Market Operations Weekly Report - Week Ended 9 November 2025

Overview

New Zealand hydro storage decreased slightly to 137% of the historic mean last week but continues to sit above the 90th percentile.

This week's insight looks at historic trends in slow-start thermal generation.

Security of Supply

Energy

National hydro storage decreased by 3% to 137% of the historic mean. South Island hydro storage dropped from 142% to 138% of historic mean while North Island storage decreased from 132% to 131%.

Capacity

Residuals were mostly healthy with the exception of the morning peak on 5 November, when there was low wind generation (52 MW) at the morning peak. This was the lowest residual period for the week at 347 MW. All other peaks during the week had residuals above 600 MW.

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 the start of January. 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 741 GWh the week prior to 752 GWh and was higher than weekly demand levels observed over the past three years. The highest demand peak at 5,351 MW occurred at 7:30 am on Tuesday 4 November.

Weekly Prices

Average wholesale spot prices increased last week with periods of low wind and a decrease in geothermal generation. The average wholesale electricity spot price at Ōtāhuhu last week was $107/MWh, up from just $12/MWh the week prior. Wholesale prices peaked at $303/MWh at Ōtāhuhu at 7:30am on Wednesday 5 November, coinciding with the lowest residual period for the week.

Generation Mix

Wind generation decreased to 10% of the generation mix, just above its average contribution of 9%. Hydro generation was above average and increased to 69% of the mix, from 65% the week prior. Thermal generation increased to 2% of the mix from 0.5% the week prior. The geothermal share decreased to 16% of the mix — well below its average contribution of 23% — with multiple geothermal units on planned outage during the last week.

HVDC

HVDC flow last week was entirely northward with high hydro generation, decreased geothermal generation, and higher demand in the North Island. In total, 80 GWh was transferred north.

Consultations

Consultation on a draft amendment to the System Operator Forecasting and Information Policy (SOSFIP) is now in its cross-submissions stage. The cross-submissions are due by 5pm on Tuesday 11 November 2025 (this evening).

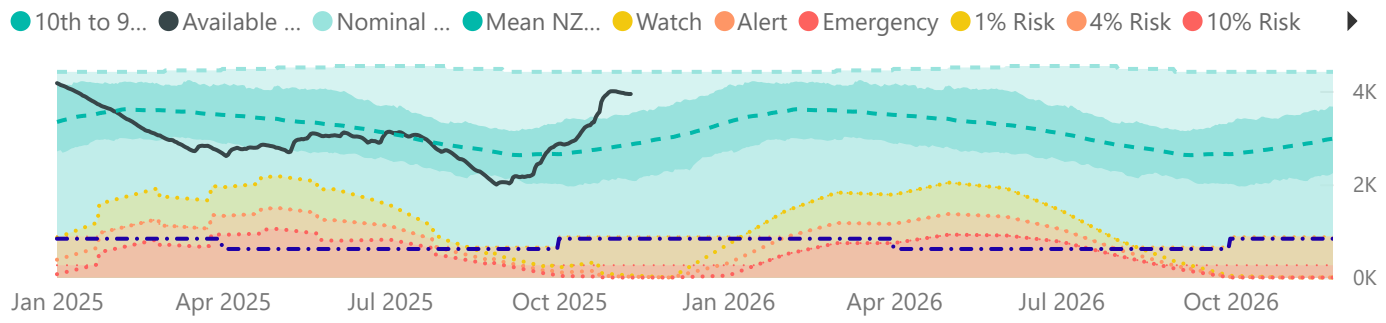
Consultation on the Security of Supply Assessment (SOSA) reference case assumptions and sensitivities is now open. Submissions are due by Monday 24 November. We have also opened our survey of planned generation investment for the SOSA. If this applies to you then you should have received an email. If you have not, please contact market.operations@transpower.co.nz.

New Zealand Energy Risk

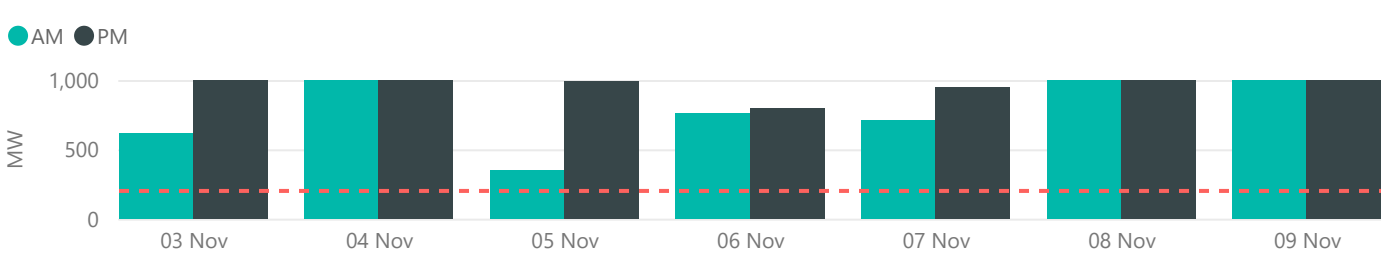
South Island Energy Risk

Normal Watch Alert Emergency

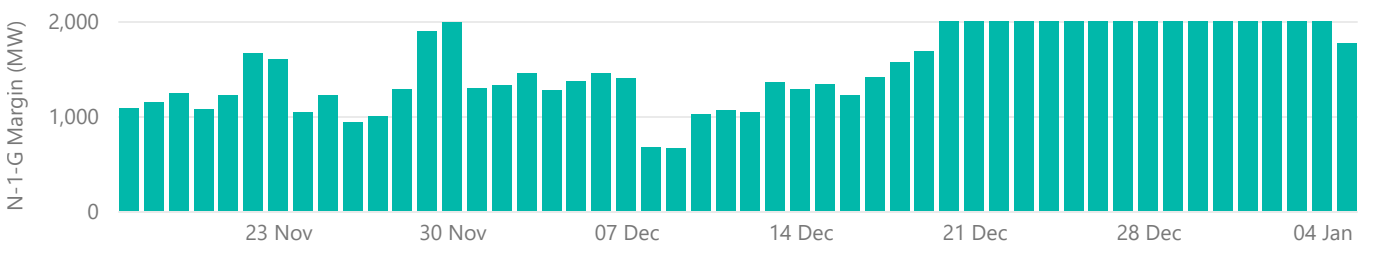
New Zealand Electricity Risk Status Curves (Available GWh)



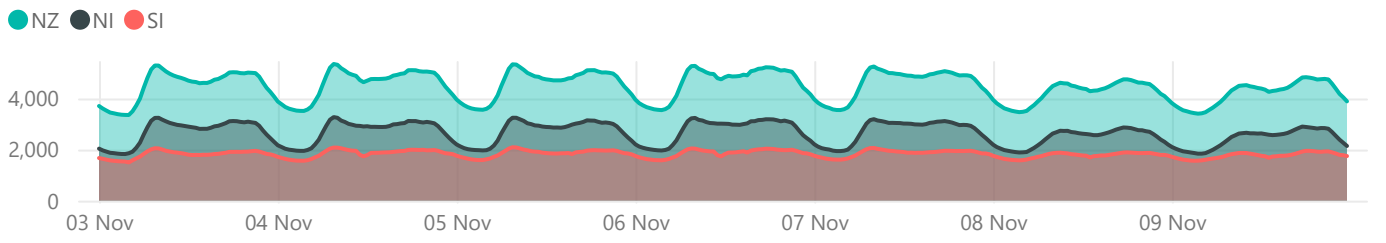
Lowest Residual Points - MW



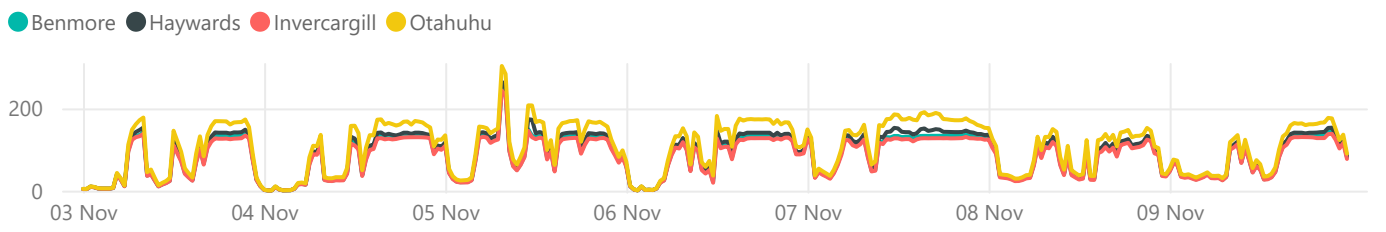
NZGB Look-Ahead (excluding next 7 days)



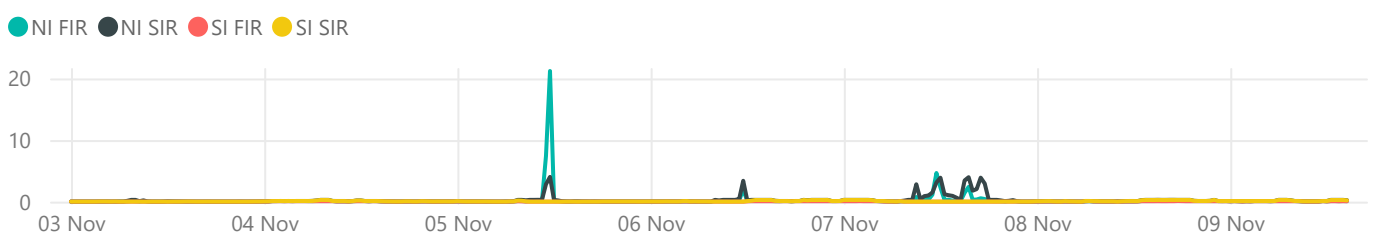
National Demand by Trading period - MW



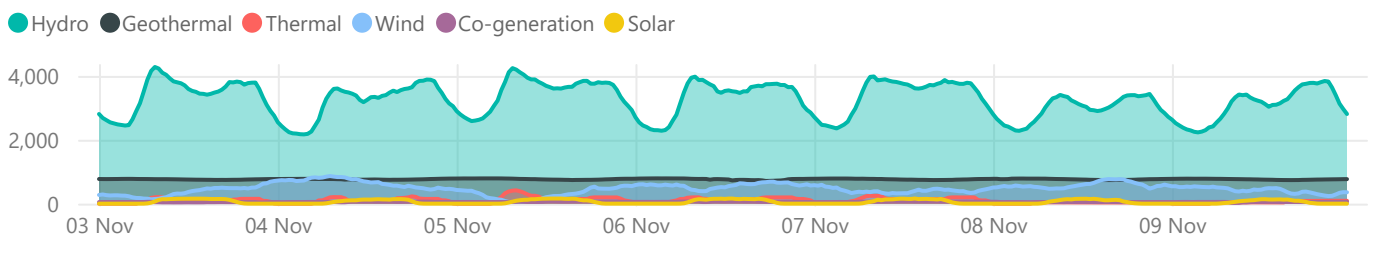
Energy Prices - $/MWh



Reserve Prices - $/MW



Generation - MW



Net HVDC Transfer - MW (Northward positive)

