Market Operations Weekly Report - Week Ended 24 May 2026

Overview

National hydro storage remains above average, with levels at 108% of the historic mean for this time of year. North Island storage continues to be exceptionally high at 185% of the historic mean, while South Island storage is close to average at 103% of the mean.

Last week we started a three-part deep dive series on the electricity sector's readiness for winter. Today's part looks at monitoring peak capacity risks through NZGB.

Security of Supply

Energy

National hydro storage has decreased to 108% of historic mean at the end of last week from 113% the week prior. South Island storage has decreased from 106% to 103% and North Island storage decreased from 208% to 185% with lower than average inflows for both islands last week.

Capacity

Residuals were lower than usual during morning and evening peaks during the first half of last week. The lowest residual of 326 MW occurred during the morning of Wednesday 20 May, which coincided with the highest demand peak of the week.

The N-1-G margins in the NZGB forecast remain healthy, but are trending downwards into winter with tighter spots appearing; we recommend the industry watch these closely. 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 from 795 GWh to 801 GWh for the week due to colder than average mornings. The highest demand peak of 6,224 MW occurred at 7:30am on Wednesday 20 May.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week increased to $105/MWh from $69/MWh the week prior. Wholesale prices peaked at $388/MWh at Ōtāhuhu at 7:30am on Wednesday 20 May, coinciding with the highest demand peak of the week.

Generation Mix

Wind generation remained the same at 6% of the generation mix from prior weekly report, lower than its yearly average of 10%. Hydro generation was unchanged at 60% of the mix and thermal generation increased from 6% to 8% of the generation mix. Geothermal generation decreased from 25% to 22%, falling below its annual average of 23%.

HVDC

HVDC flows last week were predominantly northward with very brief periods of southward flow overnight. Overall, 105 GWh was transferred north, while 3 GWh was transferred south during the week.

Consultations and Engagement

SOSA

We received six submissions and two cross-submissions to our draft SOSA 2026 consultation, which have been published on the consultation page. We are now in process of incorporating the feedback for final publication, which will be no later than 30 June.

Draft Policy Statement

Consultation is open on our draft Policy Statement amendment proposal with submissions due by Thursday 4 June.

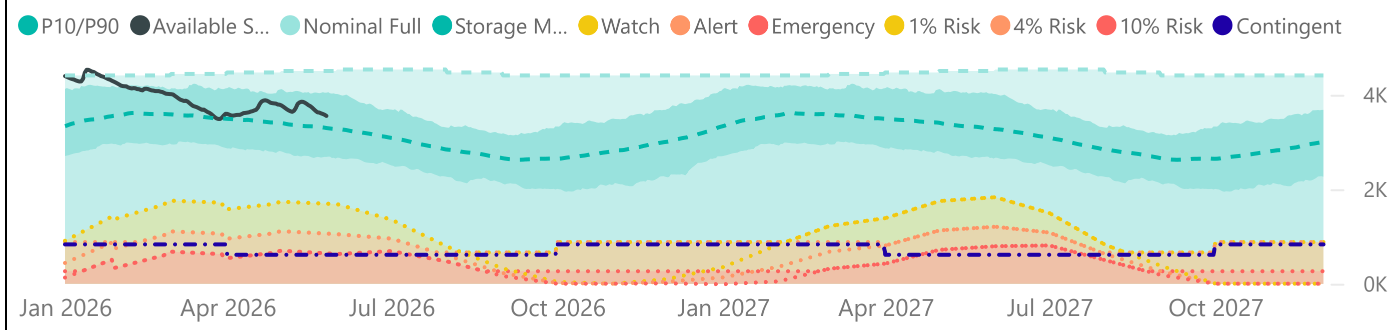
The Policy Statement describes the policies and processes the System Operator uses to meet the principal performance obligations (PPOs) in the Code for maintaining a stable and resilient power system in real-time, and to manage technical compliance and conflicts of interest.

New Zealand Energy Risk

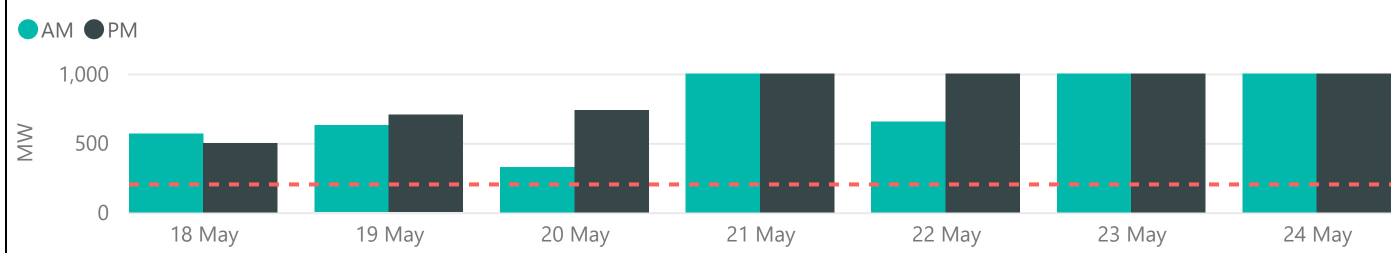
South Island Energy Risk

Normal Watch Alert Emergency

New Zealand Electricity Risk Status Curves (Available GWh)

