Market Operations Weekly Report - Week Ended 30 November 2025

Overview

New Zealand hydro storage increased to 149% of the historic mean last week, a record for this time of year, and is now at nominal maximum capacity.

This week's insight looks at the increasing share of renewable generation in Aotearoa's electricity supply mix.

Security of Supply

Energy

National hydro storage increased by seven percentage points to 149% of the historic mean, the highest level on record for this time of year. South Island hydro storage increased from 143% to 150% of the historic mean while North Island storage decreased slightly from 138% to 137%.

Capacity

Residuals were mostly healthy with at least 500 MW of residual across all peaks last week. The lowest residual period for the week was the Tuesday morning peak at 588 MW.

The N-1-G margins in the NZGB forecast are healthy through to late 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 750 GWh the week prior to 762 GWh, and was higher than weekly demand levels observed at this time of year over the past three years. This is likely attributable to the hotter than usual weather. The highest demand peak of 5,404 MW occurred at 5:30 pm on Thursday 27 November.

Weekly Prices

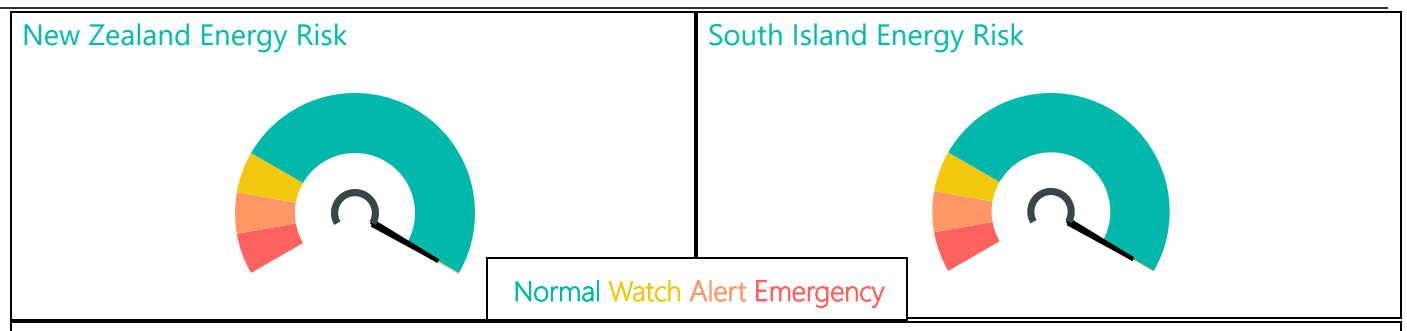
Average wholesale spot prices decreased last week in line with high hydro storage and inflows. The average wholesale electricity spot price at Ōtāhuhu last week was $54/MWh, down from $57/MWh the week prior. Wholesale prices peaked at $381/MWh at Ōtāhuhu at 3:00 pm on Tuesday 18 November, with some binding transmission constraints in the North Island due to transmission outages.

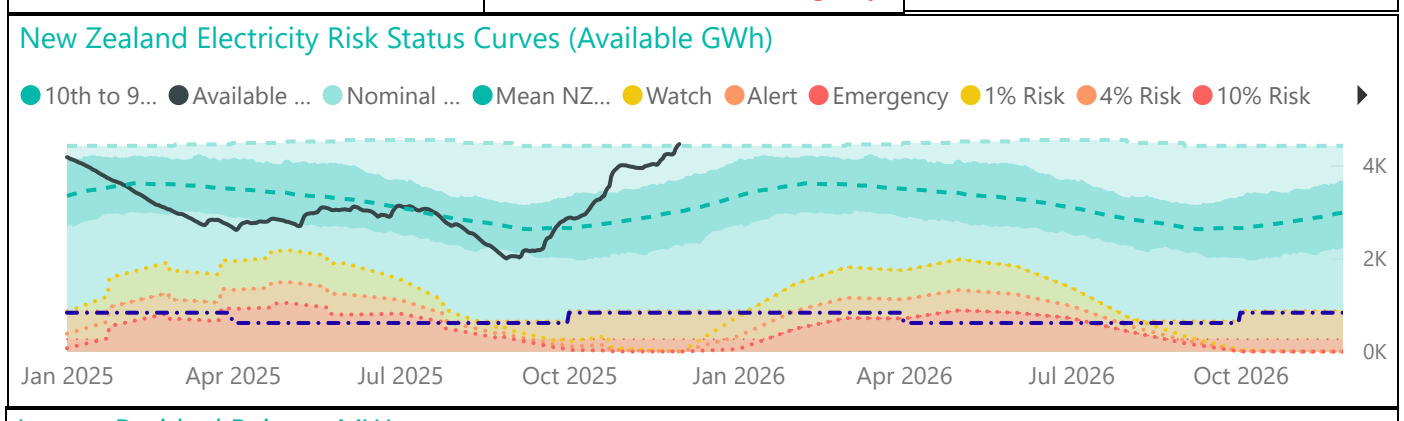
Generation Mix

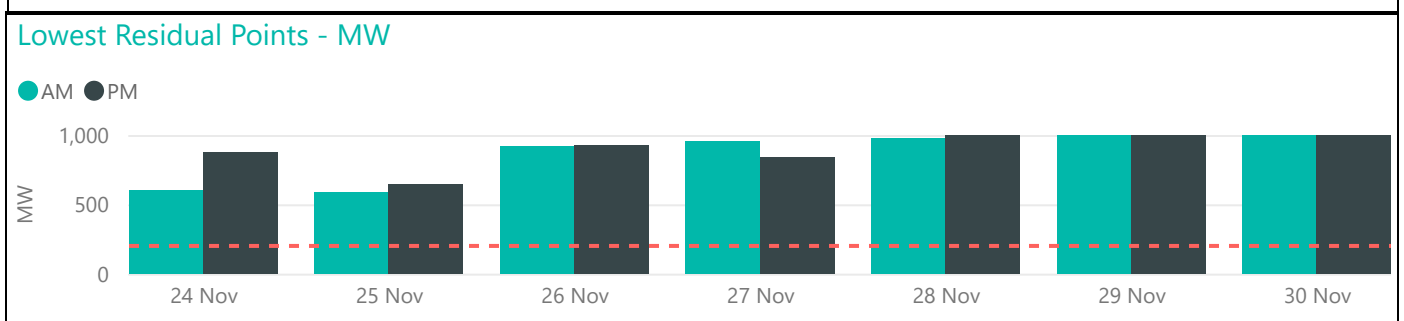
Wind generation increased to 10% of the generation mix, above its average contribution of 9%. Hydro generation remained well above average at 69% of the mix. Thermal generation remained very low at just 1.1% of the mix, with co-generation also at 1.1% and solar generation exceeding both at 1.2%. The geothermal share remained at 17% of the mix — well below its average contribution of 23% — with multiple geothermal units on planned outage during the week. Total renewable contribution to the mix was 98%, the eighth consecutive week of at least 97% renewable generation.

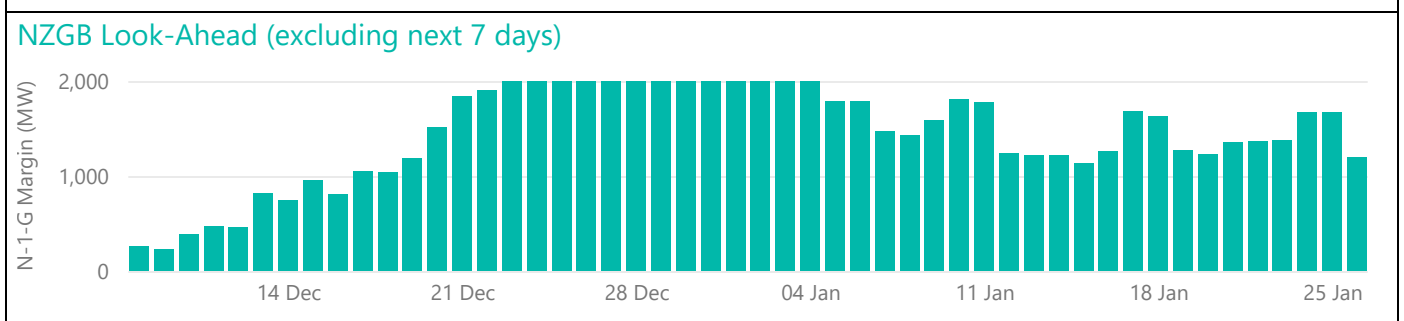
HVDC

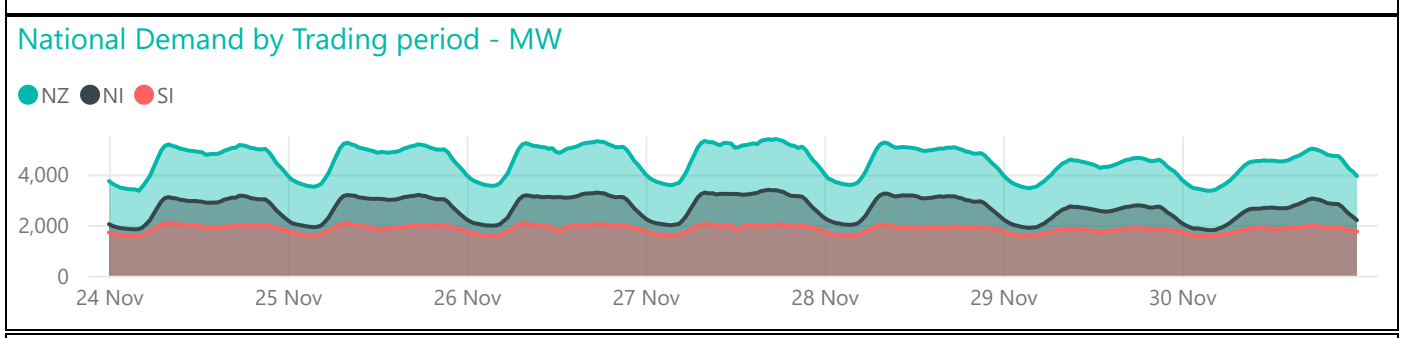
HVDC flow last week was entirely northward with high hydro generation, decreased geothermal generation, and higher demand in the North Island. In total, 90 GWh was transferred north. AC asset outages have reduced physical capacity, causing the northward limit to constrain flows at times.

