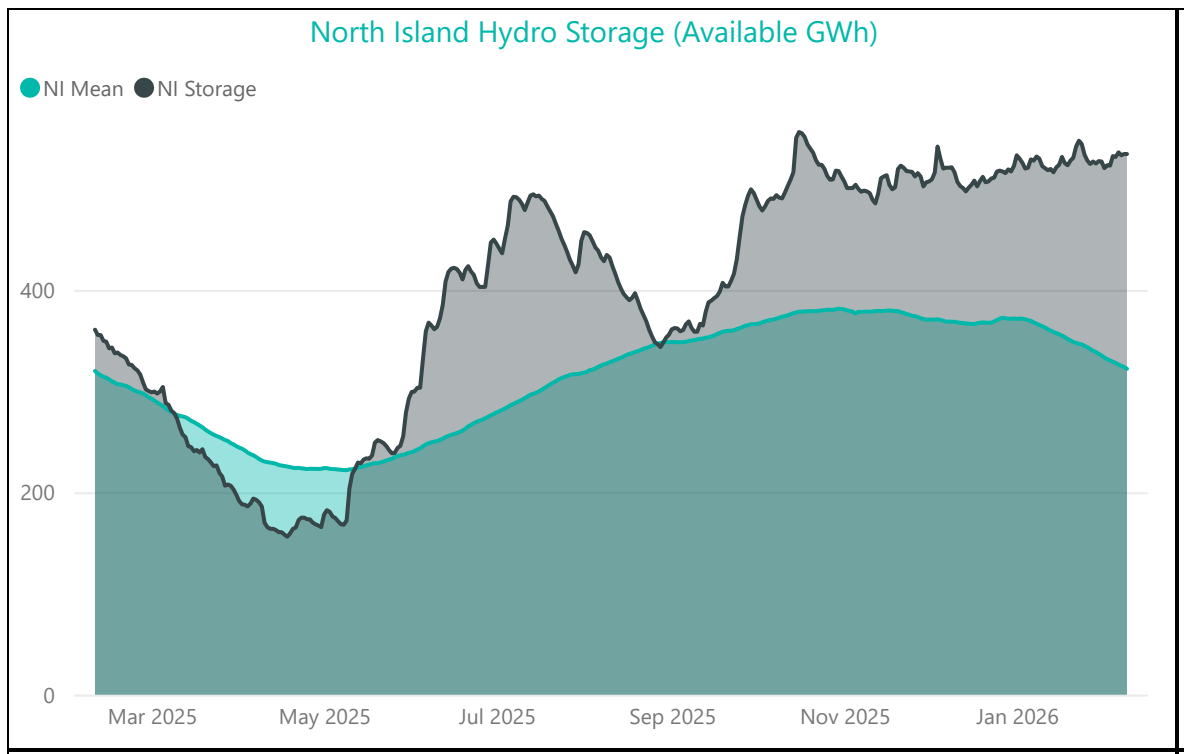
CO2 Tonnes/Day

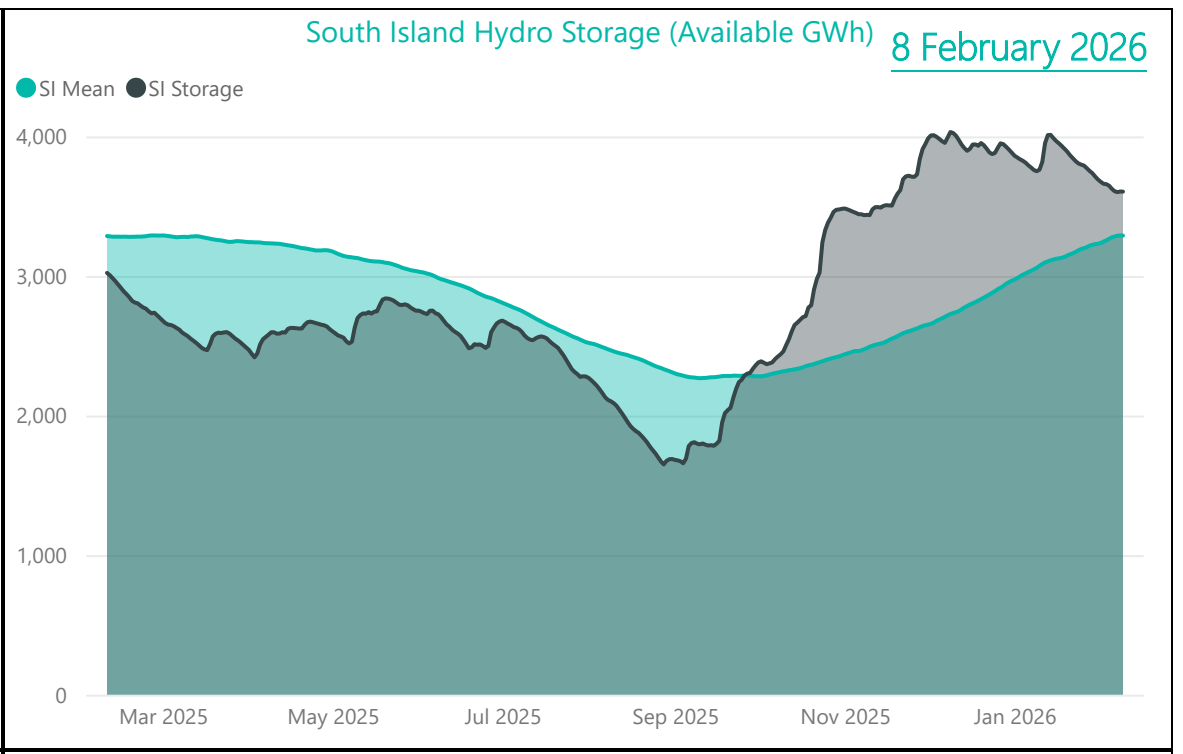