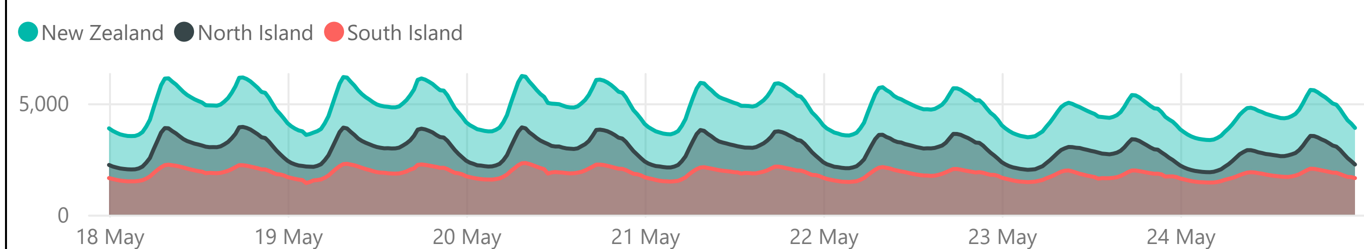


Lowest Residual Points - MW

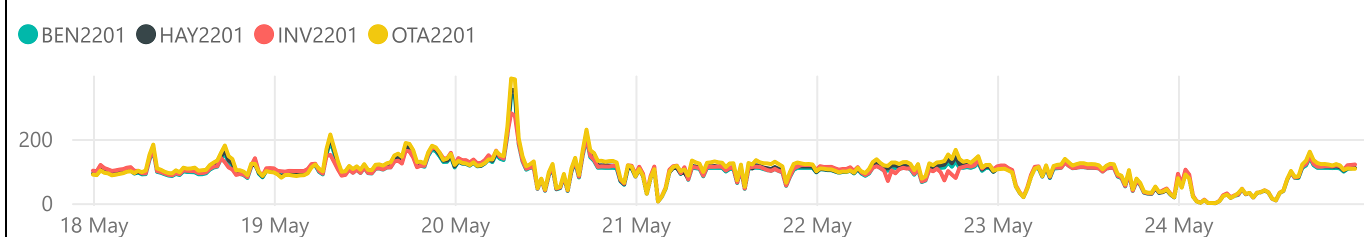


NZGB Look-Ahead (excluding next 7 days)