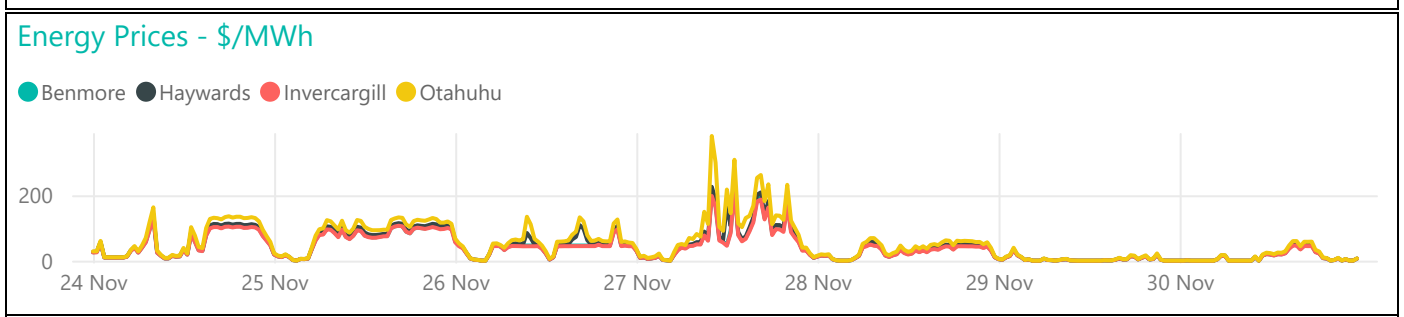


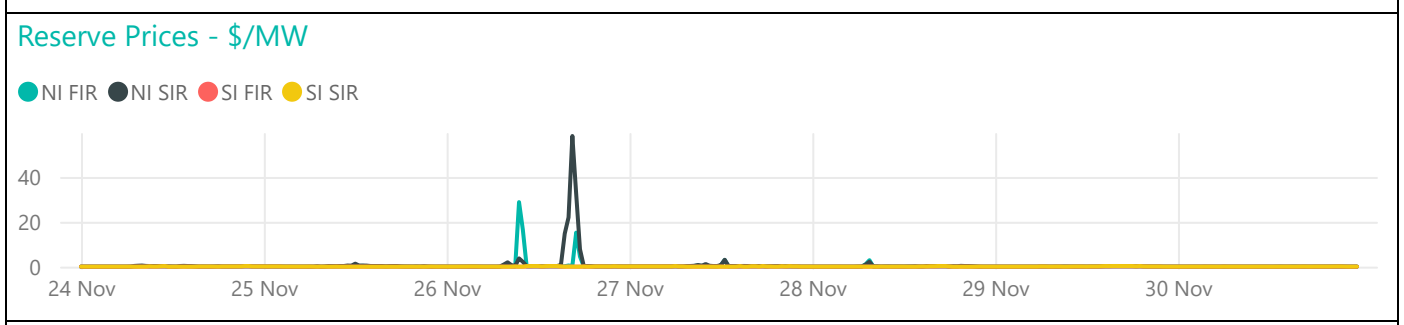


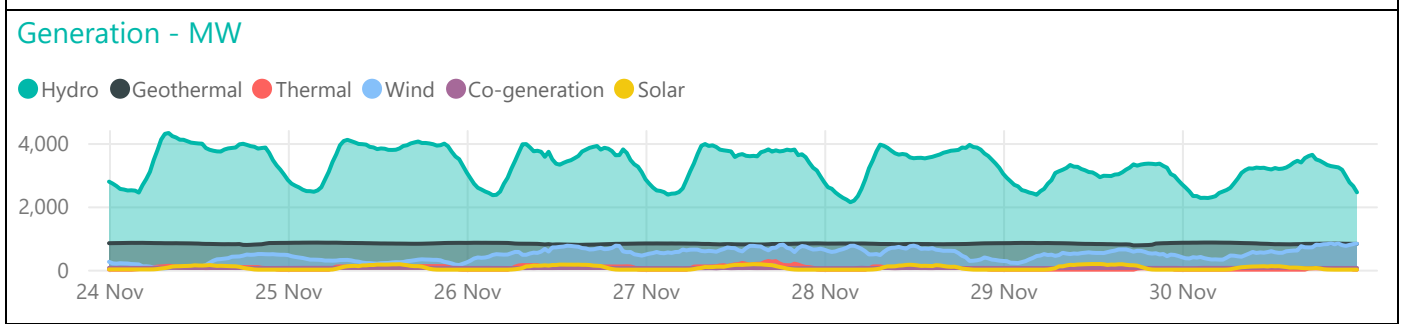


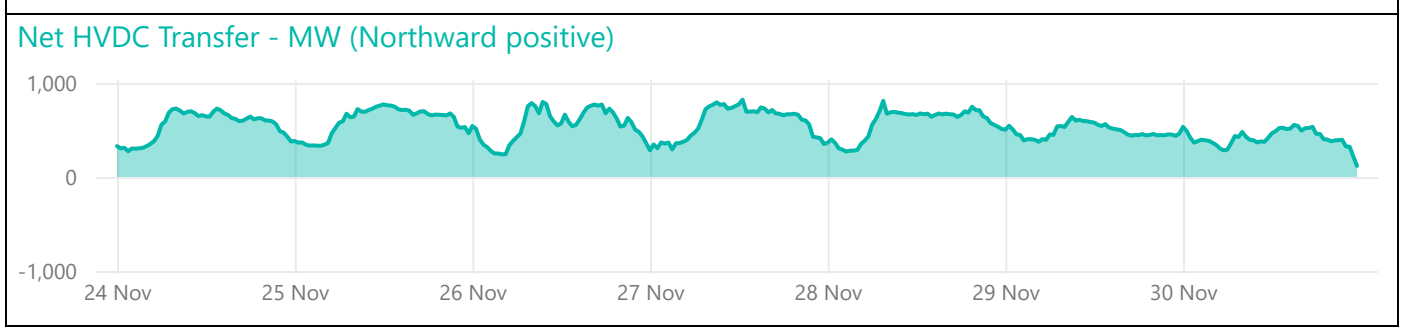












Weekly Insight - Aotearoa's increasingly renewable power system

Aotearoa's electricity system has become increasingly renewable over the past 20 years, with the average renewable share of generation increasing from below 70% in the early 2000s to over 85% currently. Most recently, New Zealand has been powered by 97% renewable energy for the past eight weeks.

Given that almost all planned generation projects are renewable and the supply of natural gas for power generation is declining, this trend is likely to continue. This is reflected in many industry forecasts, including the 2024 Electricity Demand and Generation Scenarios (EDGS) published by the Ministry of Business, Innovation and Employment (MBIE). figure 1 (right) shows that EDGS 2024 forecasts an increase in the renewable share of electricity generation in all of its potential scenarios.

This insight discusses the change in the renewable share of generation over the past few years. As shown in figure 2 (below), the weekly average renewable share of generation has been well over 95% for several weeks, driven by high hydro storage, low spring/summer load, and increasing solar generation. The renewable share reached similar levels in the summers of 2022 and 2024 (circled in green), but this is otherwise unprecedented in the recent history of the New Zealand power system. In terms of the overall trend, while figure 2 shows an increasing trend in the renewable share (dotted line), this was affected by dry conditions in both 2024 and 2025. These dry conditions required significant thermal generation, including from imported coal and from natural gas diverted to power generation from industrial users under gas demand response agreements. Otherwise, under average hydrological conditions, the renewable share of generation for 2024 and 2025 would likely have been higher.

Figure 1: Historical and forecast renewable share of electricity generation (MBIE, EDGS 2024)

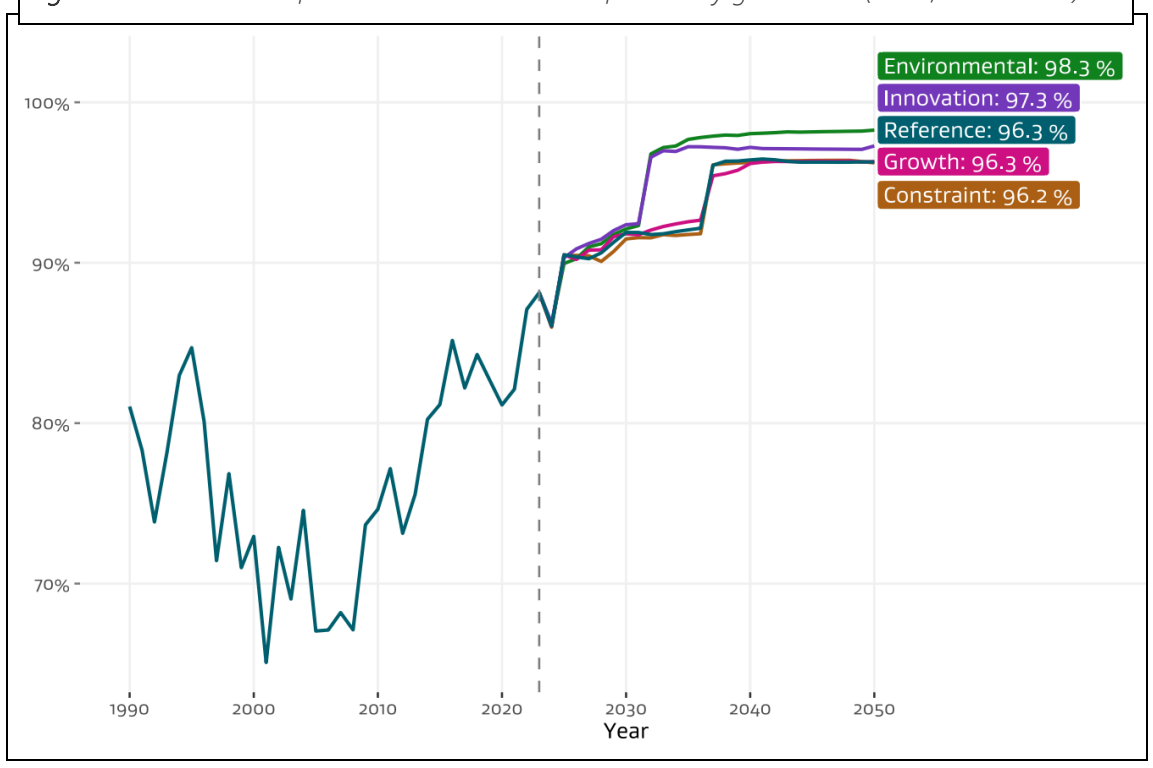
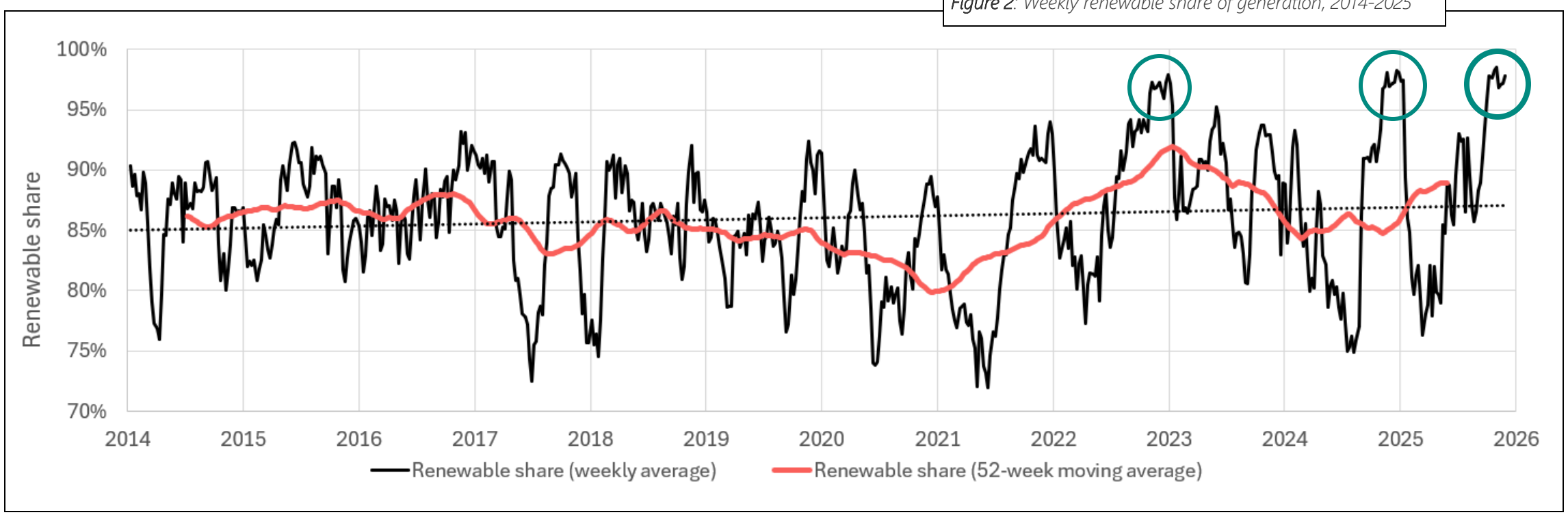