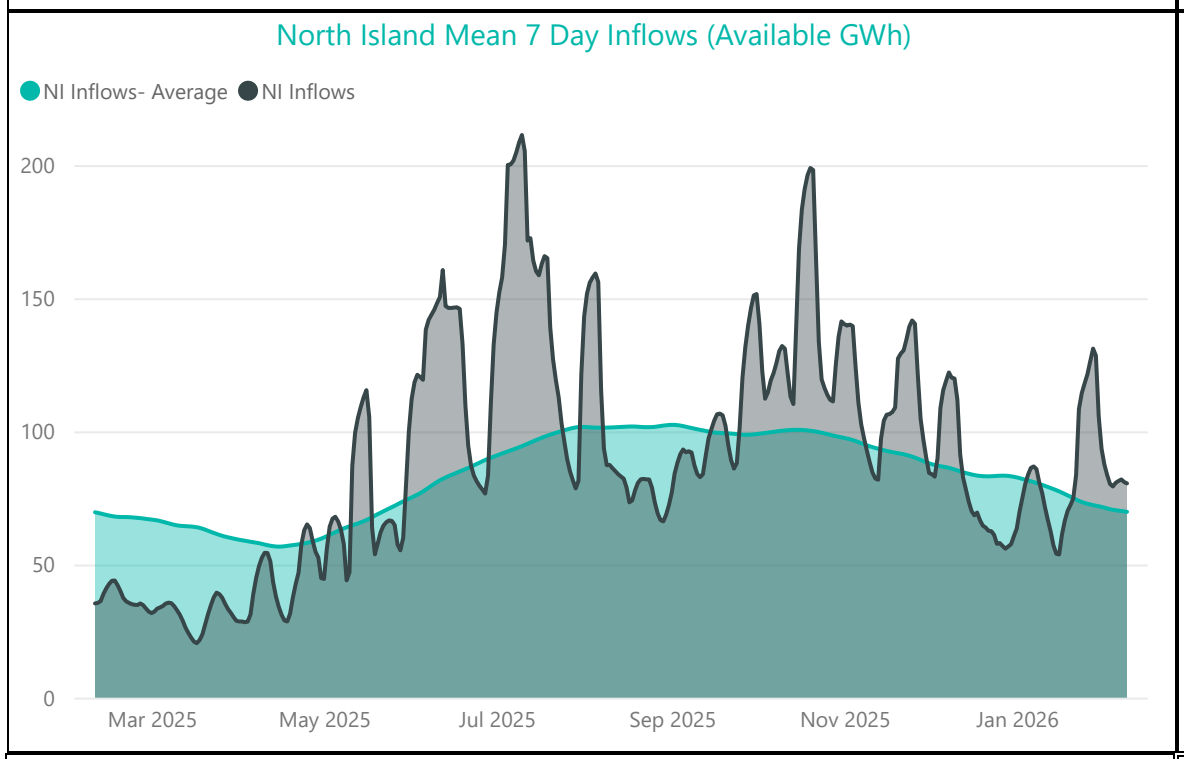
CO2 g/kWh

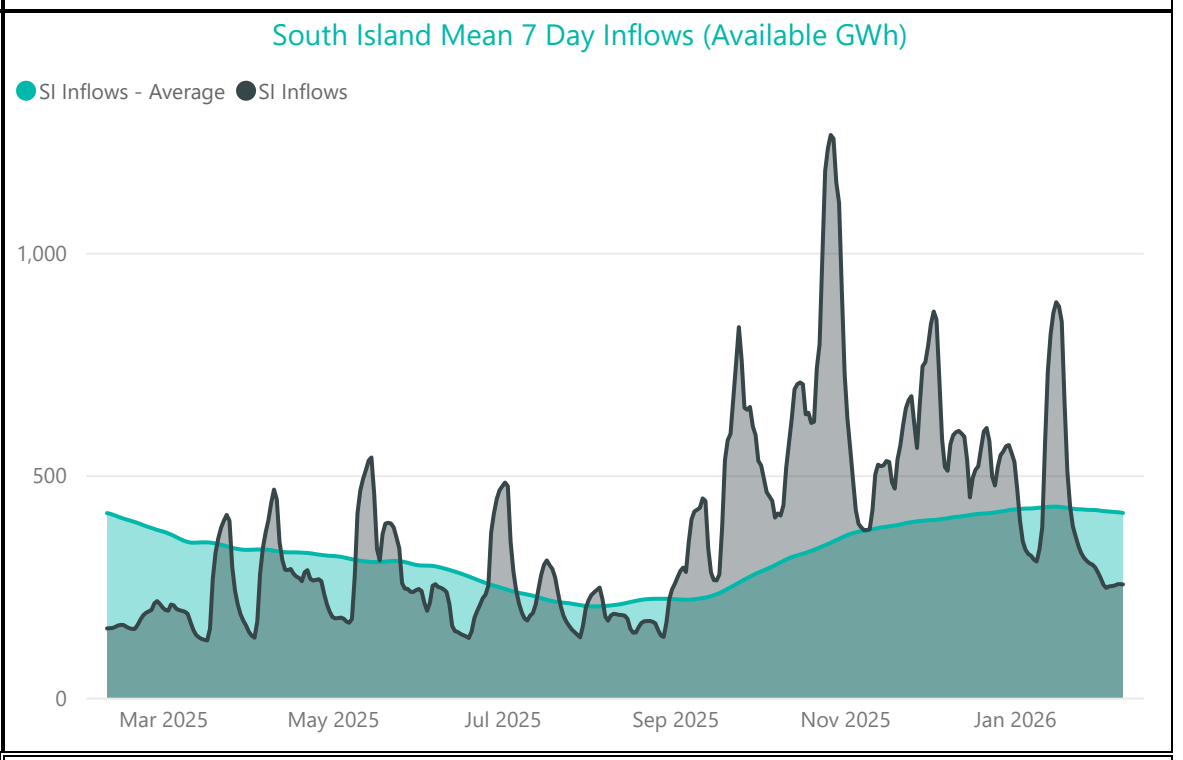


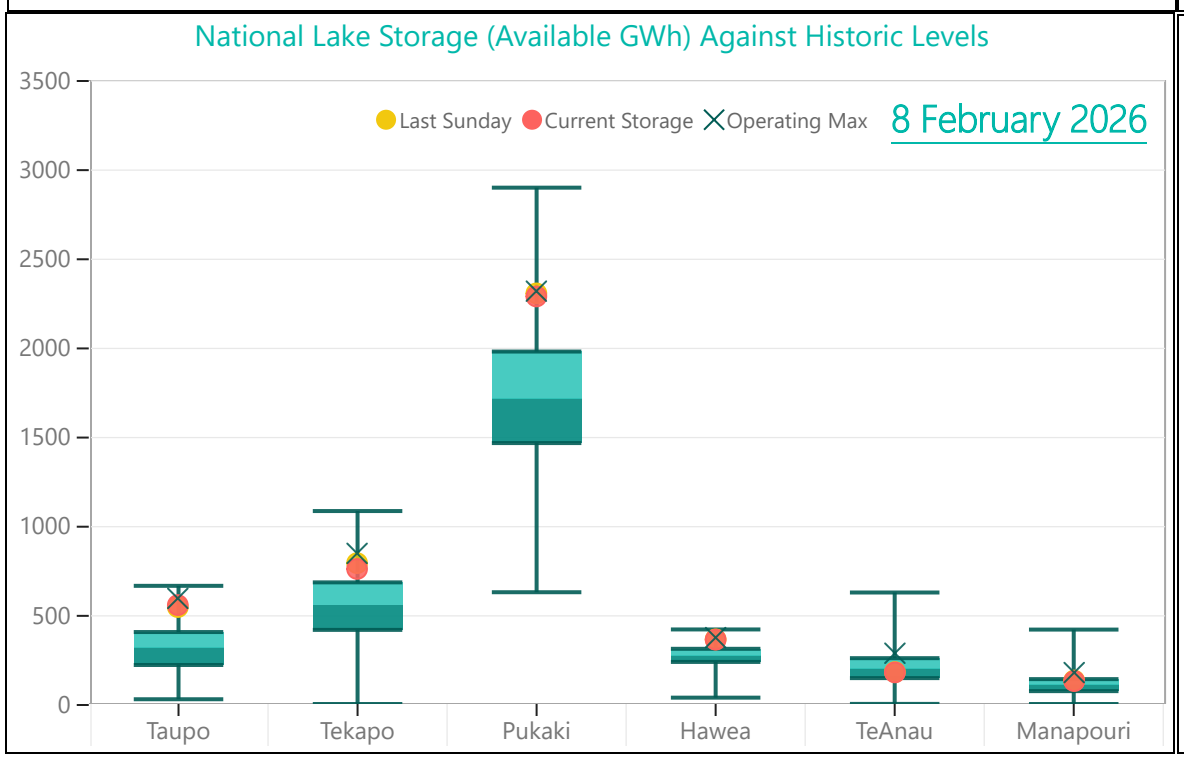