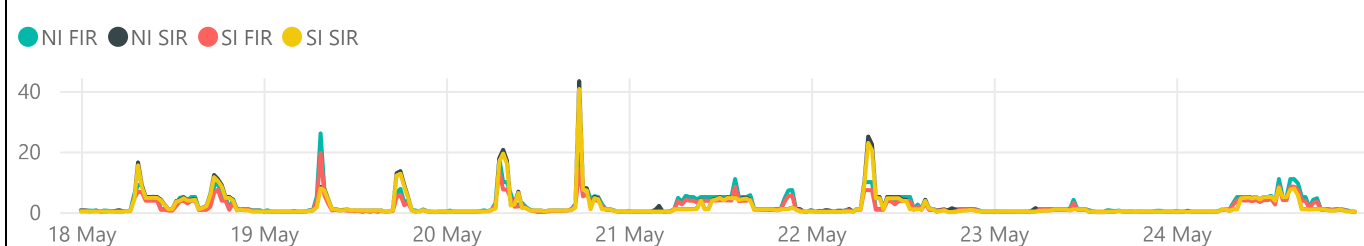
National Demand by Trading period - MW



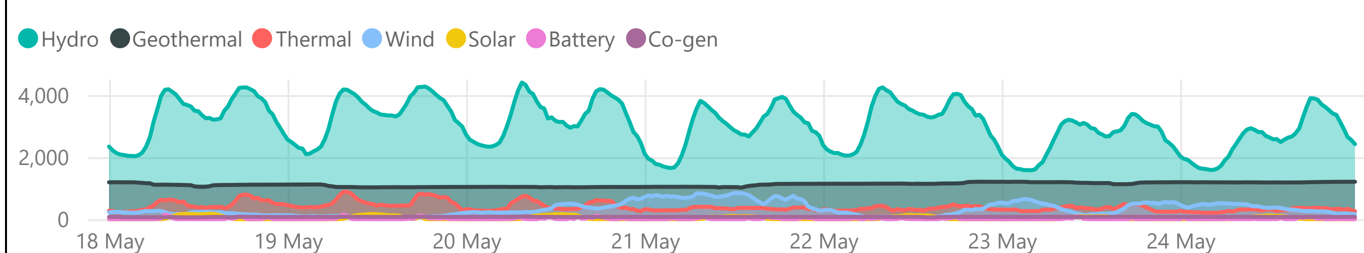
Energy Prices - $/MWh



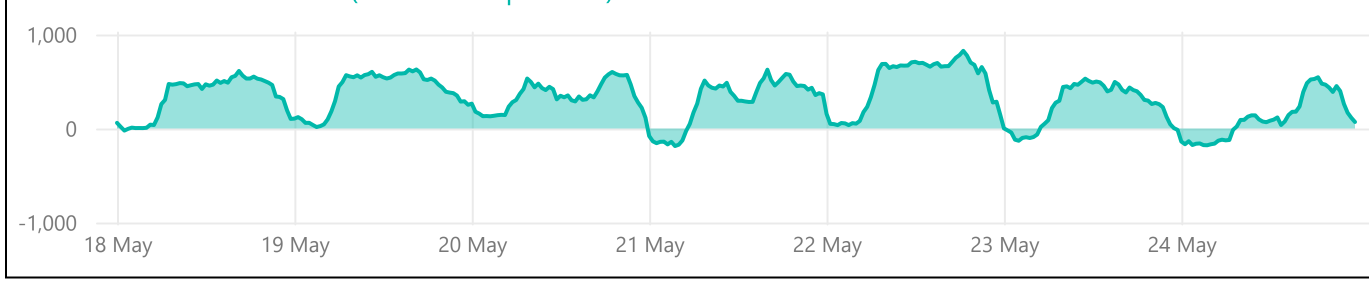
Reserve Prices - $/MW



Generation - MW



Net HVDC Transfer - MW (Northward positive)



Weekly Insight - Winter 2026 preparedness: Visualising stress conditions with NZGB

Following last week's discussion on the structural shift toward intermittent renewables, we now look at how the System Operator visualises these risks. The New Zealand Generation Balance (NZGB) is a tool which forecasts whether sufficient instantaneous generation capacity (MW) exists over the next 200 days (excluding the next 7 days) to securely meet peak demand and ancillary service requirements by directly monitoring the peak capacity risks identified in last week's insight.

As a boundary model rather than a real-time dispatch engine, NZGB evaluates capacity risk using specific mechanics:

- Target scenario: Models North Island peak demand supported by maximum northward HVDC transfer.
- Generation availability: Assumes all dispatchable generation is offered at maximum capacity, reduced only by POCP outages. It calculates available capacity by applying the minimum of either generation or transmission constraints.
- Weather-driven load: Tests the stack against dynamic 90th (default) and 99th (severe cold snap) percentile demand scenarios. The percentiles are calculated against historical demand for this time of year rather the whole year.
- Simplified reserves: Instead of co-optimising energy and reserves like real-time schedules, NZGB assumes the largest risk-setting unit runs at maximum capacity, deducting the full worst-case reserve and frequency-keeping requirements.

NZGB tracks two key generation balance metrics. The N-1 balance measures the system's residual capacity after accounting for the maximum loss of the largest risk-setter and its required reserves. The N-1-G balance provides a more conservative margin by assuming the next largest generator is also unavailable. The "Base Capacity" margin represents all expected generation, including wind output at ~20% of rated capacity (35th percentile lowest output). The "Firm Capacity" margin provides a conservative subset that removes slow-start thermal units (1 over winter and 2 over summer) and reduces wind to ~8% of rated capacity (10th percentile lowest output).

Visualising the risk

Figure below shows the 90th percentile scenario. While capacity is generally sufficient under normal conditions, the firm generation margin drops below the 200 MW threshold during the June-July peak periods. As dropping below 200 MW triggers early system warnings, this tightening exposes the system's structural reliance on intermittent generation to meet standard winter peaks. It highlights why strict outage management is required to avoid operational escalation, even before severe cold snaps are factored in.