Weekly Insight - Slow-start thermal generation trends

As New Zealand's electricity system experiences high shares of renewable generation, the role of firm, flexible generation remains important. For example, slow-start thermal generation has historically provided controllable, predictable output during times of the year with more planned outages. This insight looks at how slow-start thermal units (Huntly Rankines and Taranki Combined Cycle) have been operating over the last decade. These units require several hours to start from cold and are not suited to respond to short-notice peaks, or to real-time fluctuations that might arise from unexpected equipment faults. Instead, they must be pre-committed and operating ahead of time to support the system during tight supply-demand conditions. From an outage planning perspective, having slow-start thermal generation online can also be particularly beneficial. The firm and controllable output provides dependable backup generation when the grid may be weaker due to maintenance or reduced availability of other resources.

Figure 1 shows a heatmap of historical daily slow-start generation, highlighting that days with very low slow-start thermal generation output are becoming more common, especially from 2021 onwards. This can be seen in the increasing number of darker green cells. High slow-start thermal generation days are more concentrated in winter and shoulder months, aligning with periods of higher demand and tighter system conditions.

Figure 2 ranks all calendar days within each year by the number of trading periods (out of 48 per day) with slow-start thermal generation. The chart focuses on ranks 200-365, where variation occurs and "zero slow-start thermal days" start to appear. A threshold of 20MW (which is below the minimum stable output for all slow-start units) was used to indicate at least one slow-start unit was operating during that trading period. Historically, every day had some slow-start thermal generation, but since 2022, days with zero slow-start thermal generation have been observed and have become more common. 2024 had 30 days without slow-start thermal generation, more than any other year. 2025 has had 16 such days so far, with these occurring earlier in spring than in previous years.

In recent years, New Zealand has seen a reduction in slow-start thermal commitment alongside significant growth in intermittent renewable generation. While intermittent renewable resources provide valuable energy security, they also increase the need for complementary resources that provide firm, flexible generation back-up during periods of higher demand and tighter system conditions, particularly when planned transmission and generation outages increase grid constraints.

Traditionally, this firm supply has been provided by coal and gas-fired units. In the future, it could also include battery energy storage systems (BESS) and biofueled generation plants.

Figure 1: Heatmaps showing slow-start thermal generation activity over the last decade

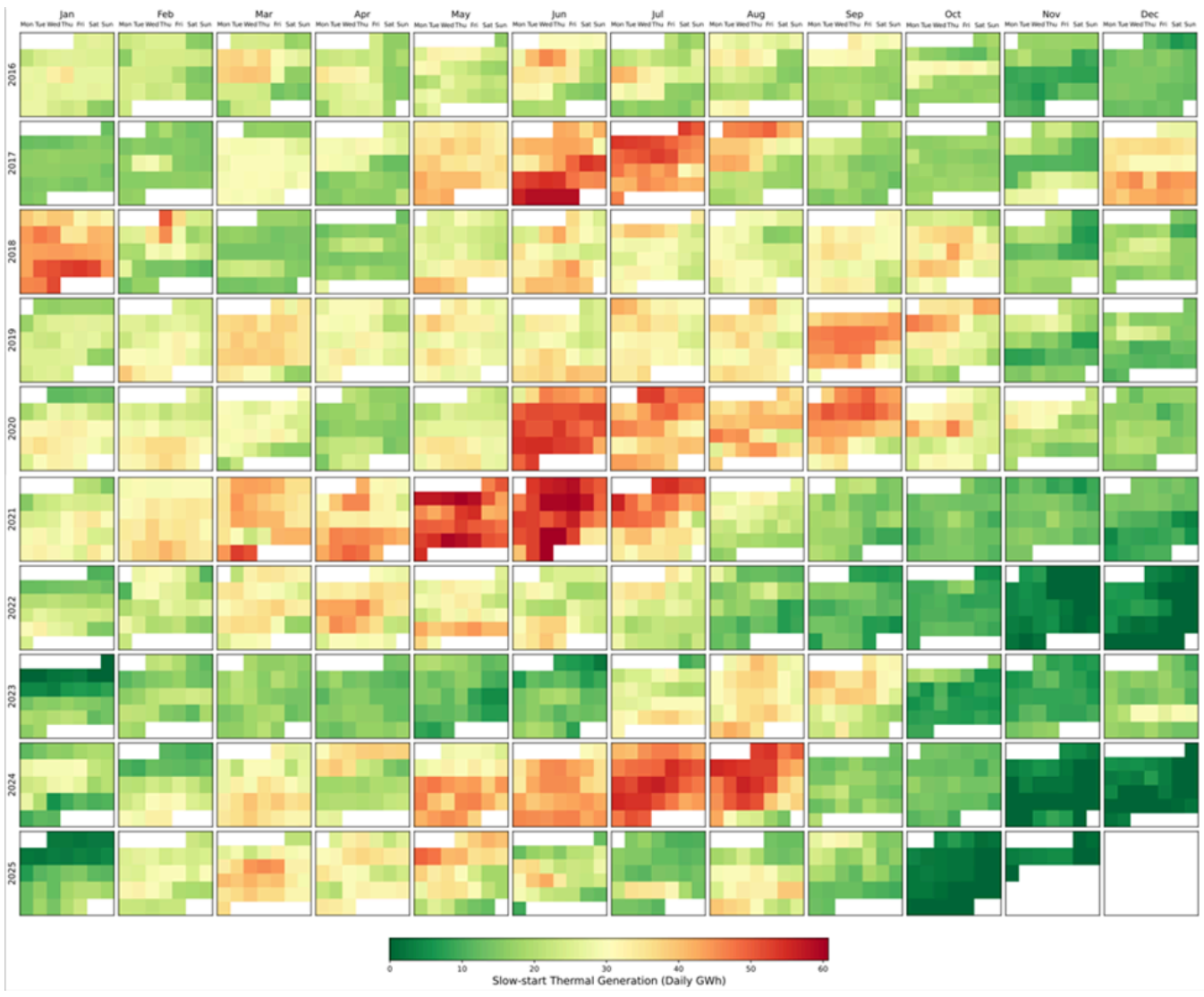
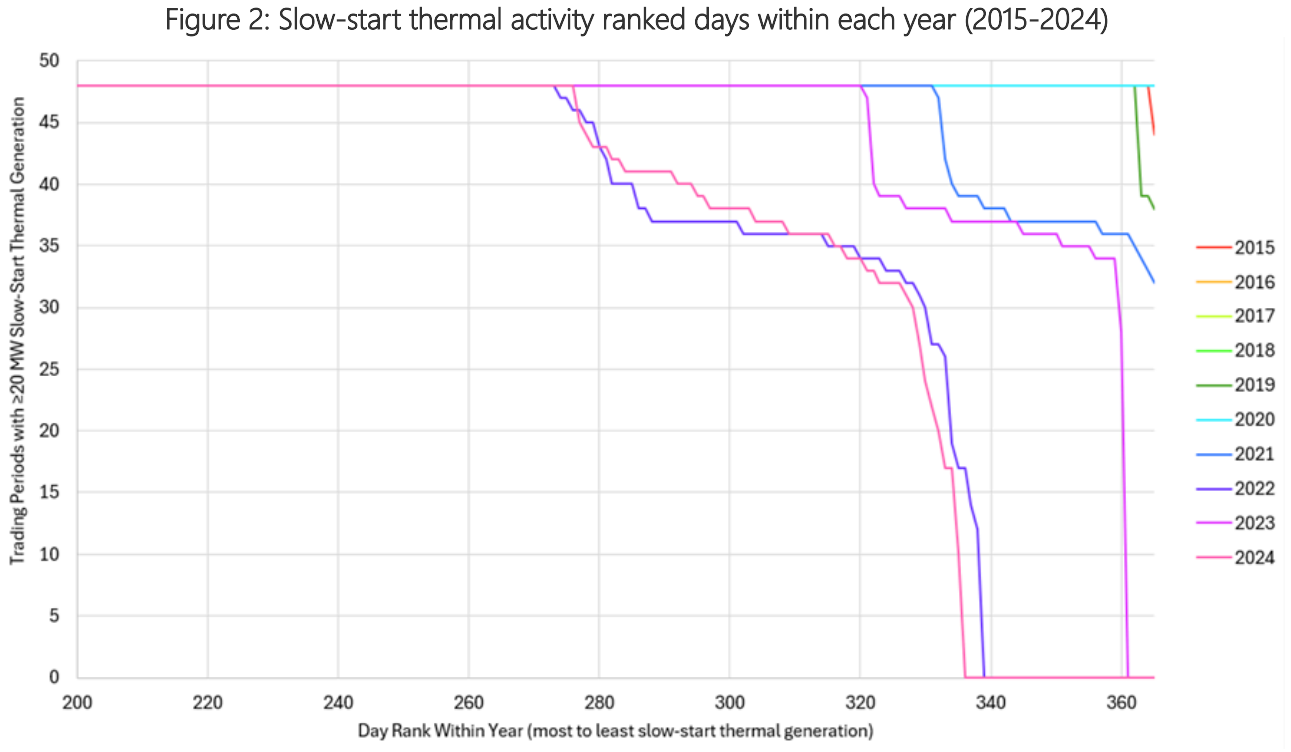