Hydro Storage

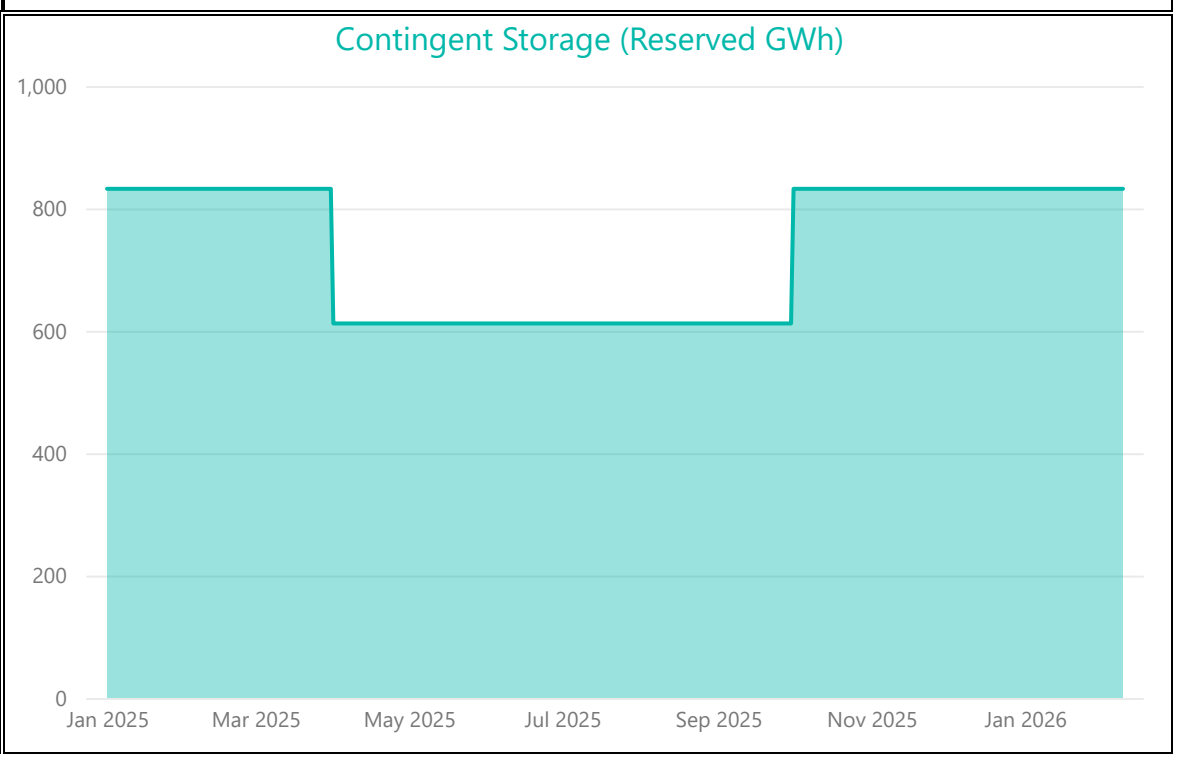