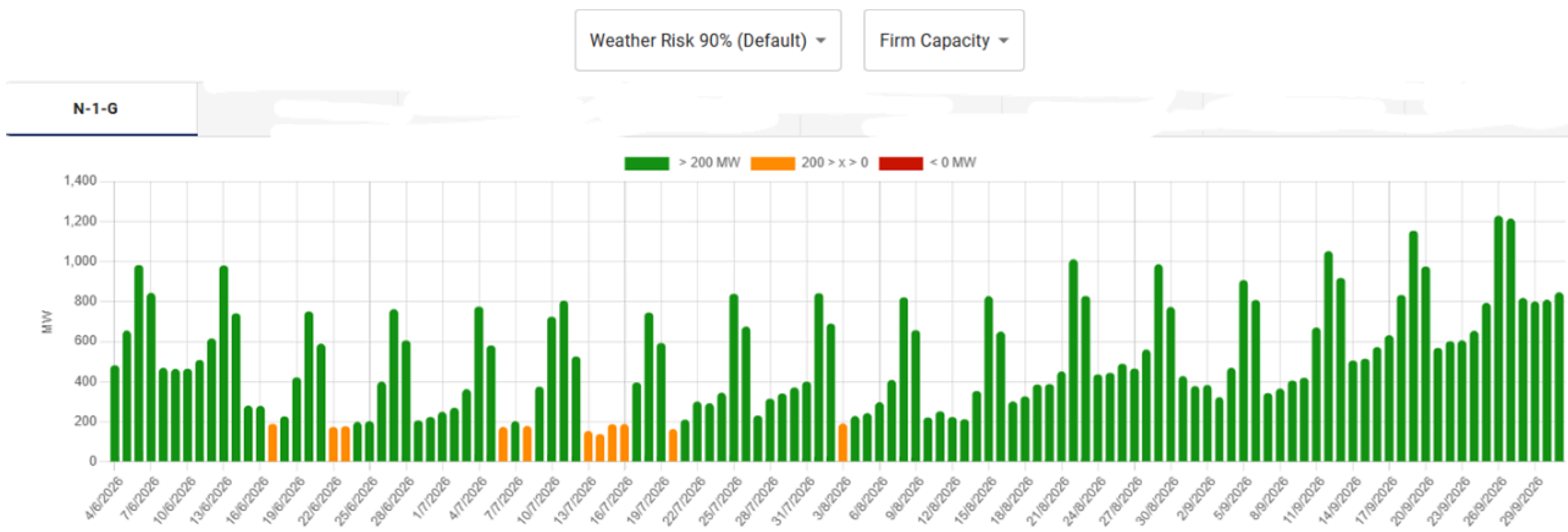
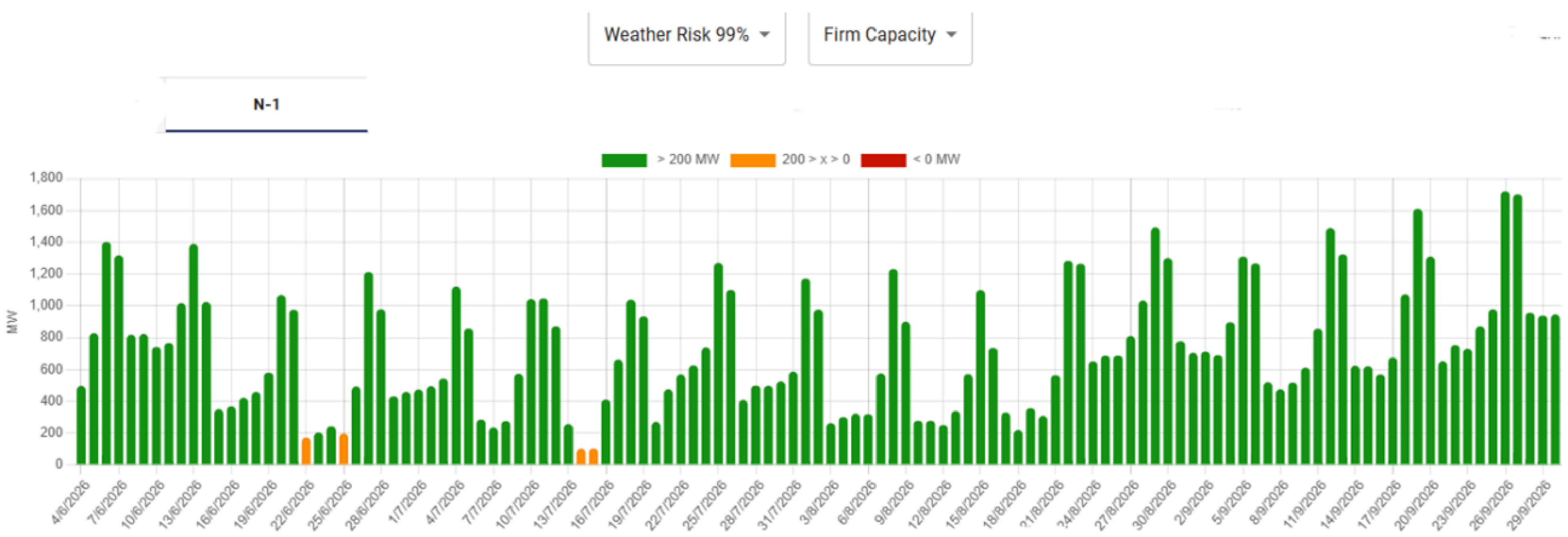


Figure below illustrates the N-1 99th percentile scenario. Under cold snap conditions, margins tighten significantly if low wind overlaps with reduced thermal availability. On several mid-winter days, the firm generation margin fall below 100 MW, signalling risk securely meet the extreme cold winter demand.