Figure 2: Weekly renewable share of generation, 2014-2025



Over the past five years, several new renewable generators have been added to Aotearoa's power system. These are shown in figure 3. The contribution of these generators to the overall New Zealand electricity supply is shown in figure 4. This shows the role of new renewables in reducing the need for thermal generation.

Figure 3: Renewable generation added since 2020

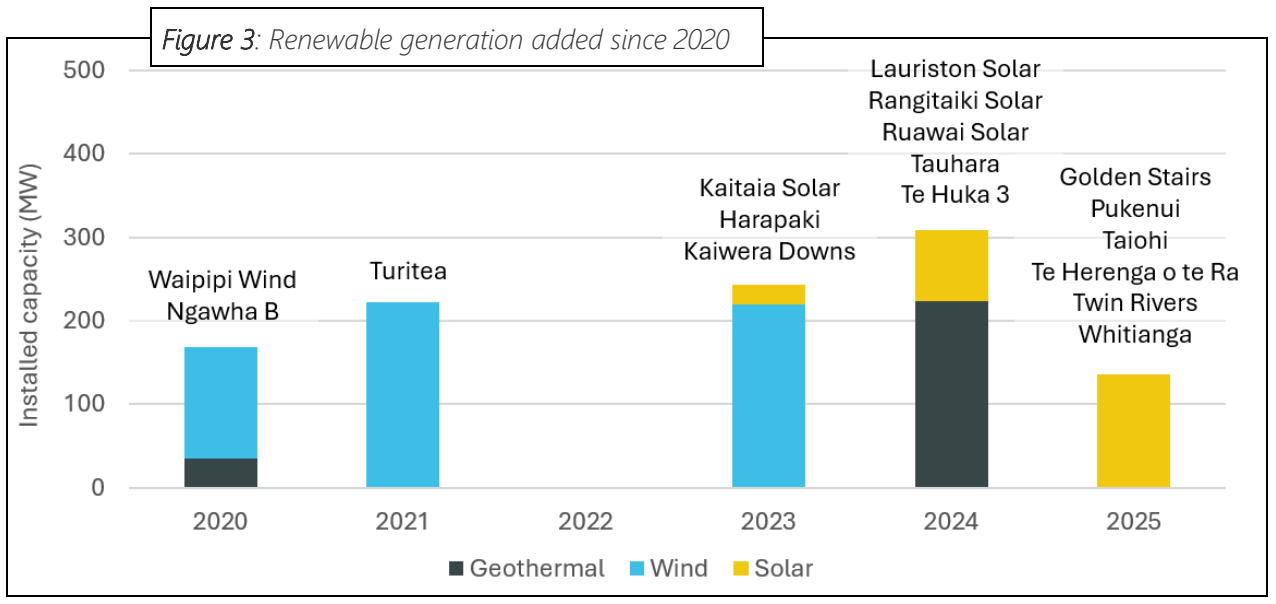
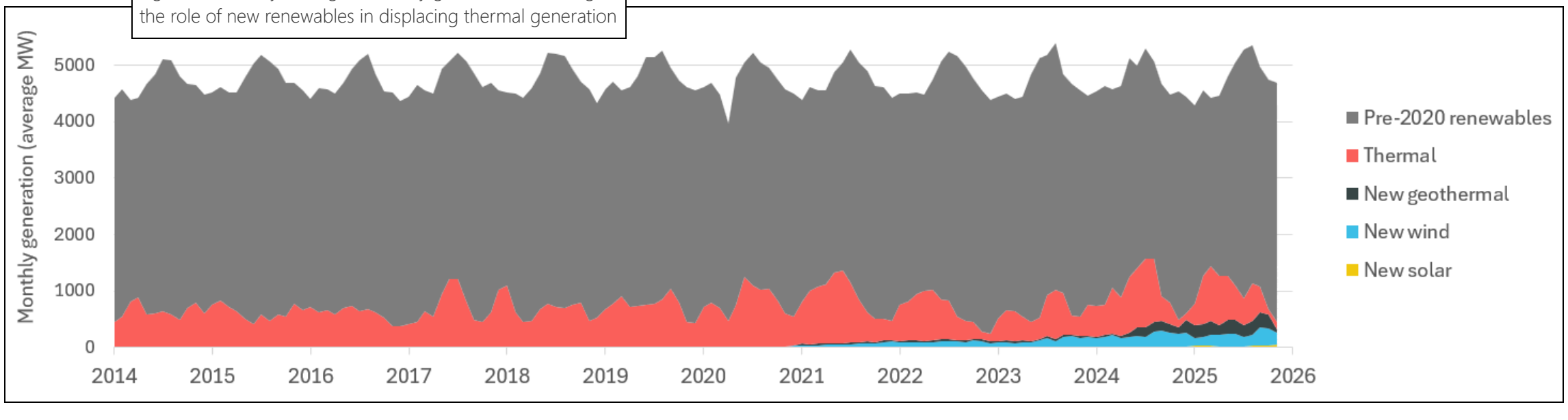


Figure 4: Monthly average electricity generation, showing the role of new renewables in displacing thermal generation

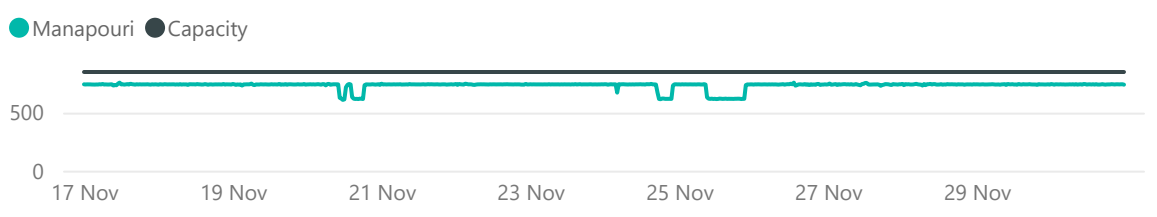


Generation Breakdown - Last Two Weeks

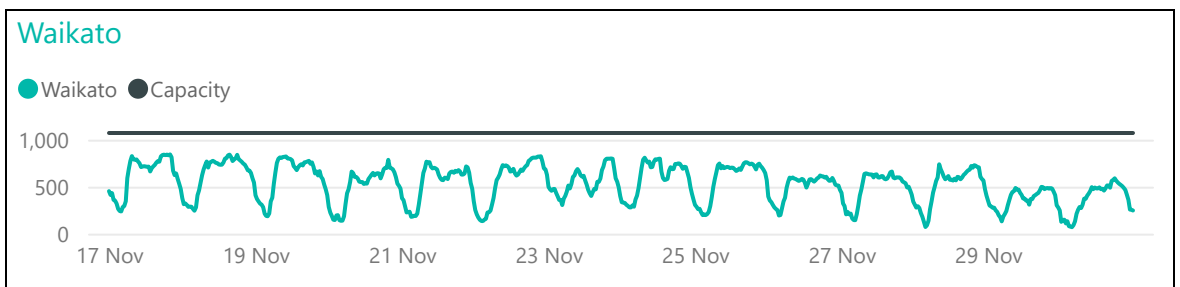
Measured in MW and displayed at trading period level for last 14 days