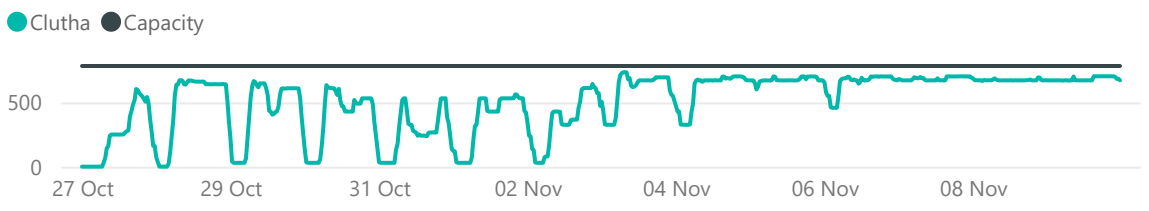
Figure 2: Slow-start thermal activity ranked days within each year (2015-2024)



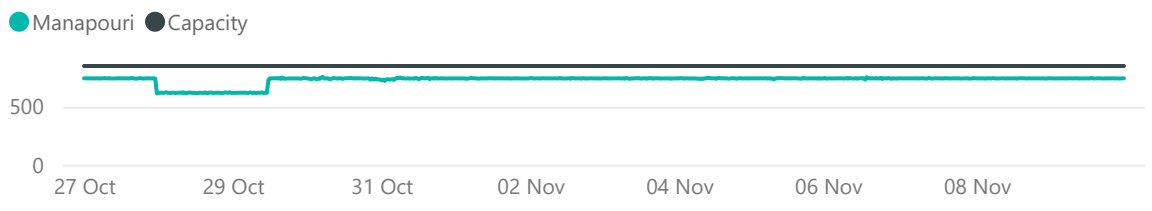
Generation Breakdown - Last Two Weeks

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

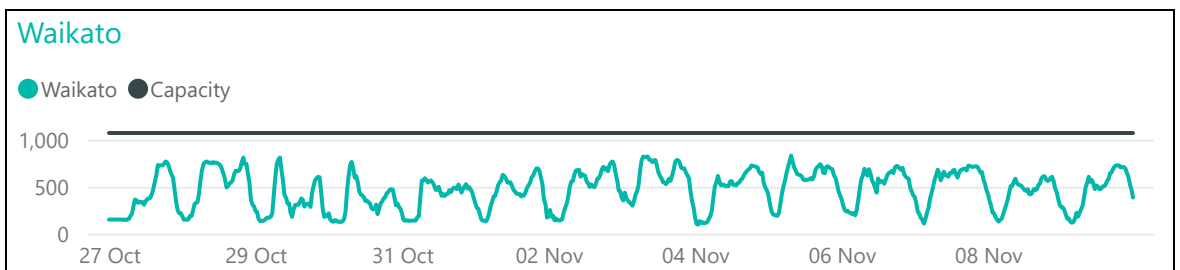
Clutha



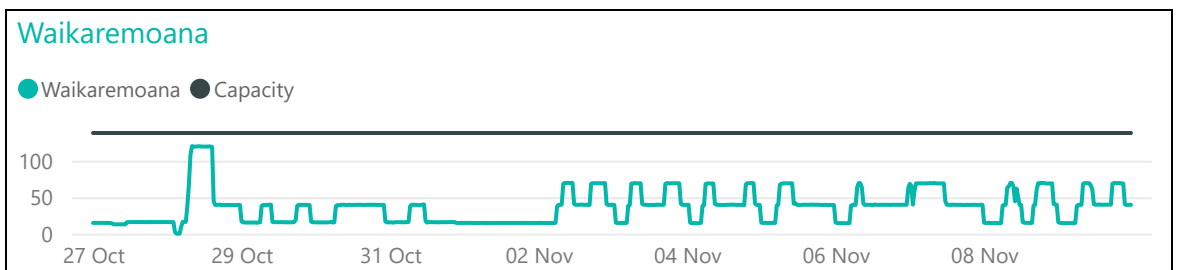
Manapouri



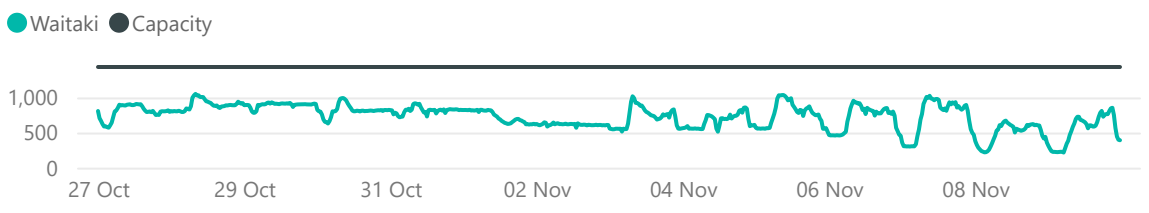
Waikato



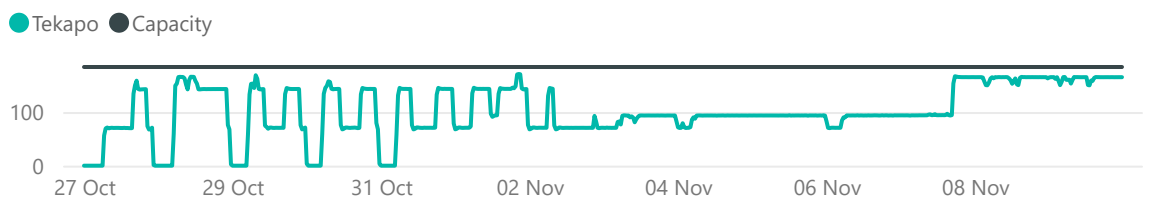
Waikaremoana



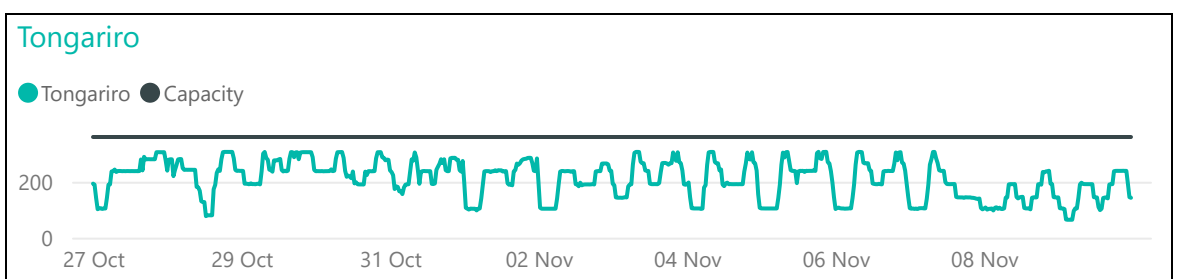
Waitaki



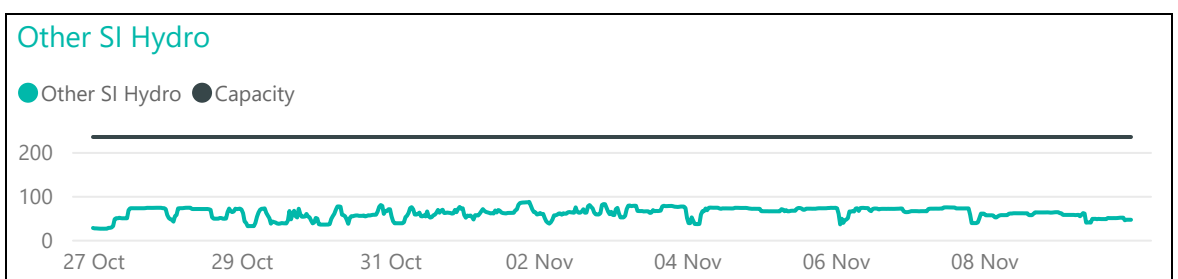
Tekapo



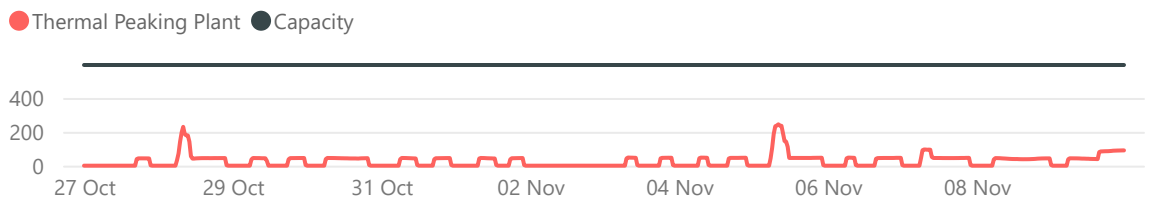
Tongariro



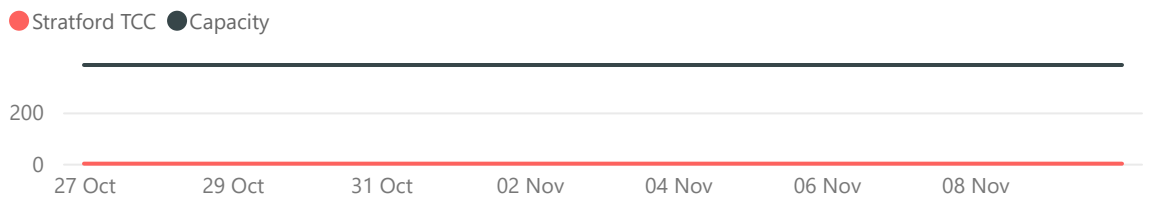
Other SI Hydro



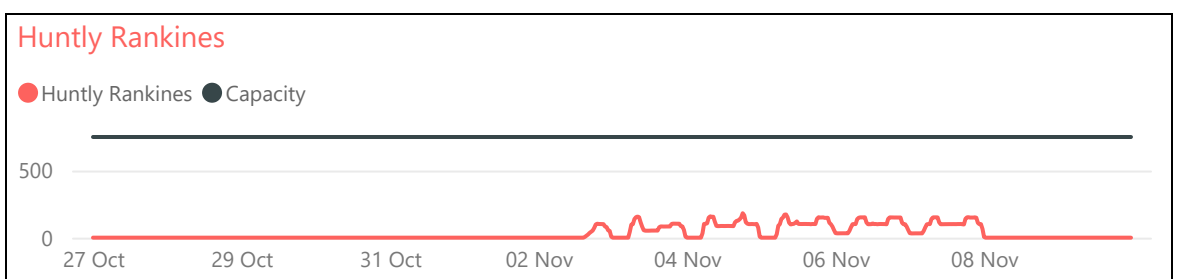
Thermal Peaking Plant



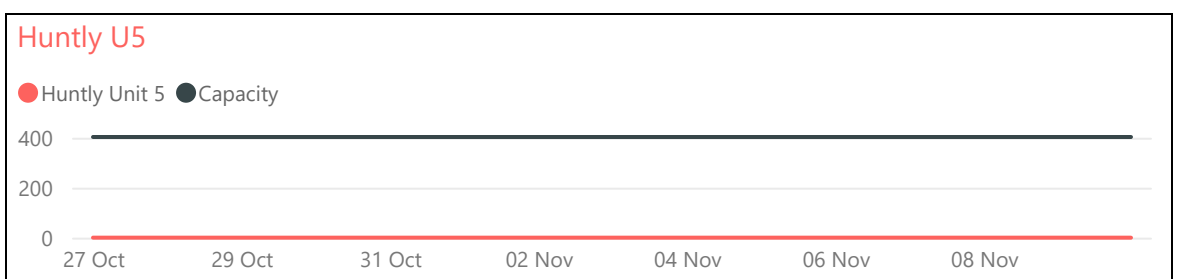
Stratford TCC



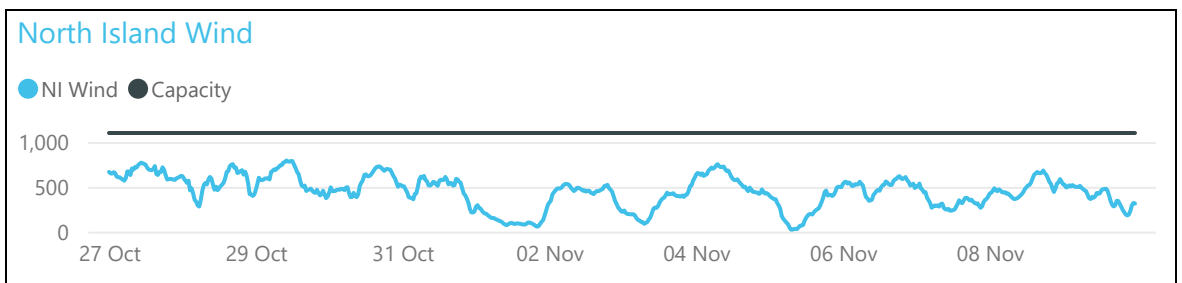
Huntly Rankines



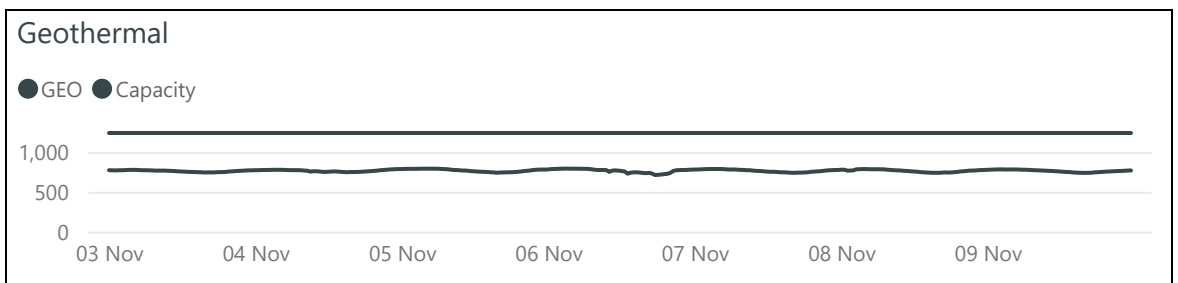
Huntly U5



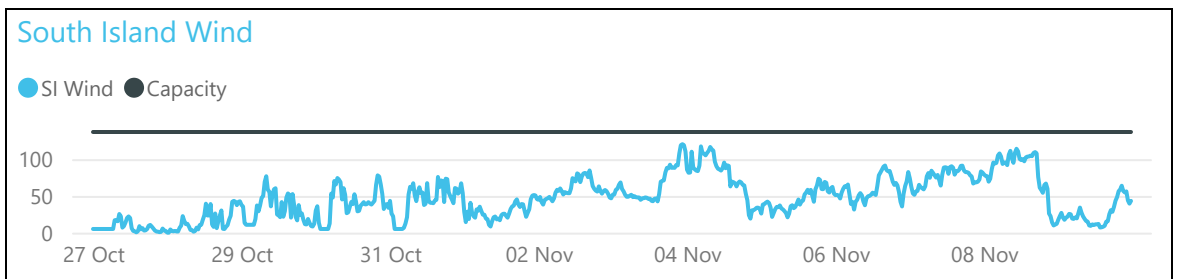
North Island Wind