Informing market decisions

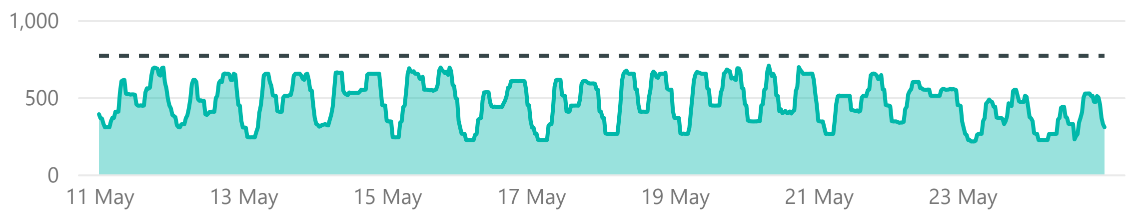
NZGB is part of the suite of forward-looking security information provided by the system operator (including the SOSA, ESO, SSF and market schedules). Its accuracy is also reliant on the timeliness and accuracy of participant outage data. As with all the information provided by the system operator, the intention is to aid the market to understand risks and make better decisions. In the case of NZGB, it's to understand potential high-capacity risk periods and plan outages accordingly to reduce these risks.

While shifting planned outages usually resolves potential shortfalls, NZGB remains a forward-looking planning tool. Within a week of real-time, capacity tracking shifts directly to the market schedules. Next week, in the final part of this series, we will explore how we work with the industry to navigate these operational risks as they approach real-time.