Clutha

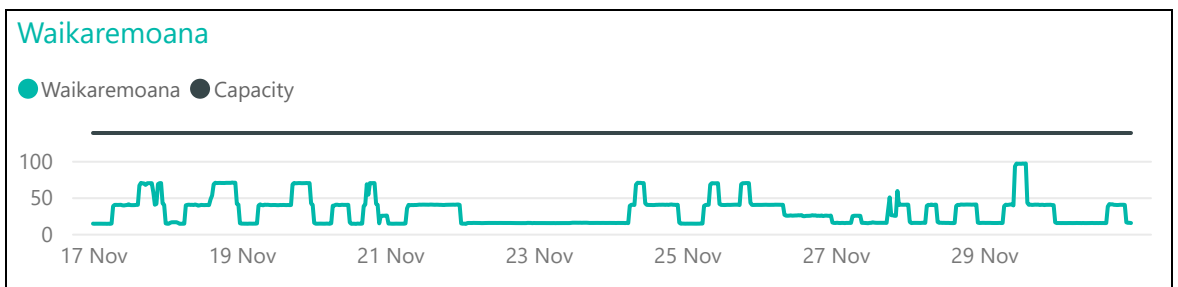
Manapouri



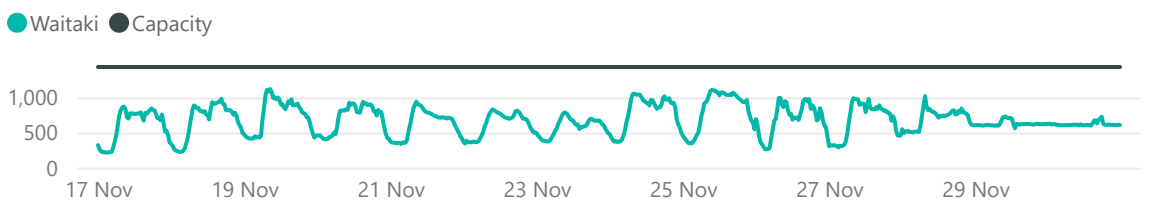
Waikato



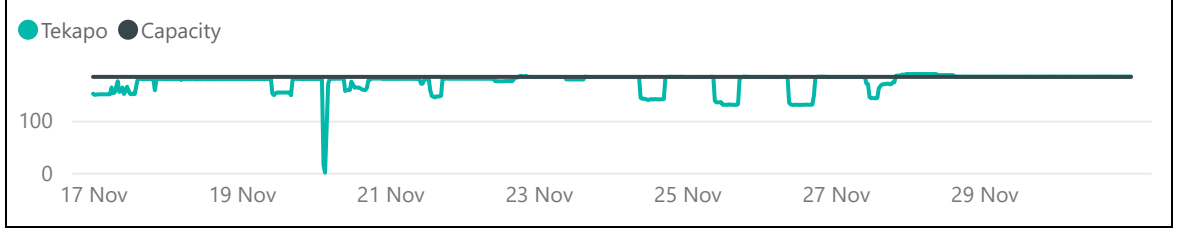
Waikaremoana



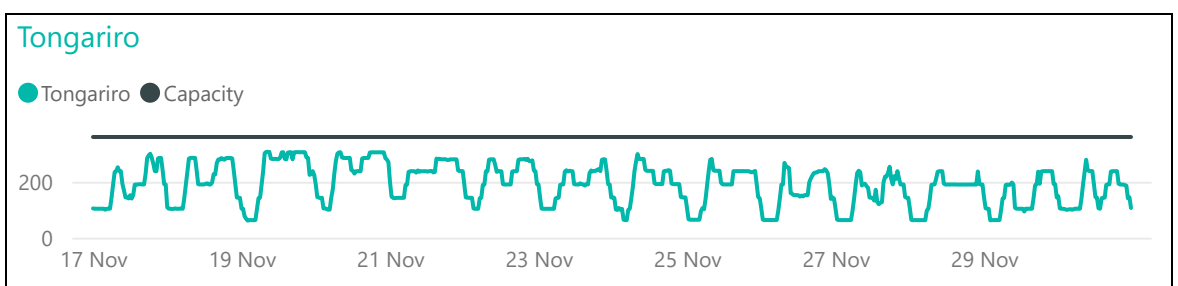
Waitaki



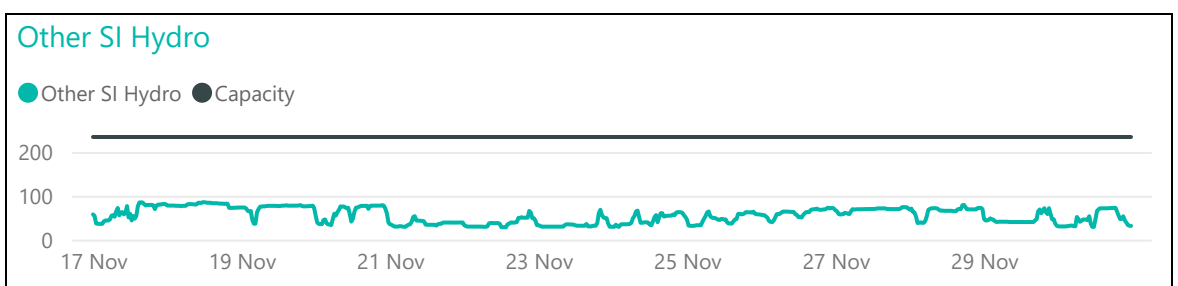
Tekapo



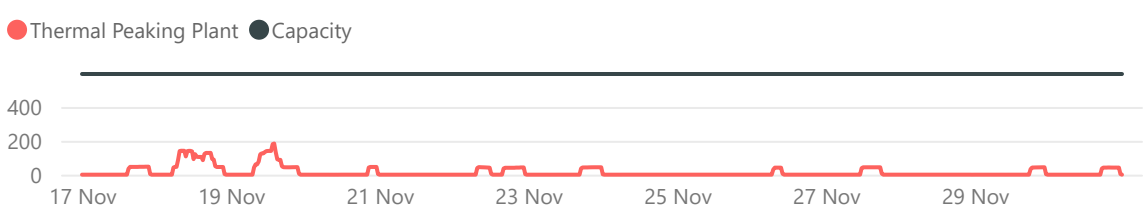
Tongariro



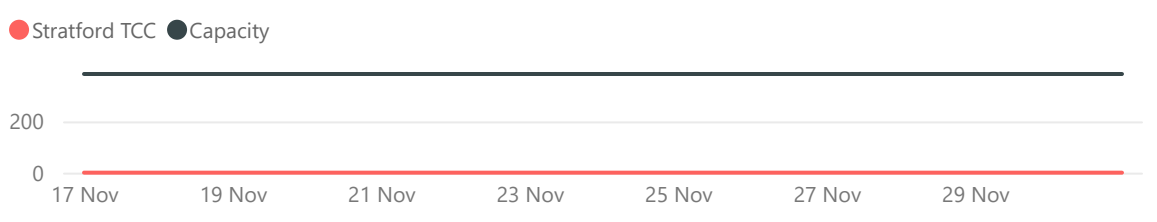
Other SI Hydro



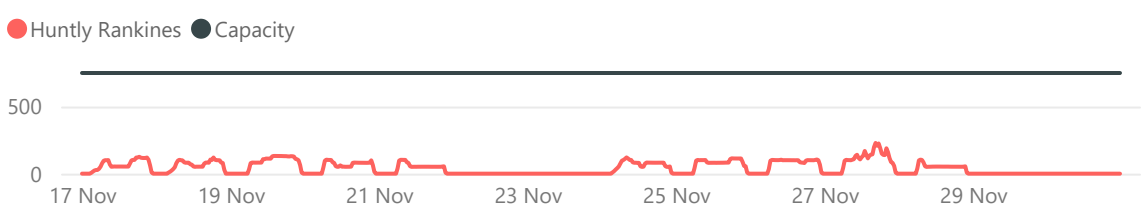
Thermal Peaking Plant



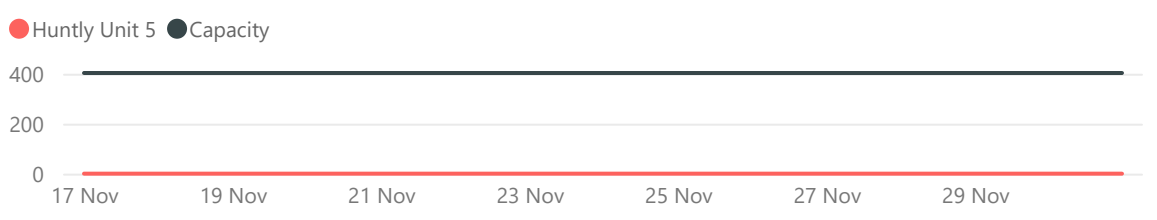
Stratford TCC



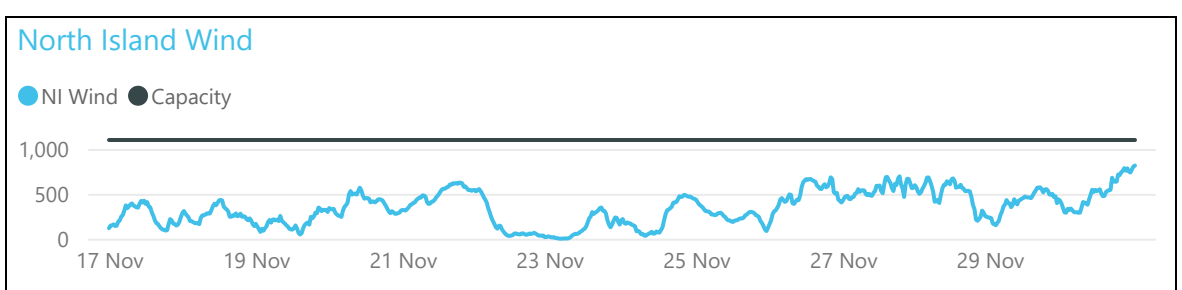
Huntly Rankines



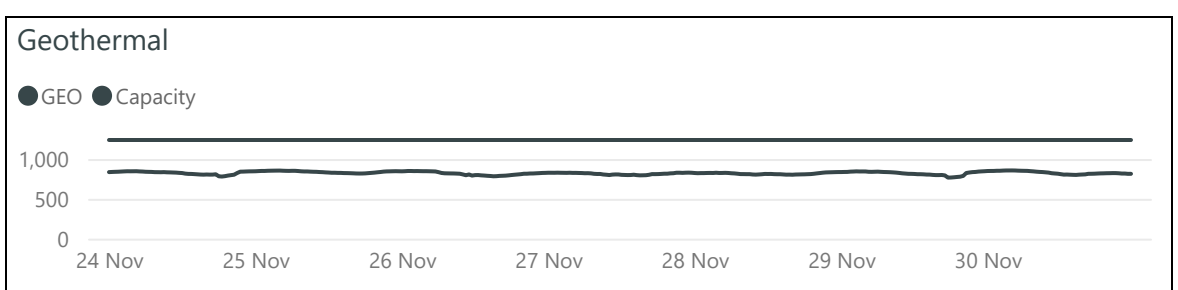
Huntly U5



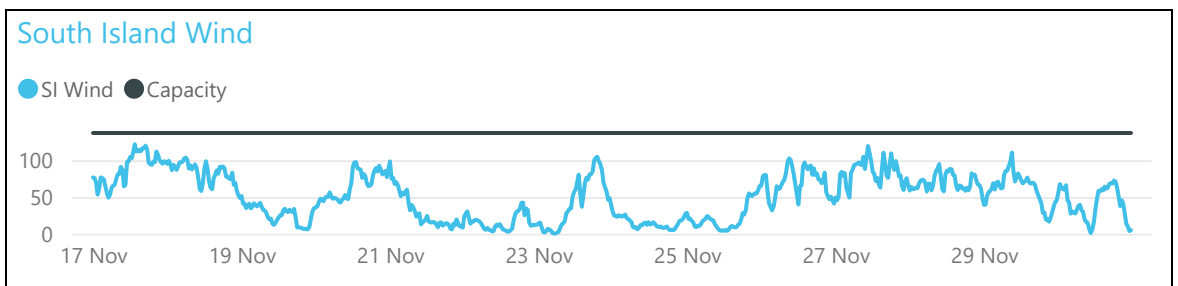
North Island Wind



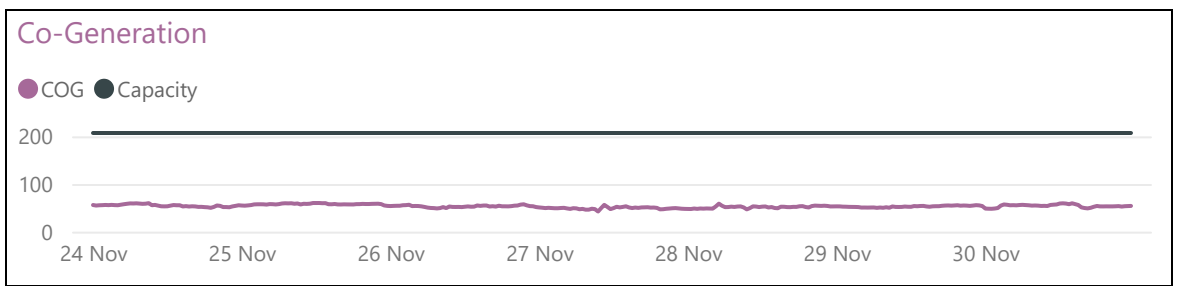
Geothermal