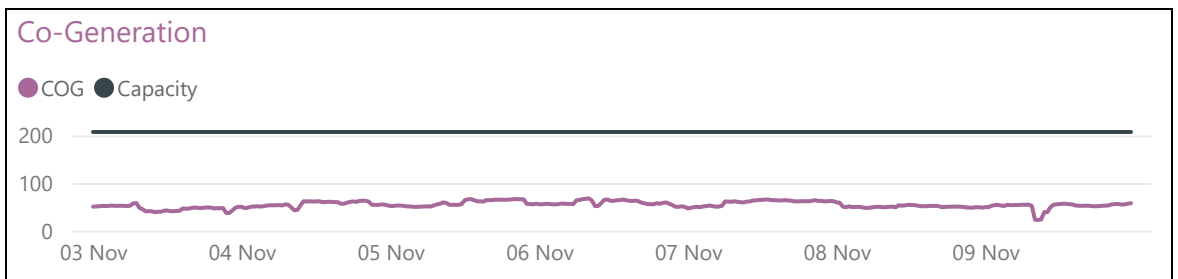
Geothermal



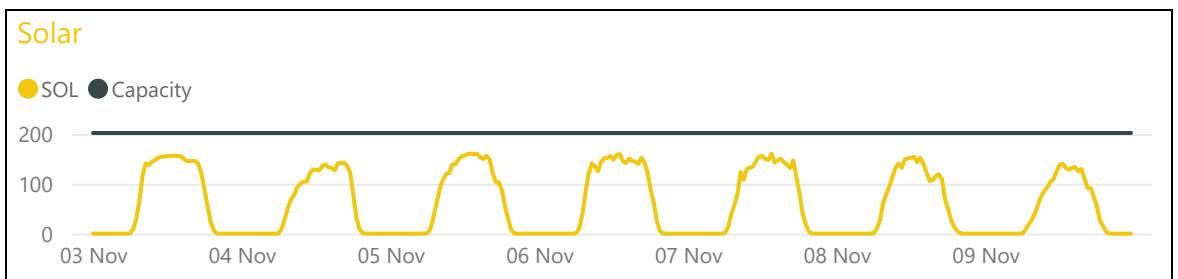
South Island Wind



Co-Generation

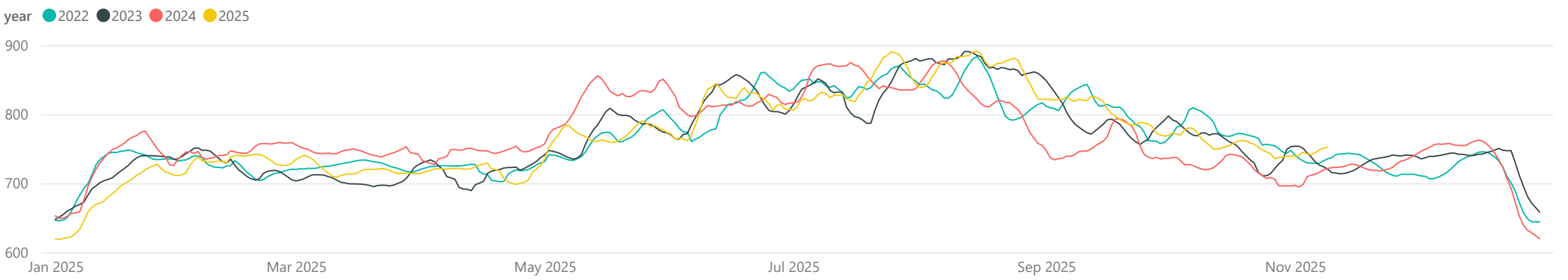


Solar

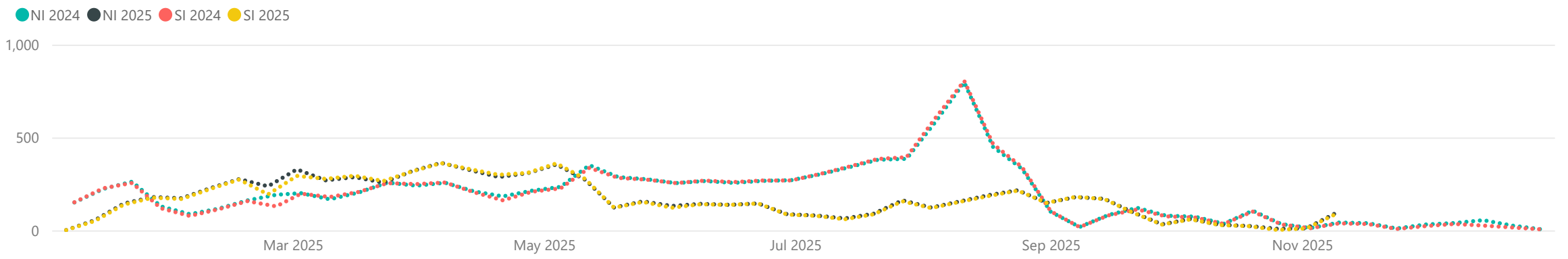


Weekly Profiles

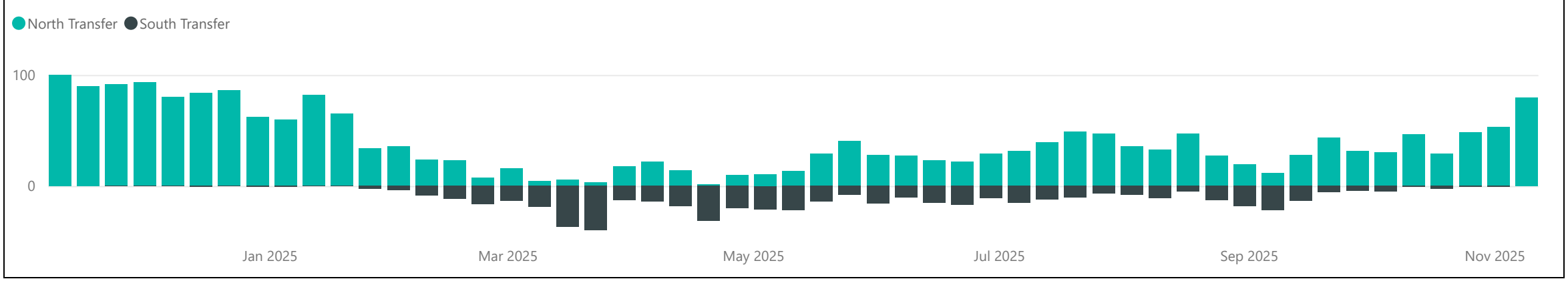
National Weekly Demand - GWh - 7 Day Rolling



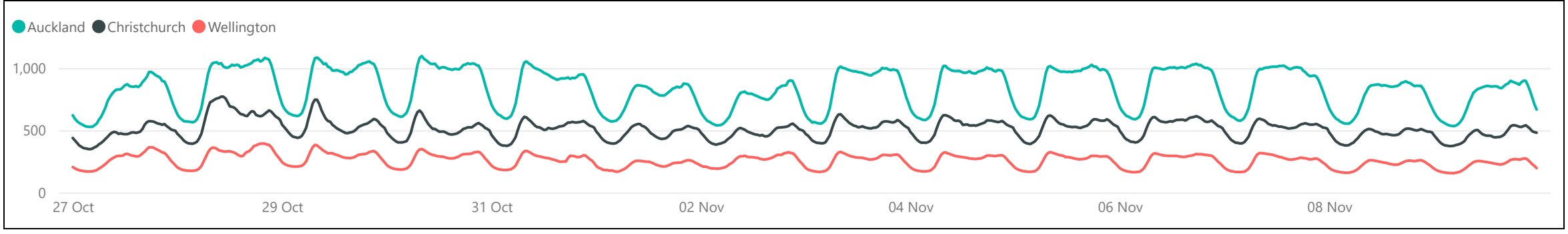
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

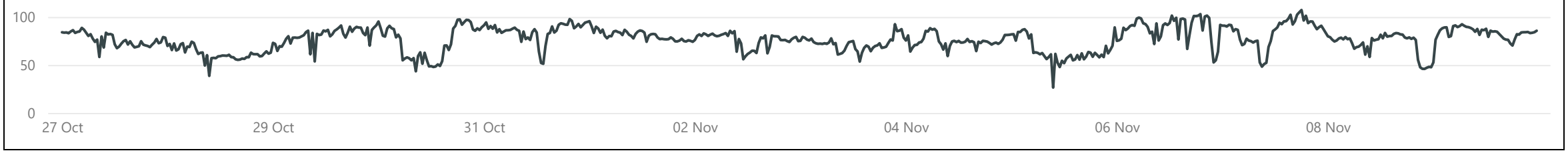


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*

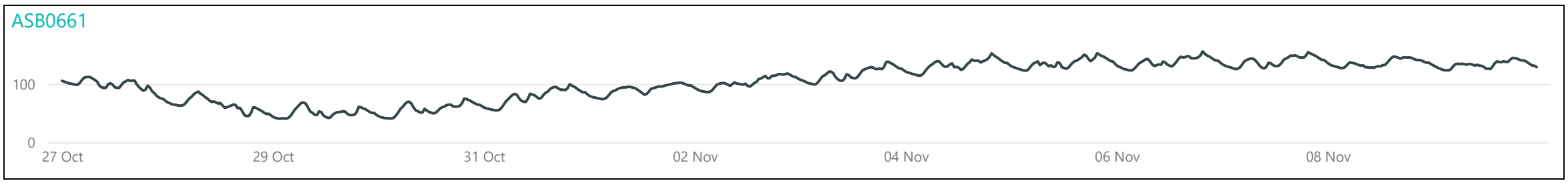


Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*

GLN0331



ASB0661



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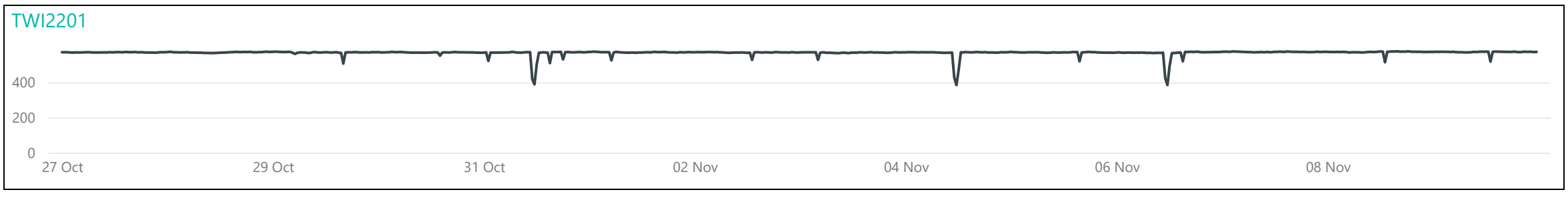
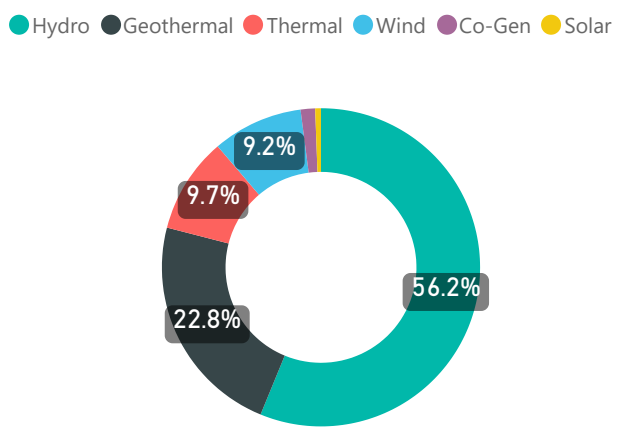


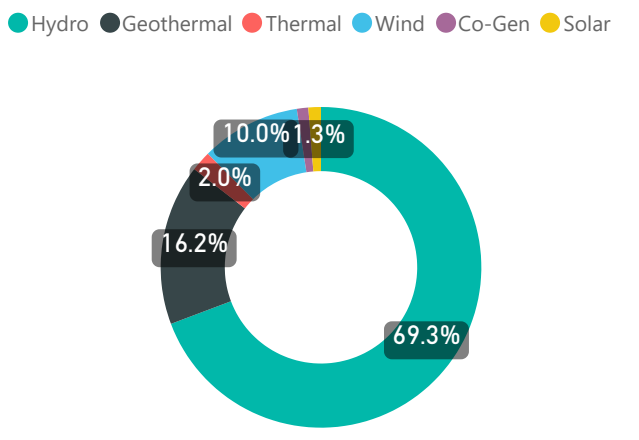
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



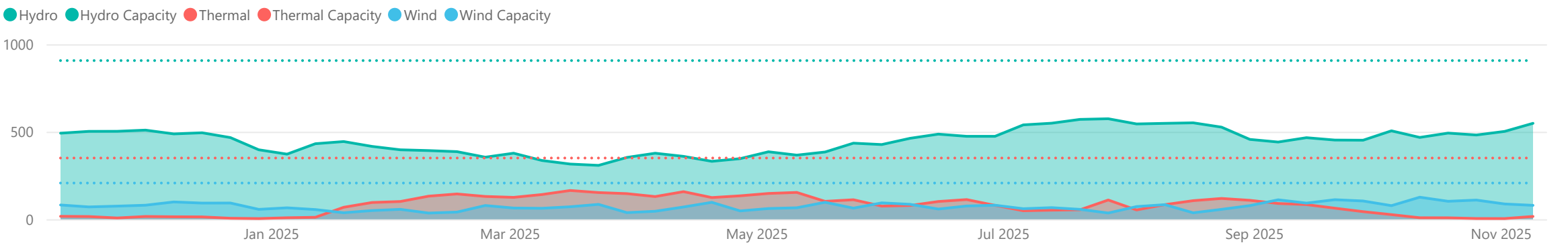
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
97%	19,236	23.5