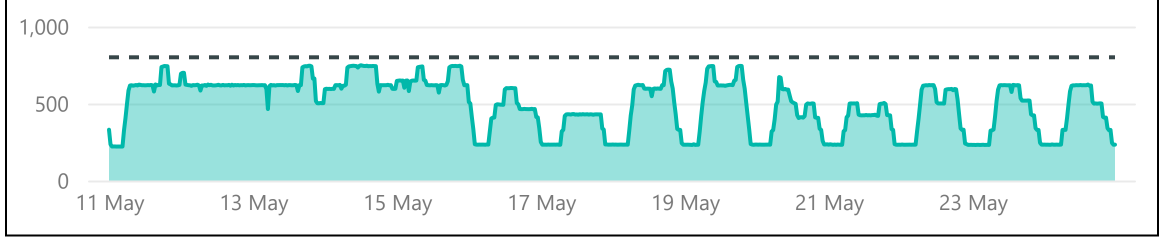
Generation Breakdown - Last Two Weeks

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

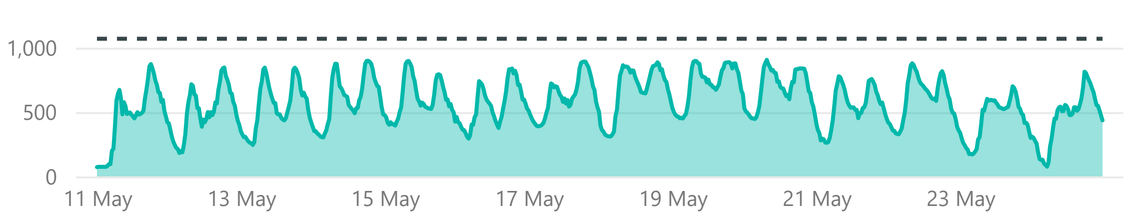
Clutha



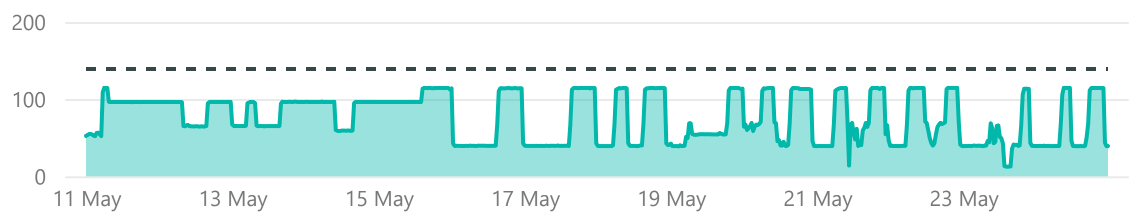
Manapouri



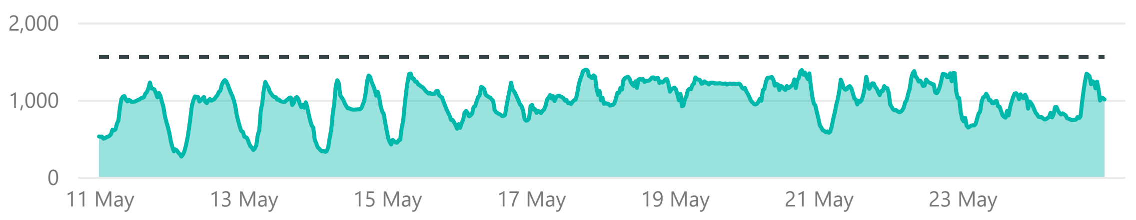
Waikato



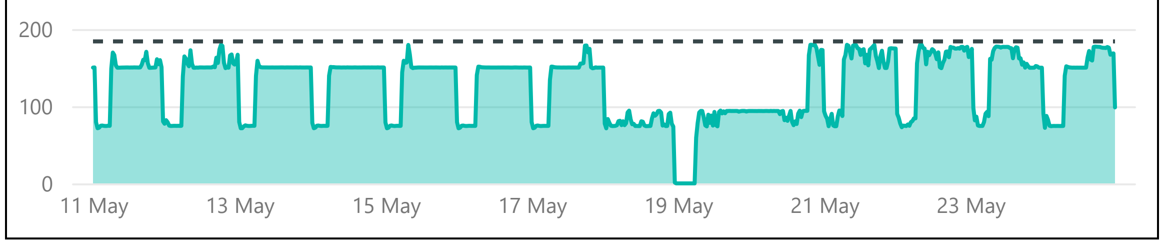
Waikaremoana