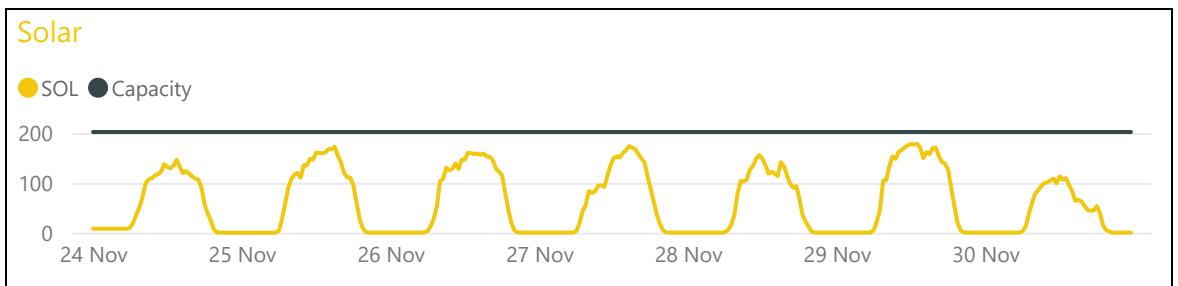
South Island Wind



Co-Generation

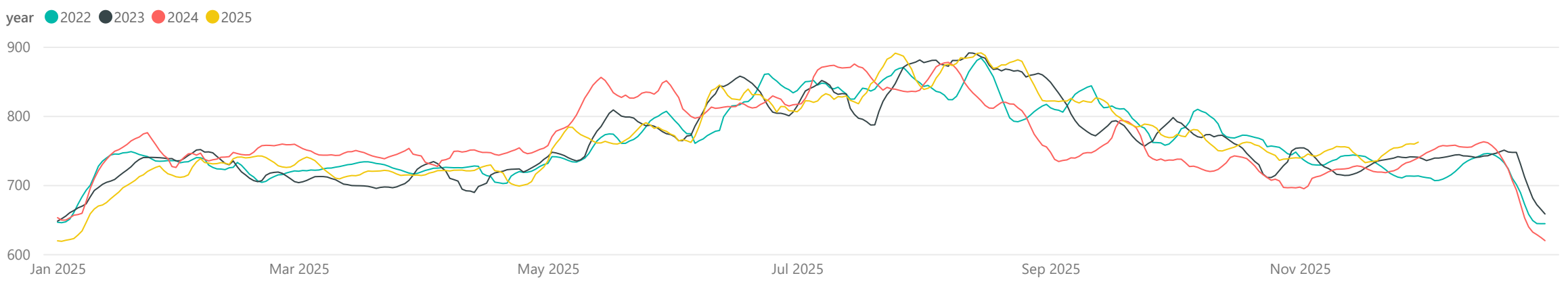


Solar

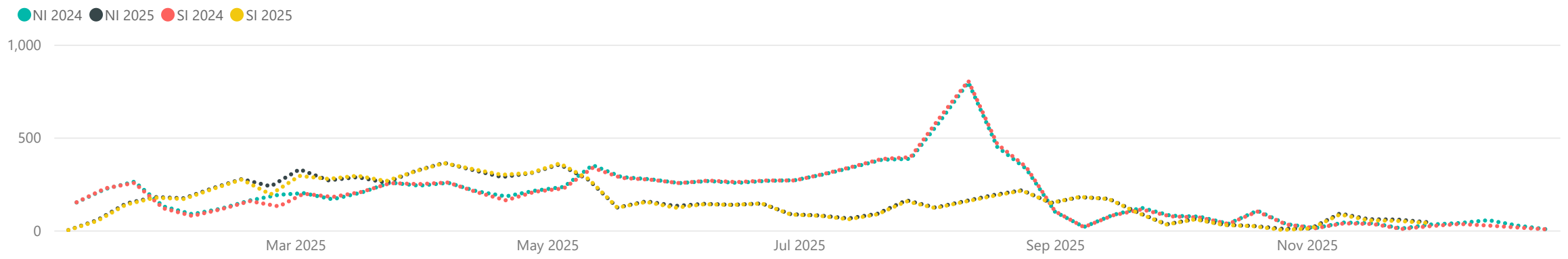


Weekly Profiles

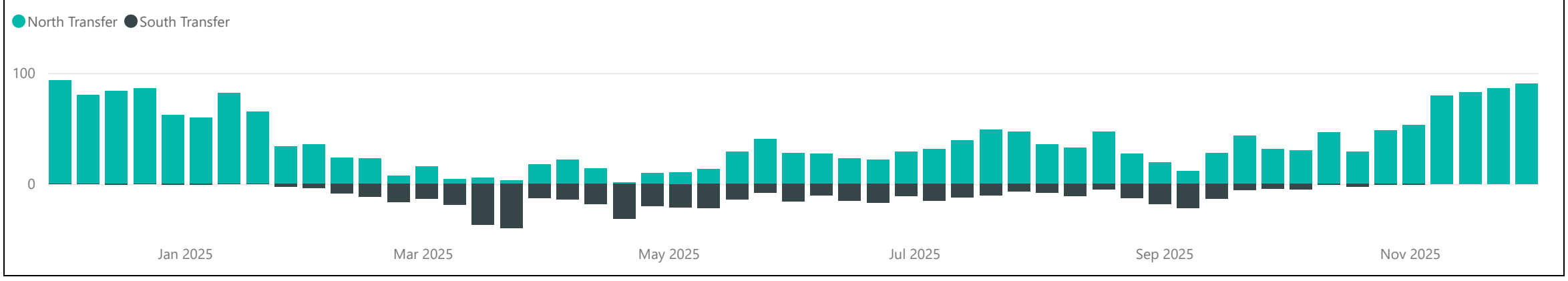
National Weekly Demand - GWh - 7 Day Rolling



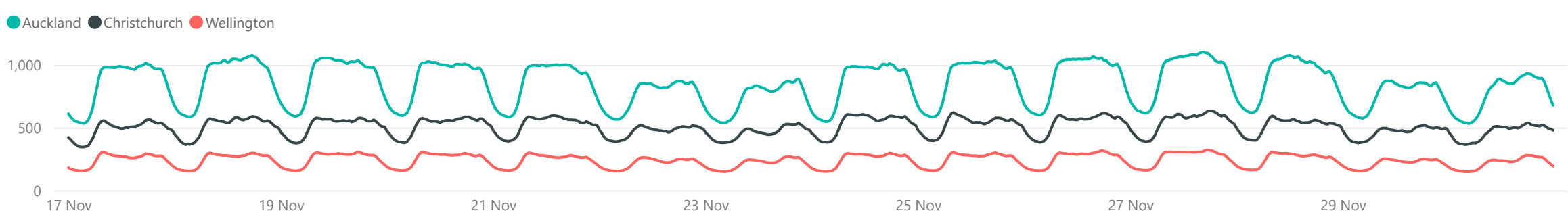
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

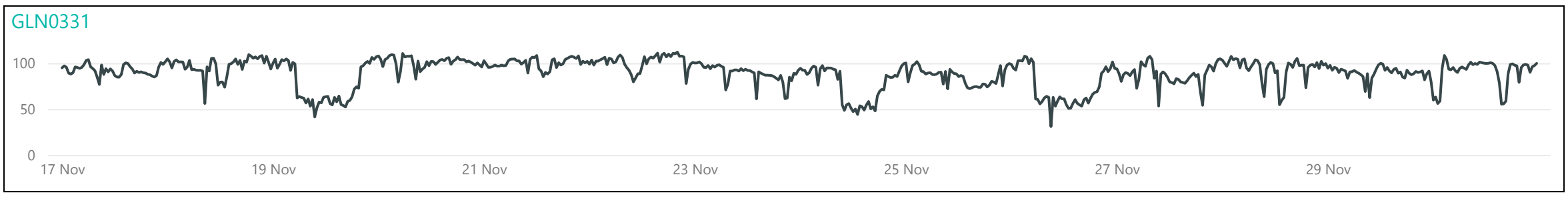


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



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

GLN0331



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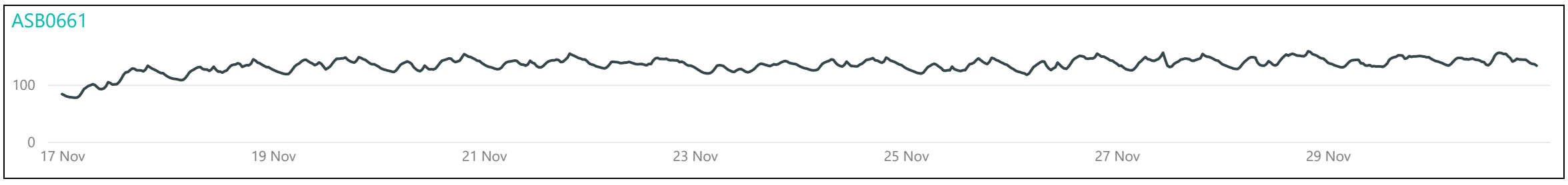

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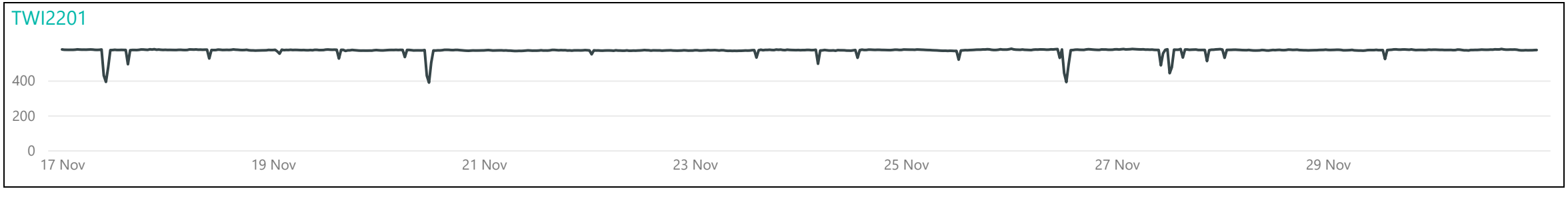
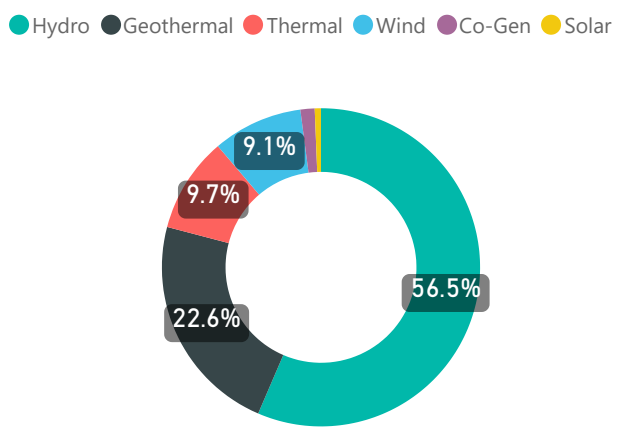