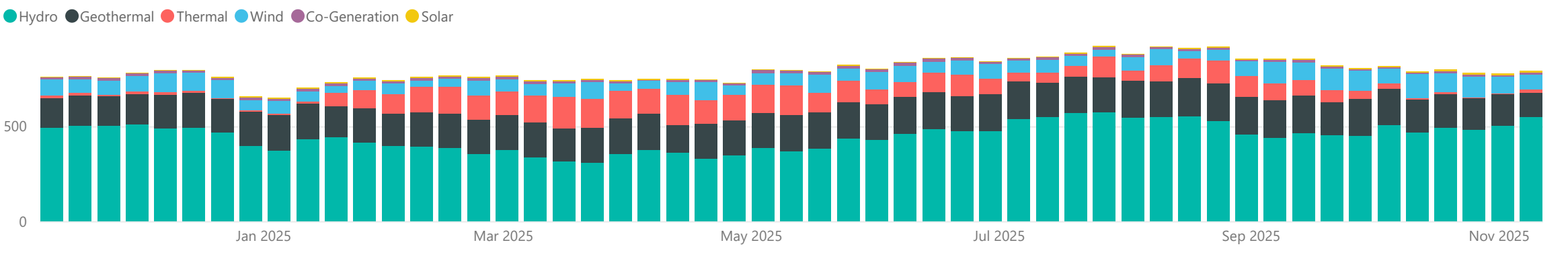
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
89%	65,266	82.1