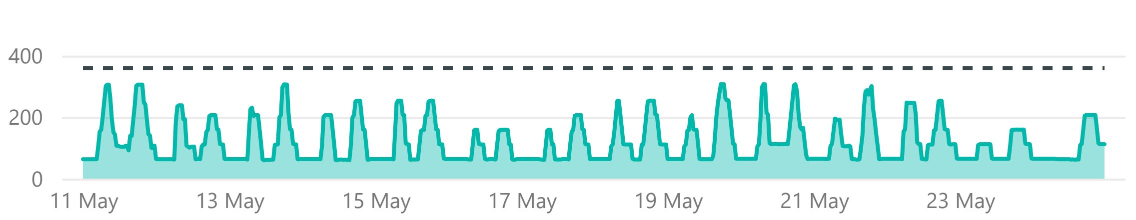
Waitaki



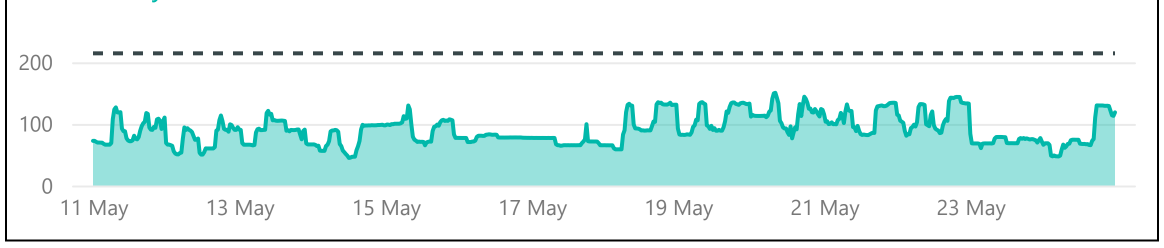
Tekapo



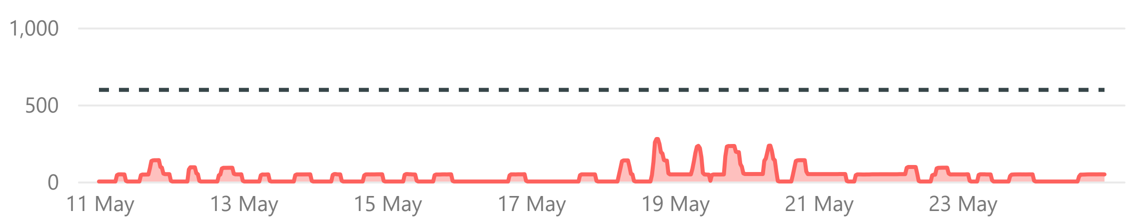
Tongariro



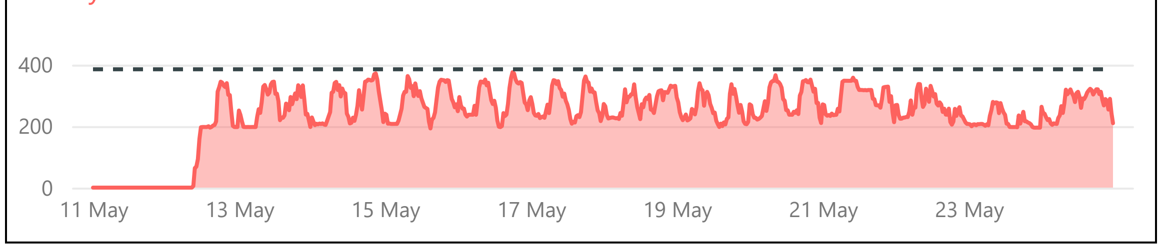
Other SI Hydro



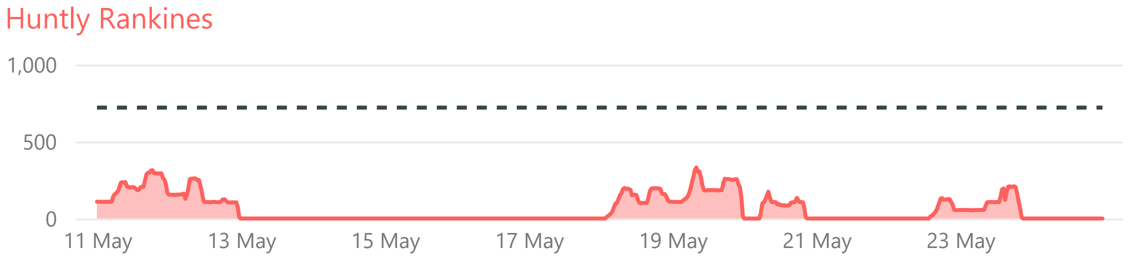
Thermal Peaking Plant



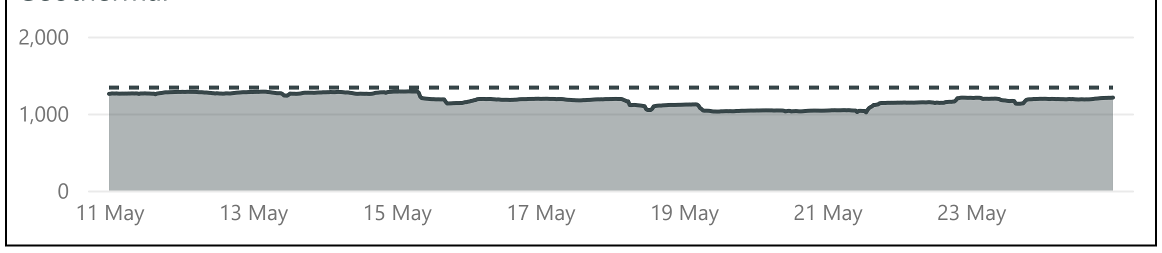
Huntly U5