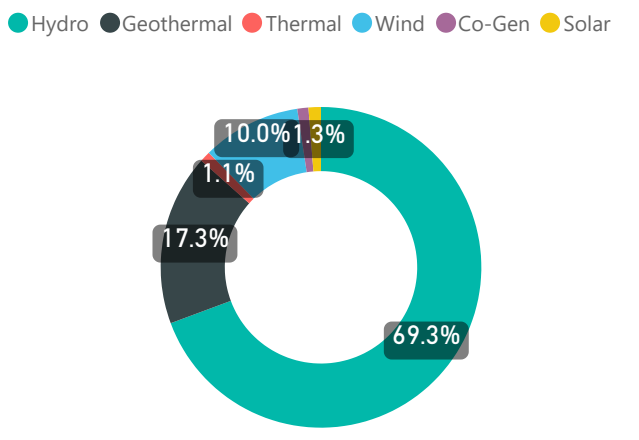
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



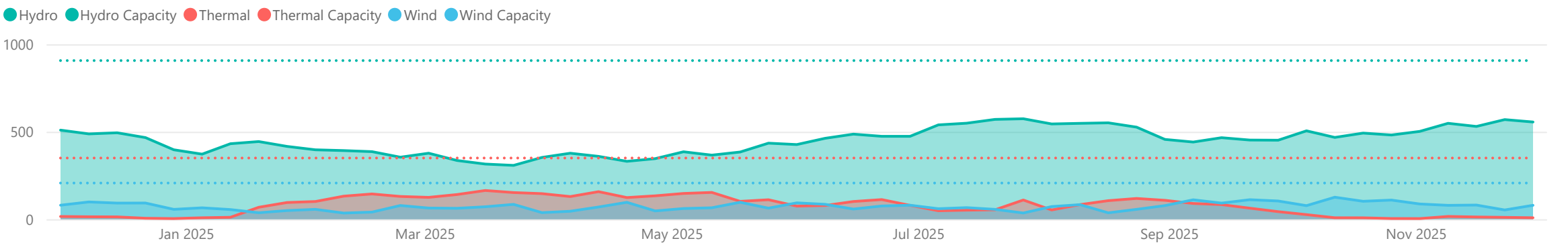
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
98%	14,322	17.4

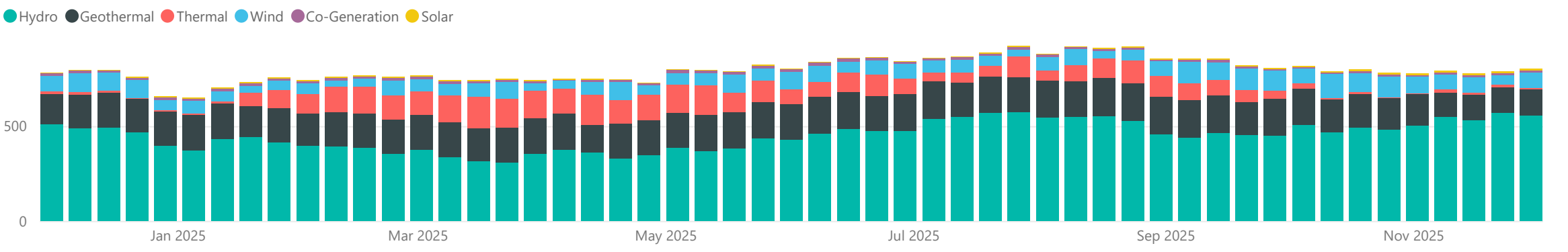
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
89%	64,876	81.6