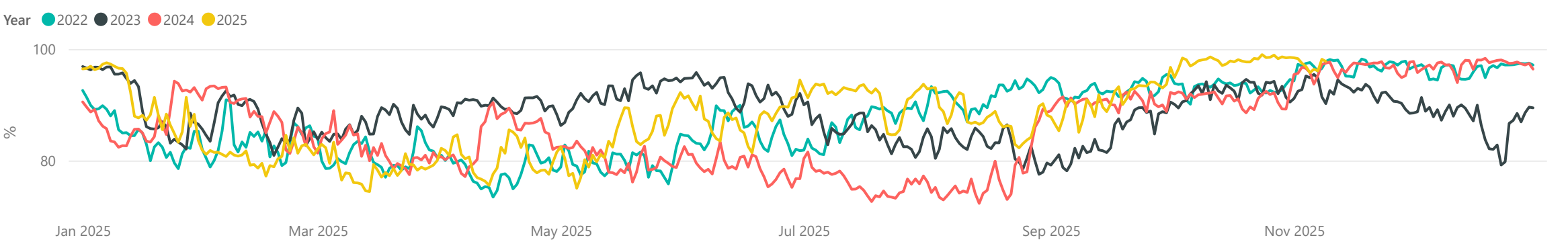
Weekly Generation Mix vs Capacity - GWh



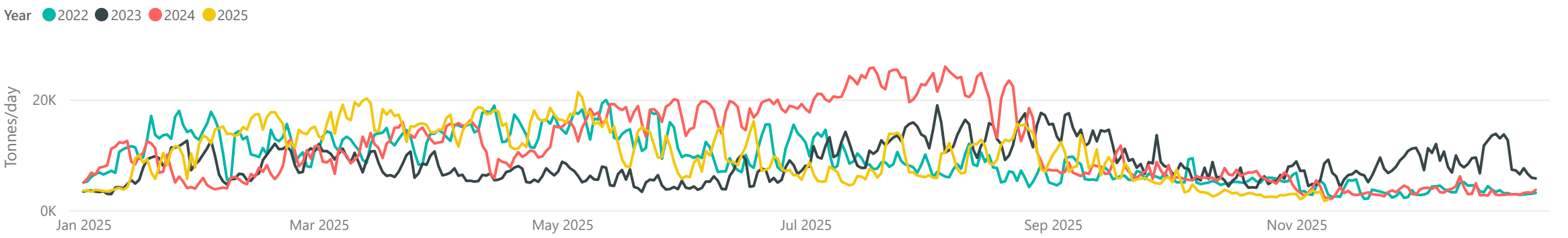
Weekly Generation Mix - GWh



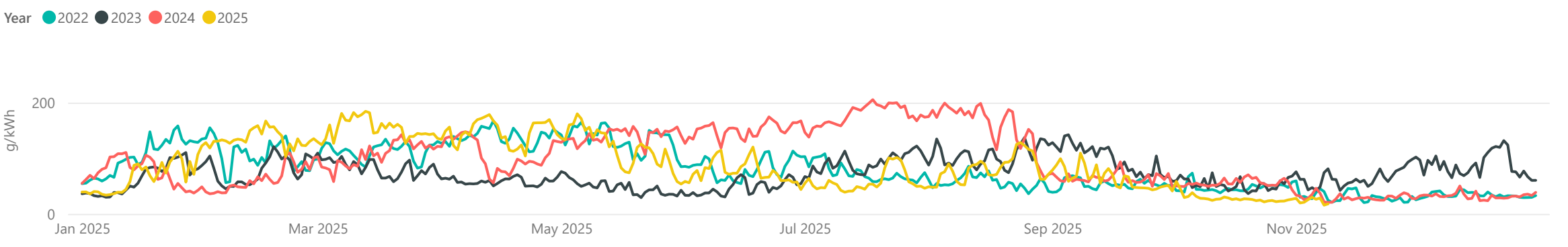
NZ Renewable Percentage



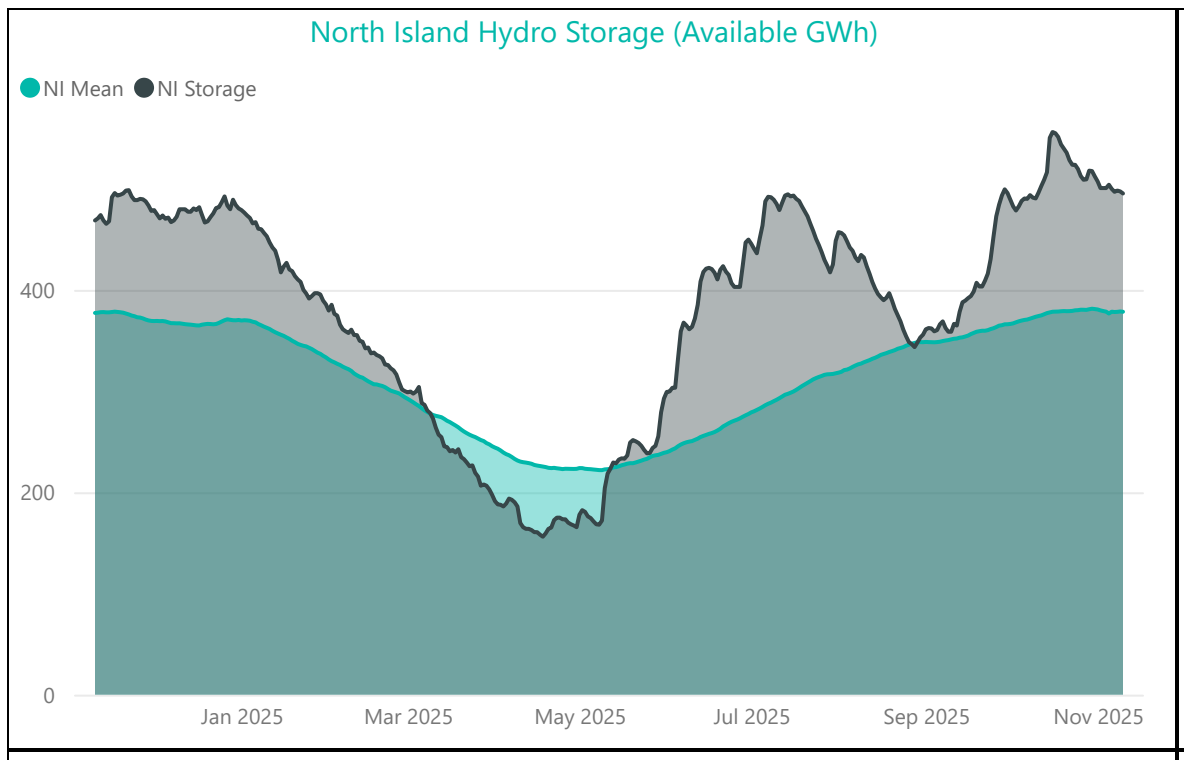
CO2 Tonnes/Day