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

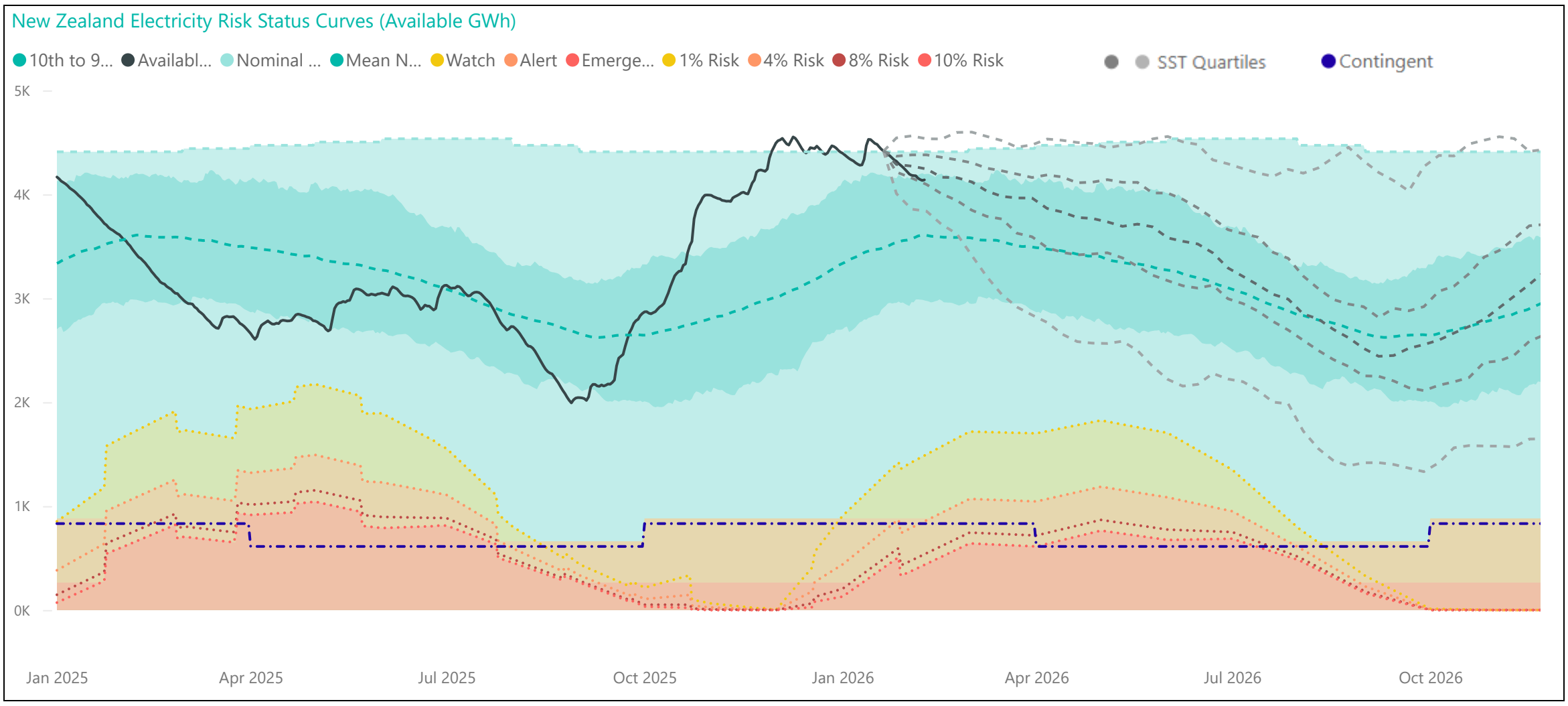
For any inquiries related to