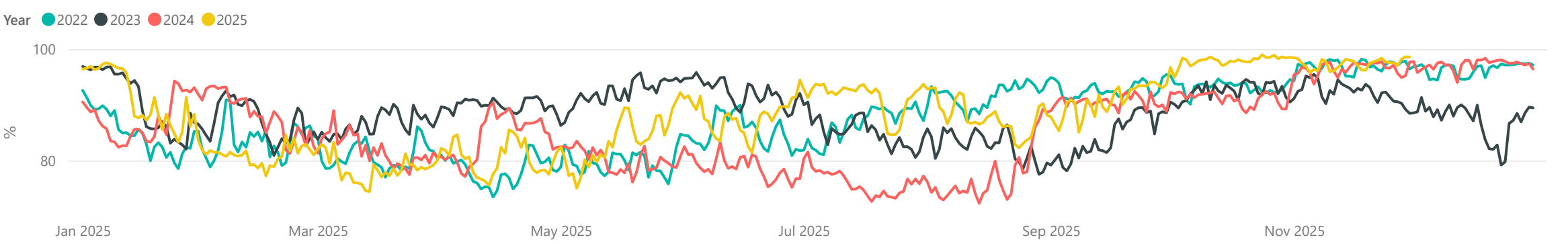
Weekly Generation Mix vs Capacity - GWh



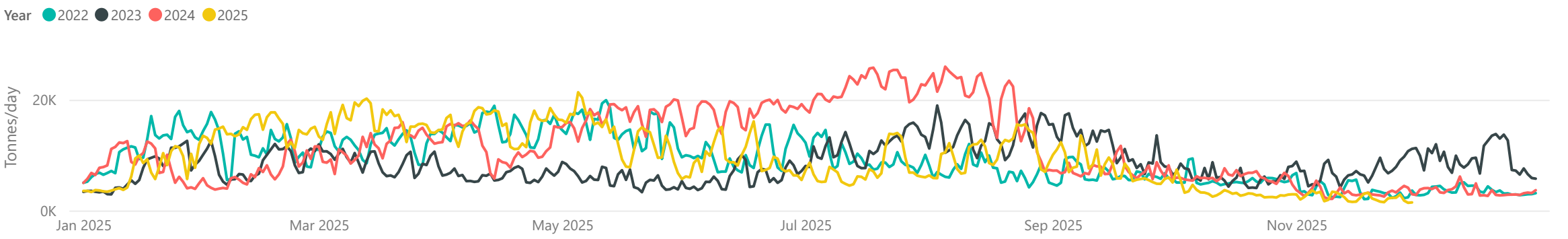
Weekly Generation Mix - GWh



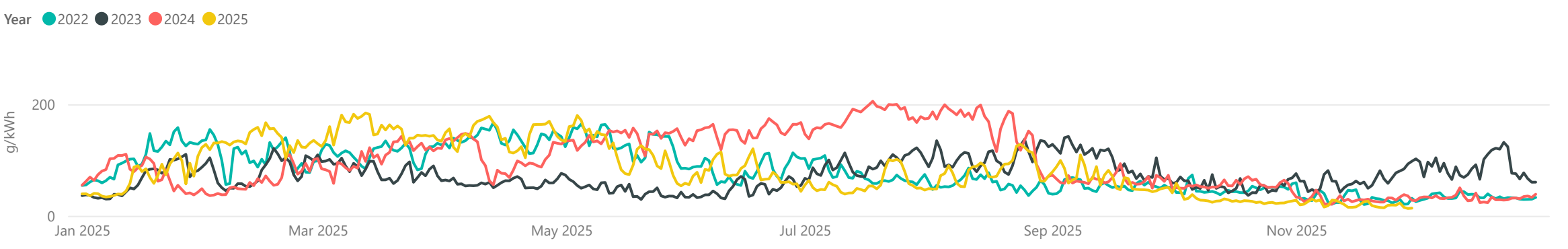
NZ Renewable Percentage



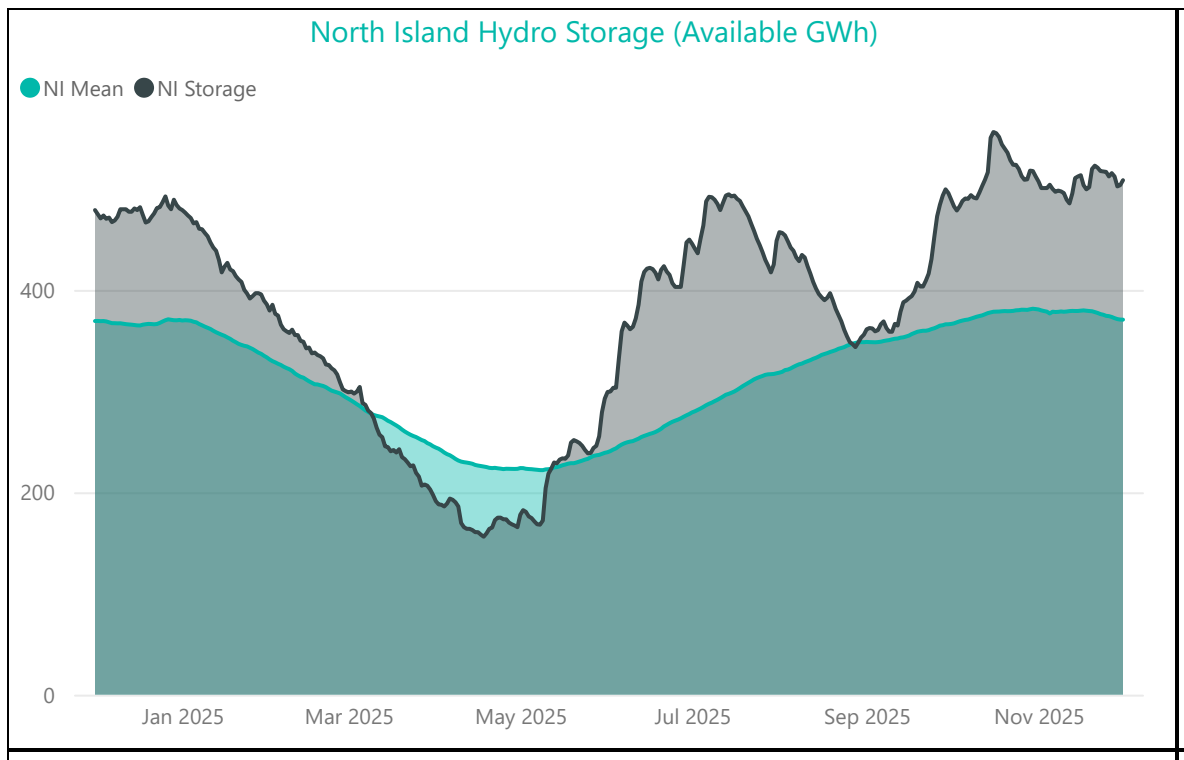
CO2 Tonnes/Day

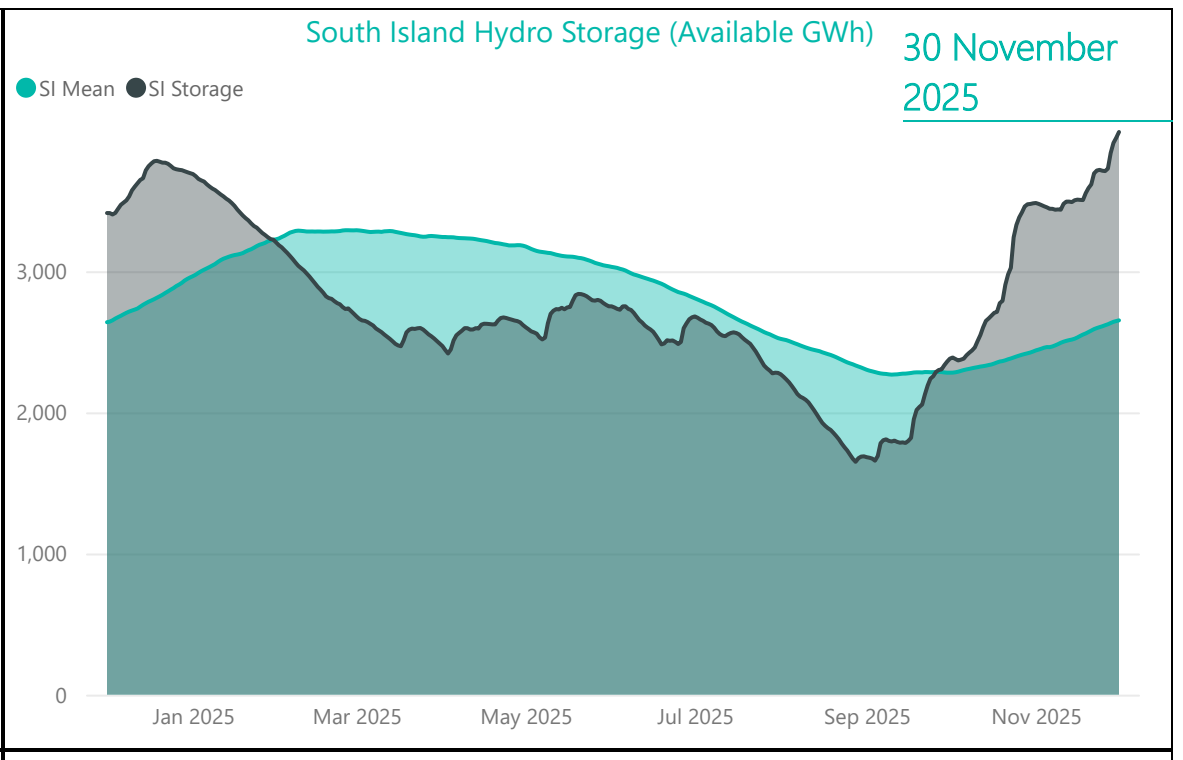


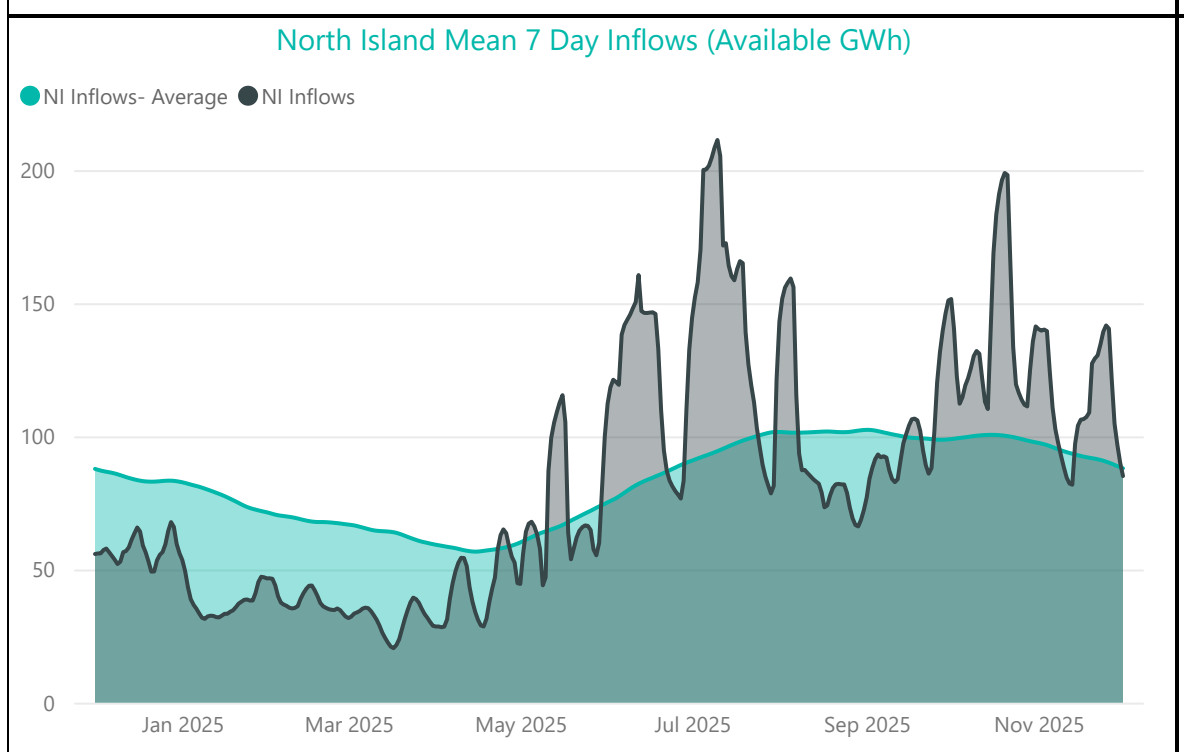
CO2 g/kWh

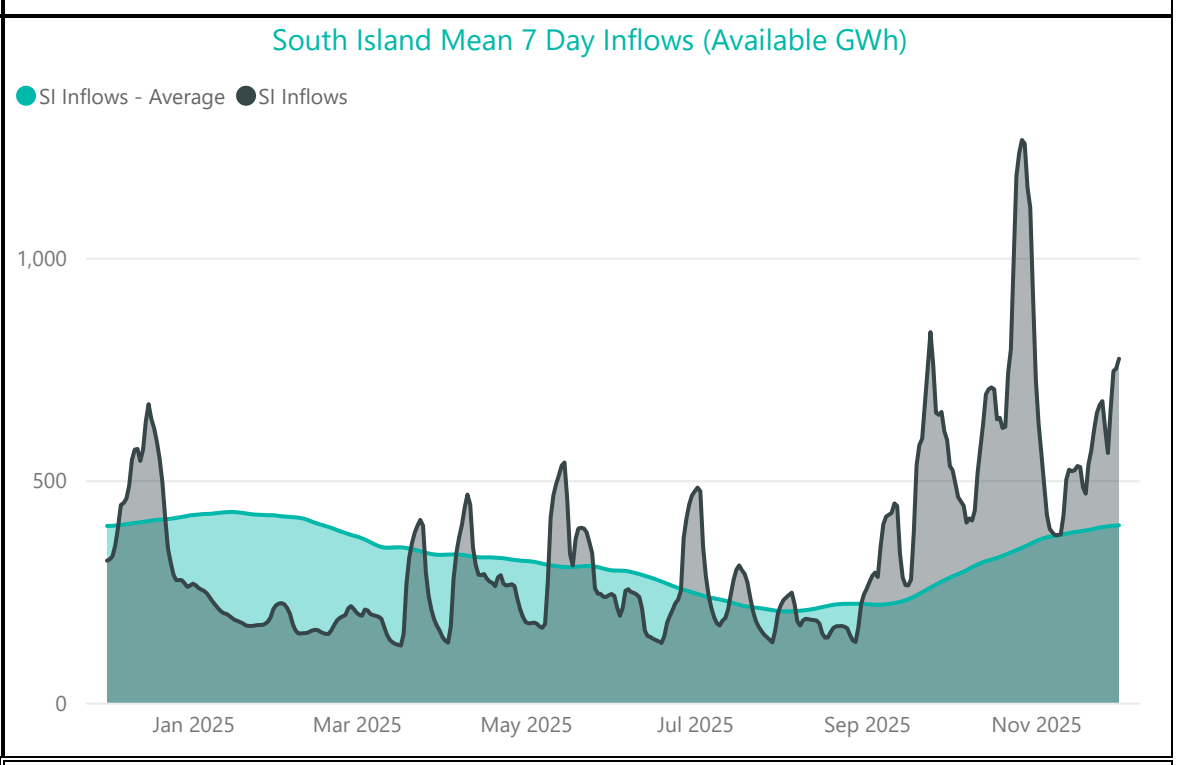