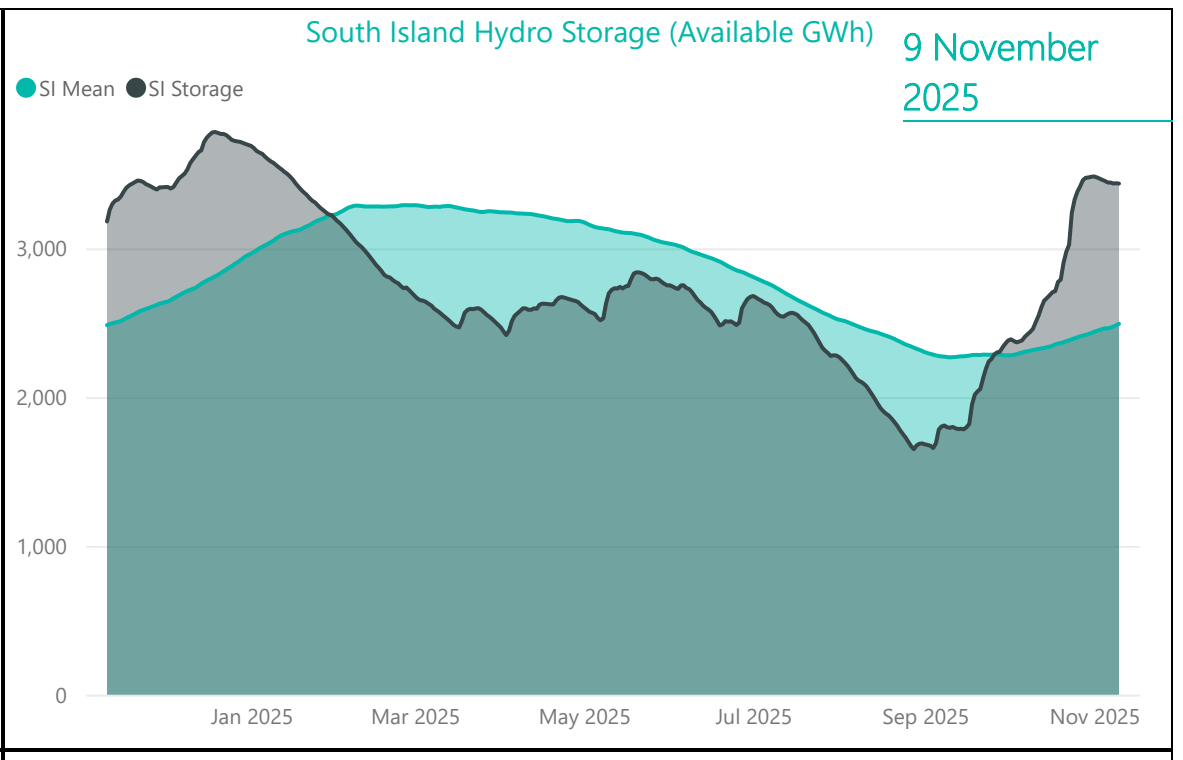


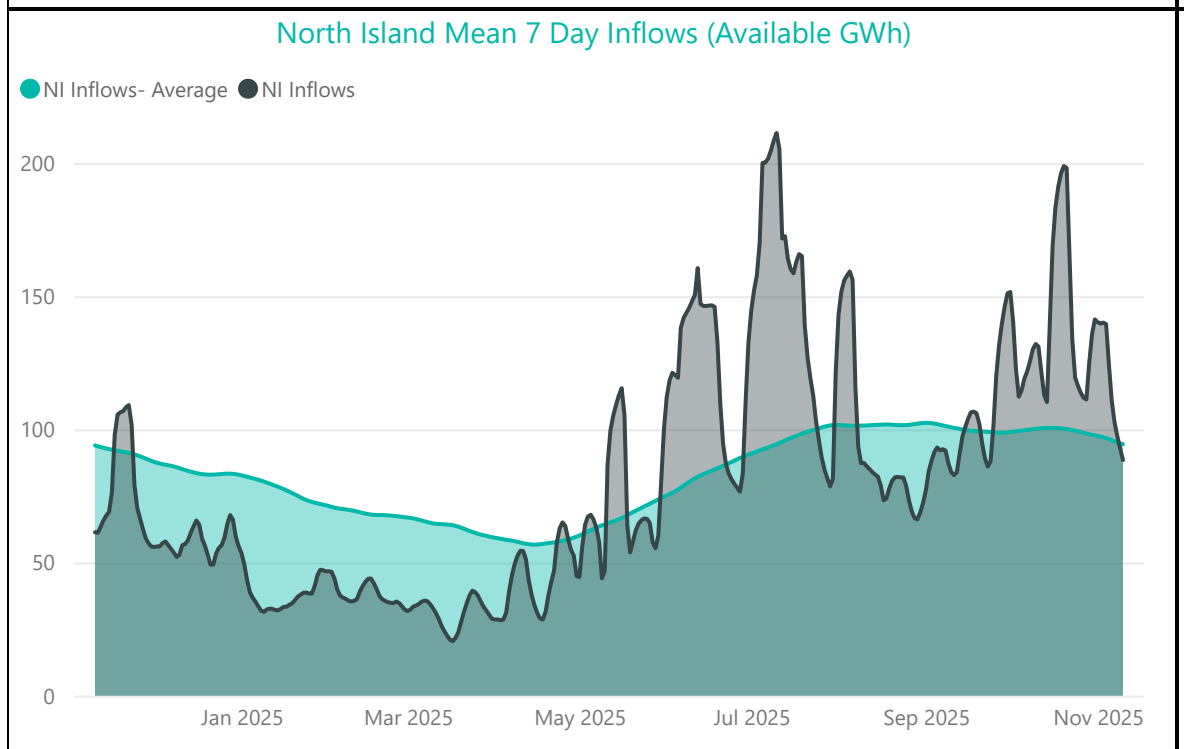
CO2 g/kWh

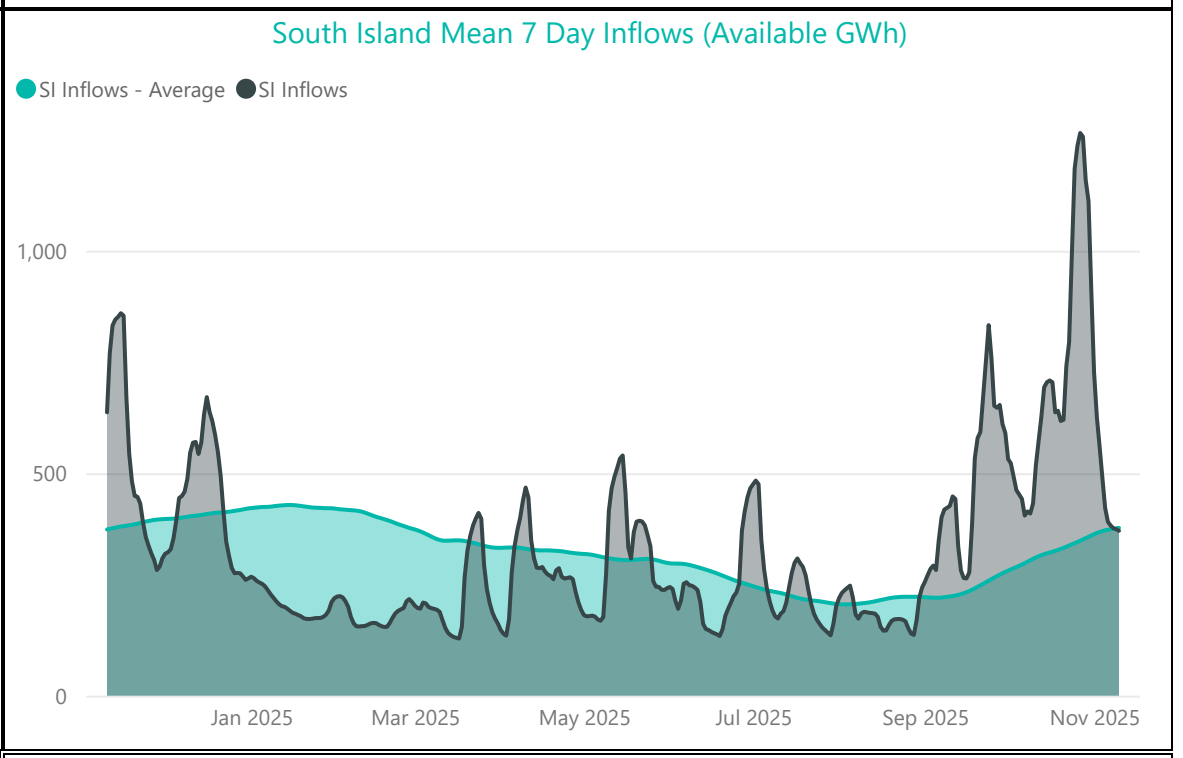


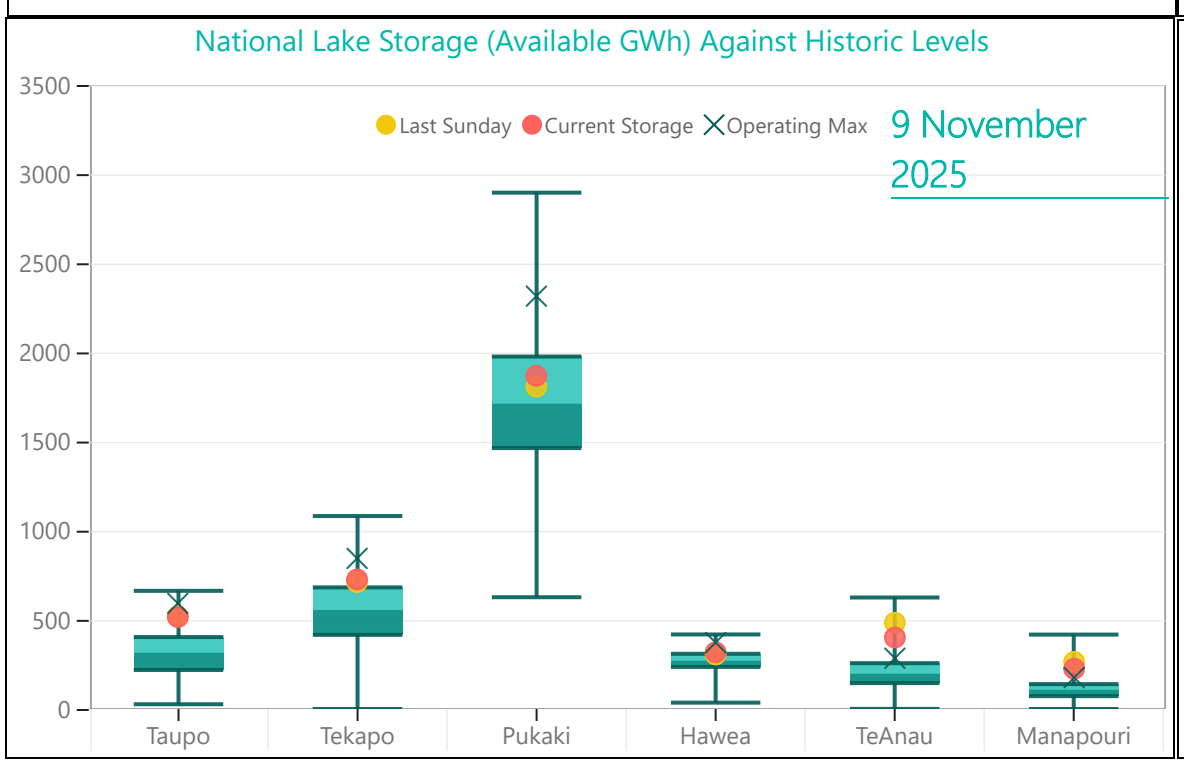
Hydro Storage

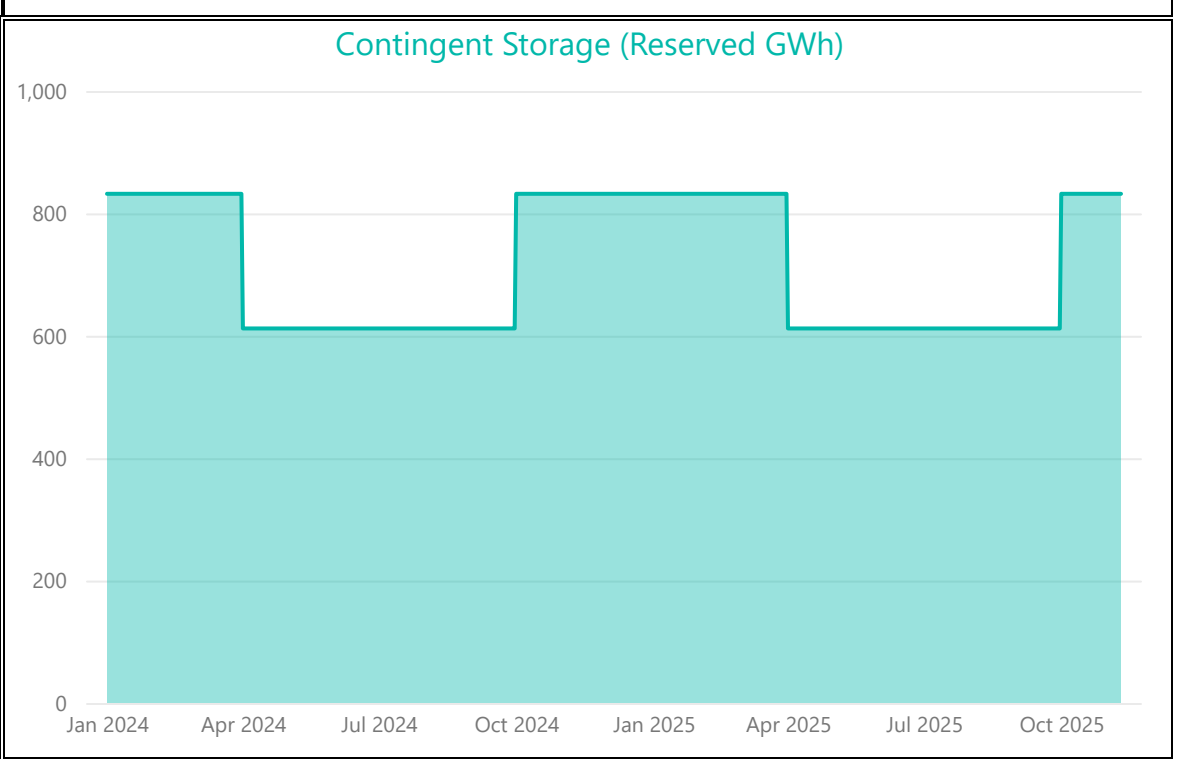












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