security of supply contact market.operations@transpower.co.nz

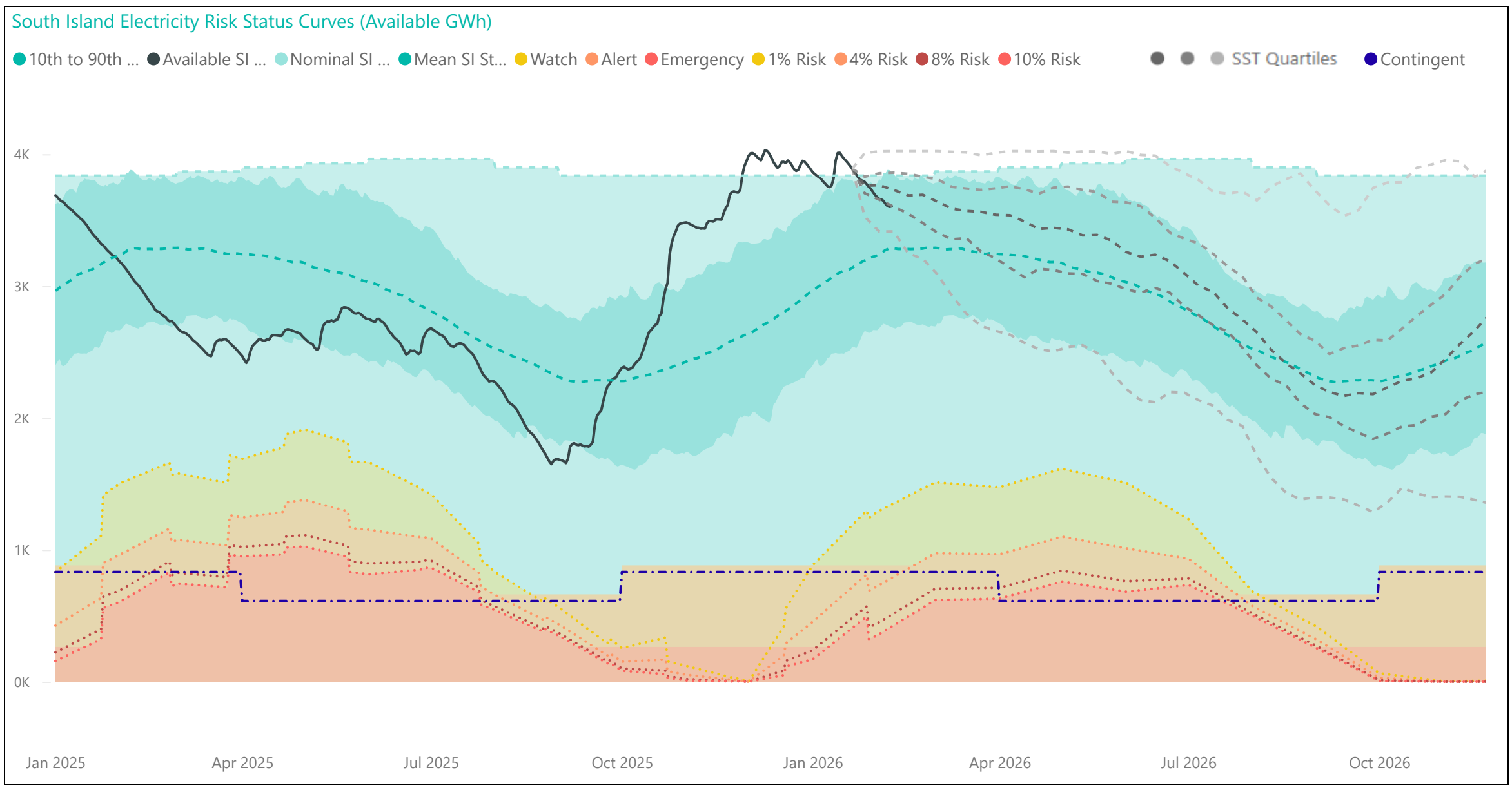
Hydro data used in this report is sourced from *NZX Hydro*.

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).