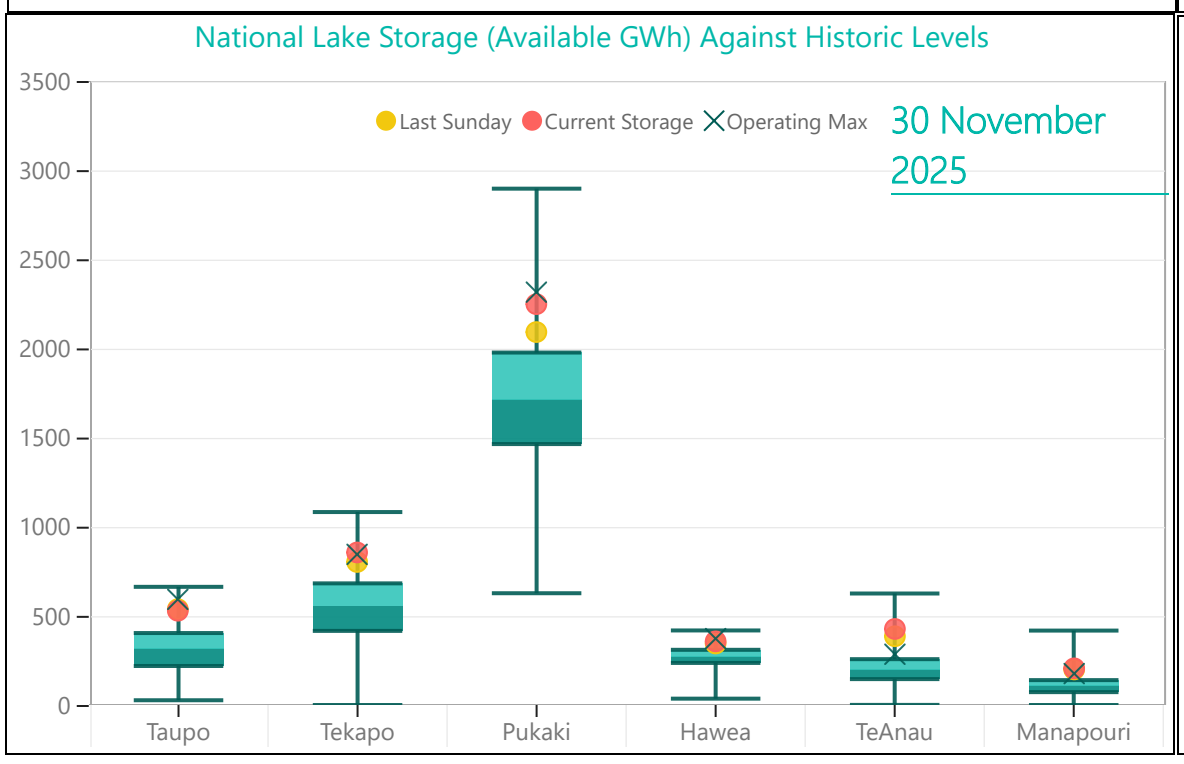
Hydro Storage

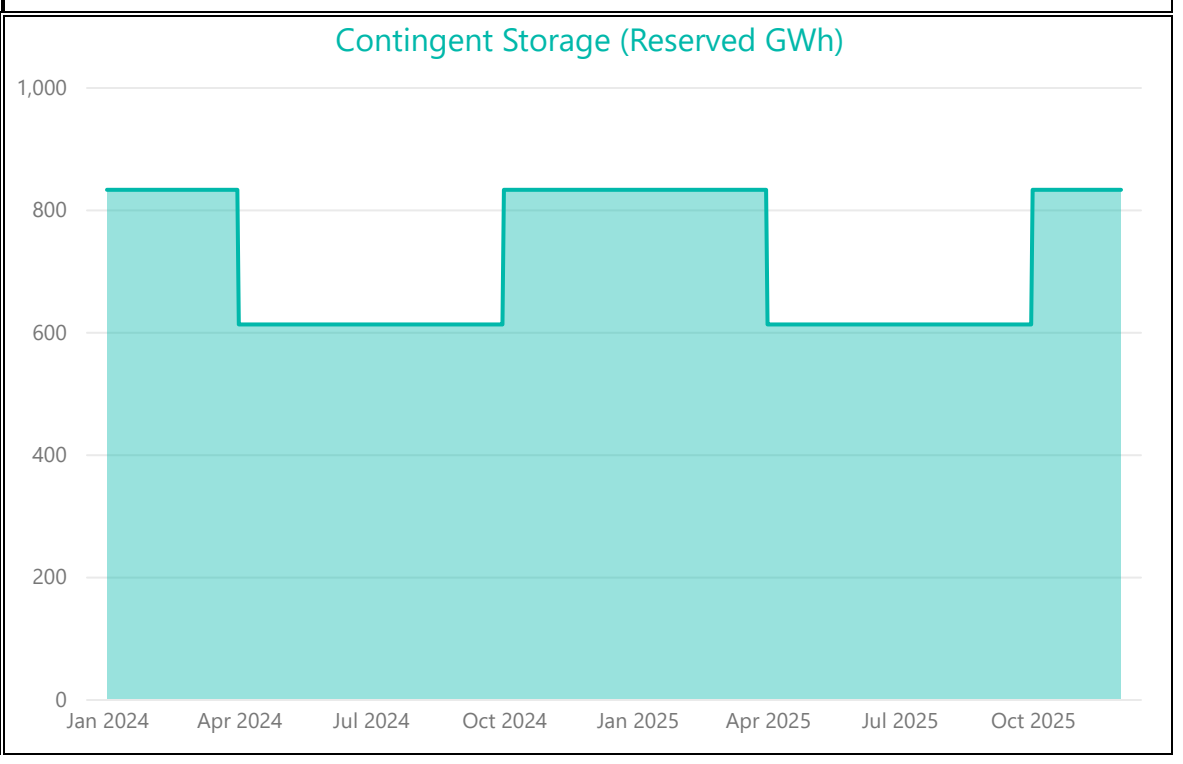












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

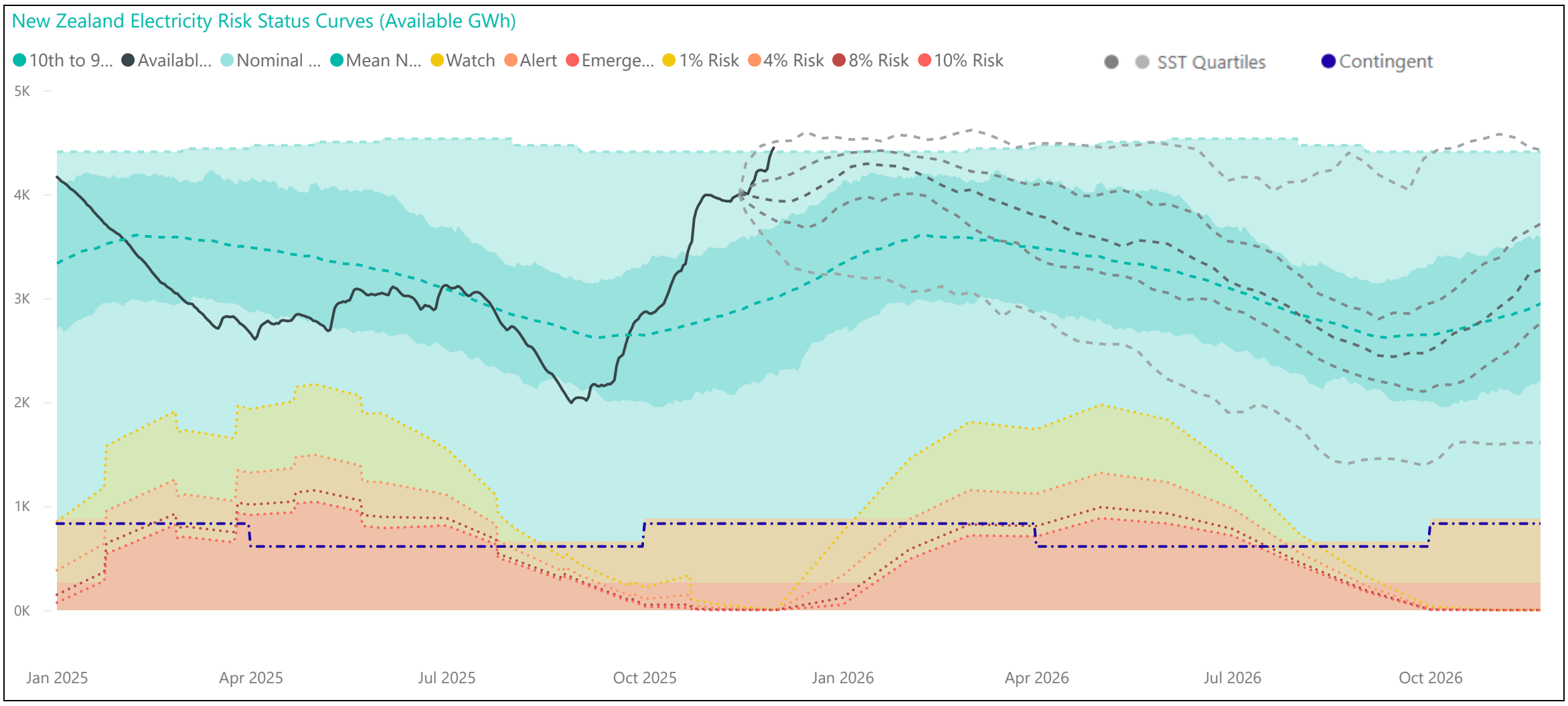
For any inquiries related to security of supply contact market.operations@transpower.co.nz

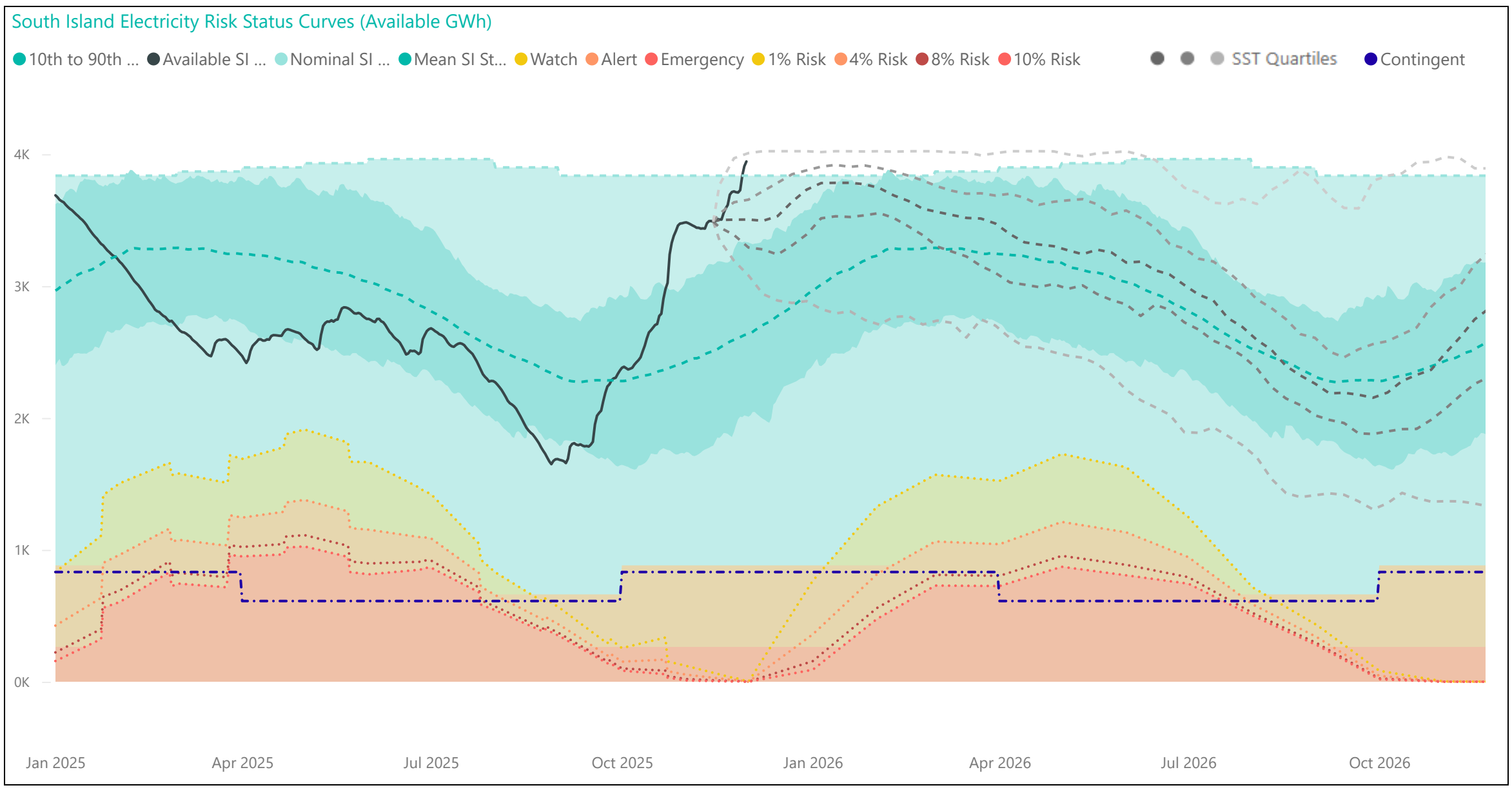
Hydro data used in this report is sourced from *NZX Hydro*.

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).