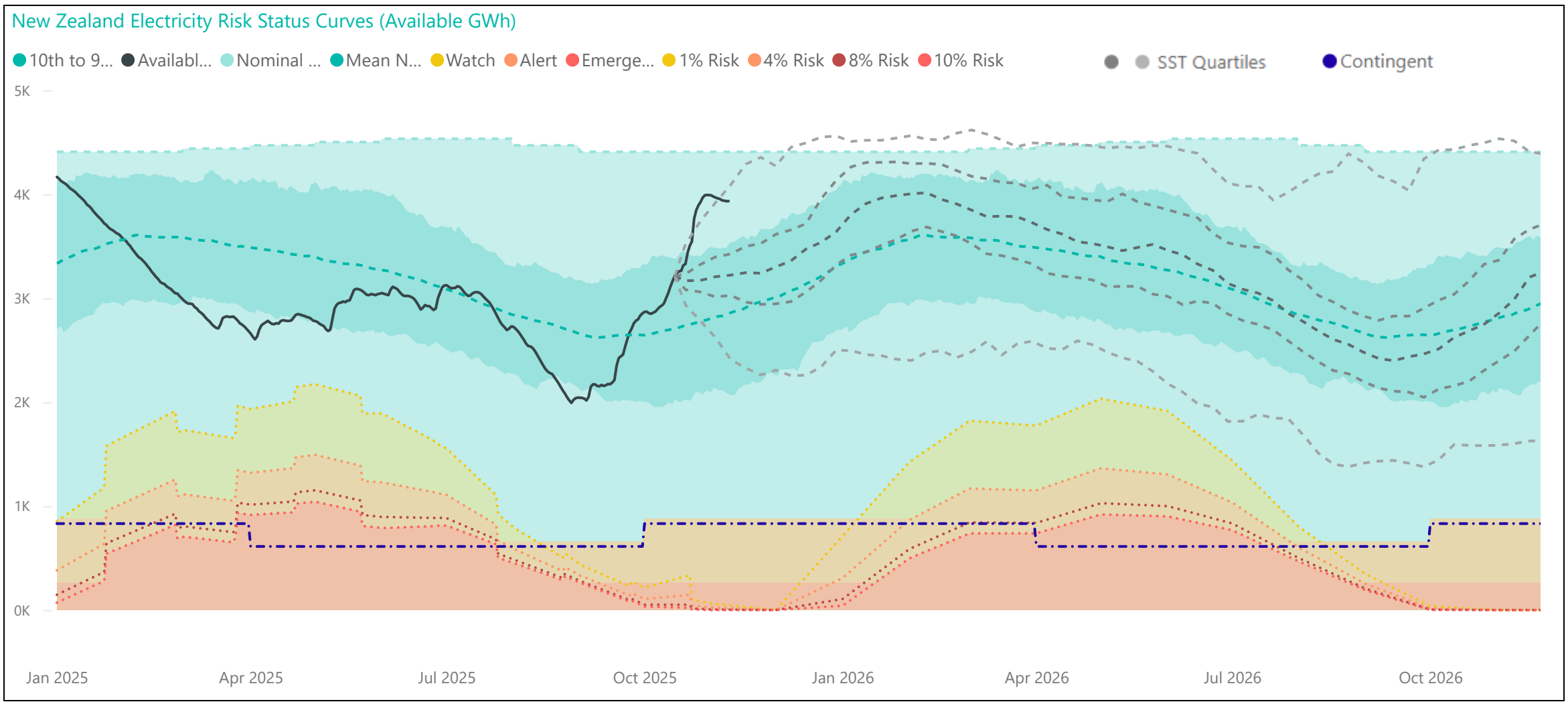
For any inquiries related to security of supply contact market.operations@transpower.co.nz

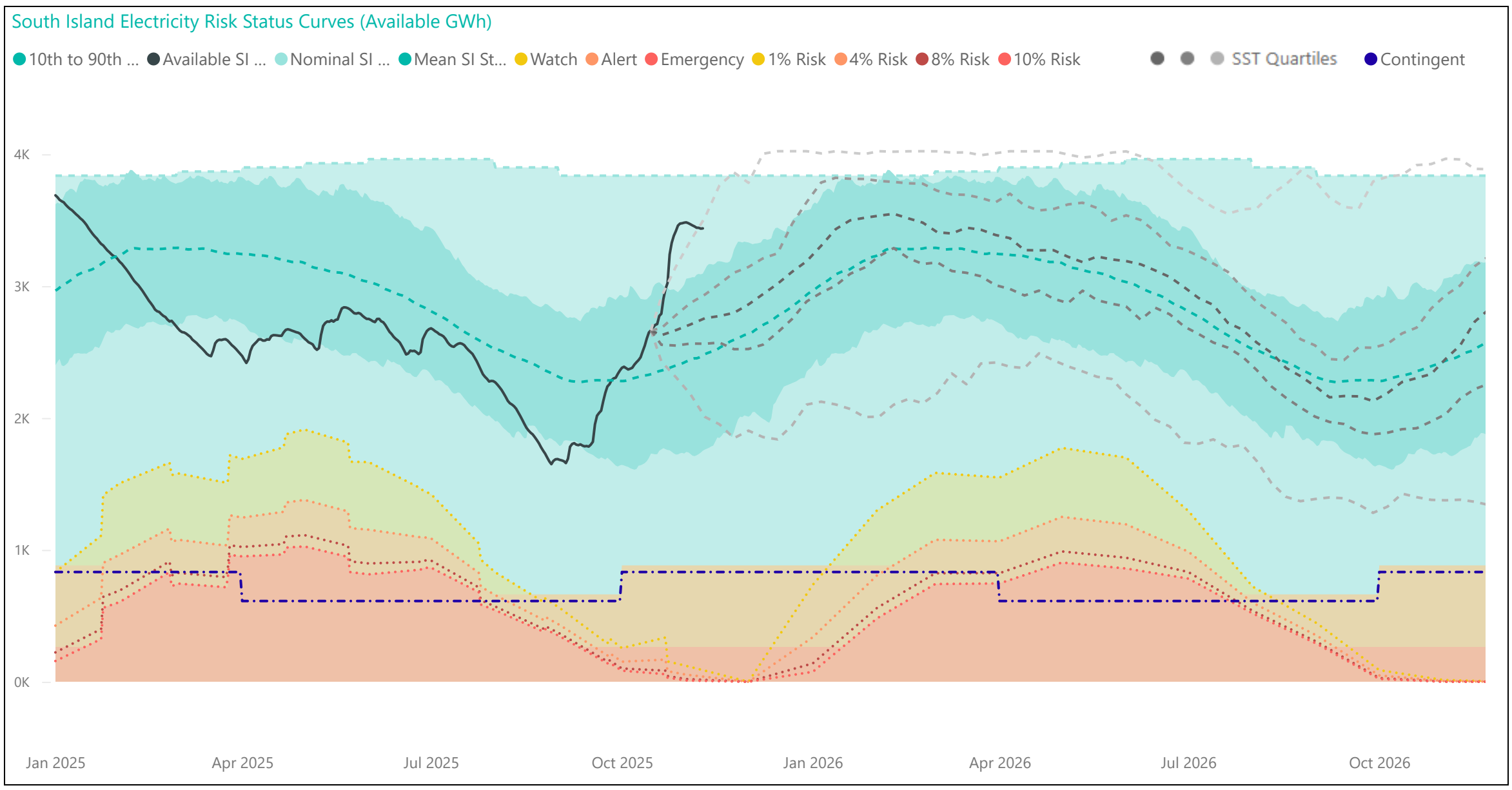
Hydro data used in this report is sourced from *NZX Hydro*.

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).