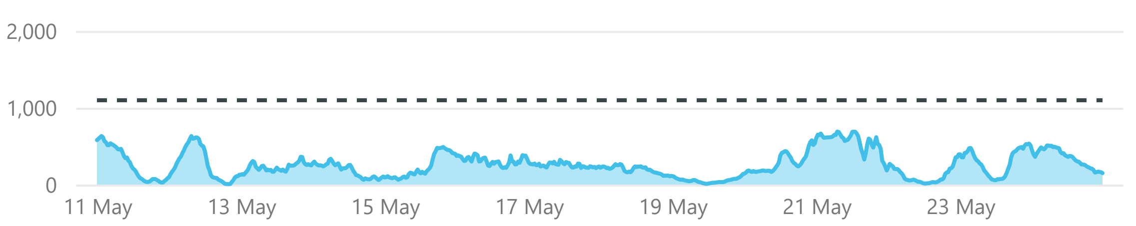
Huntly Rankines



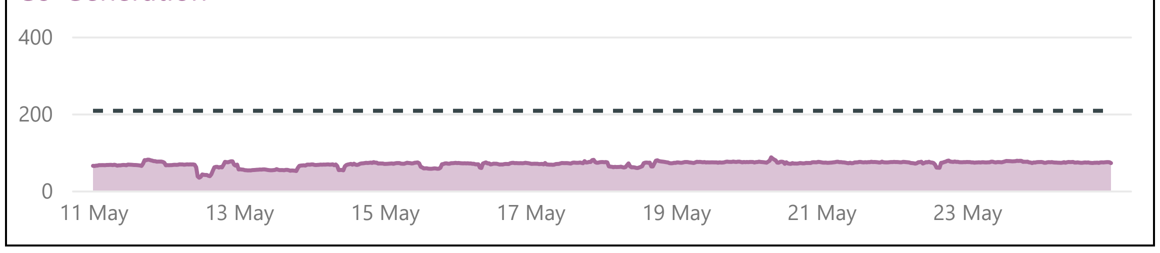
Geothermal



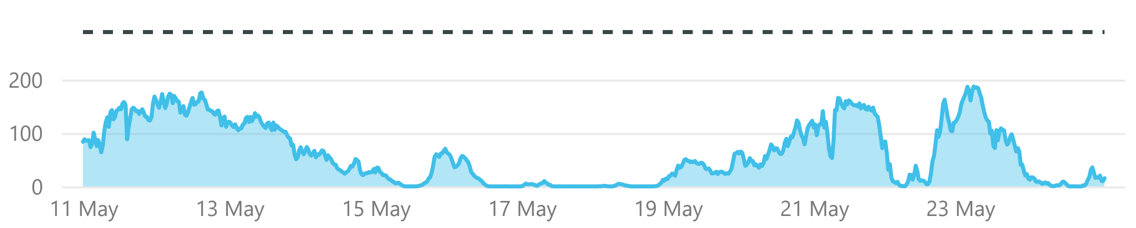
North Island Wind



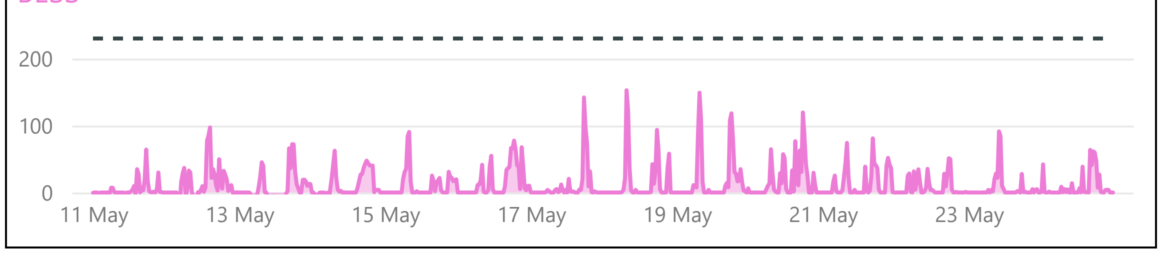
Co-Generation



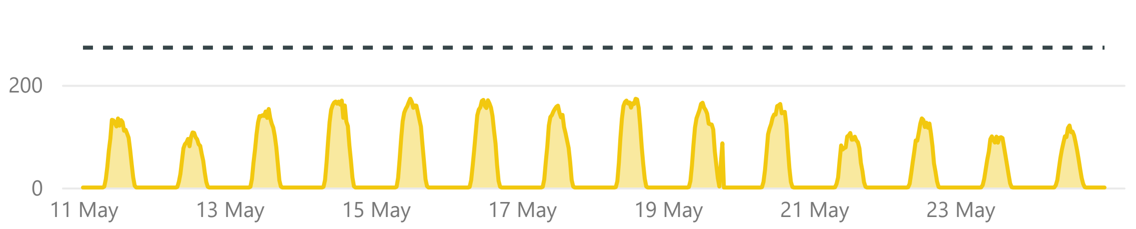
South Island Wind



BESS

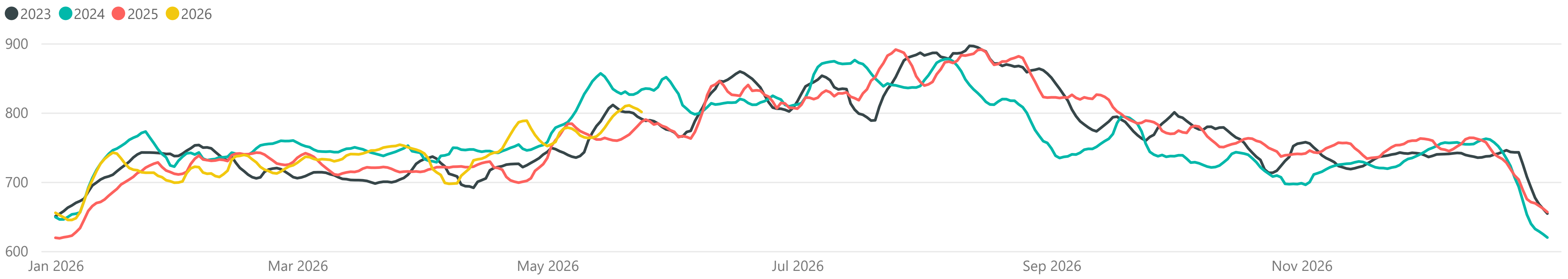


Solar

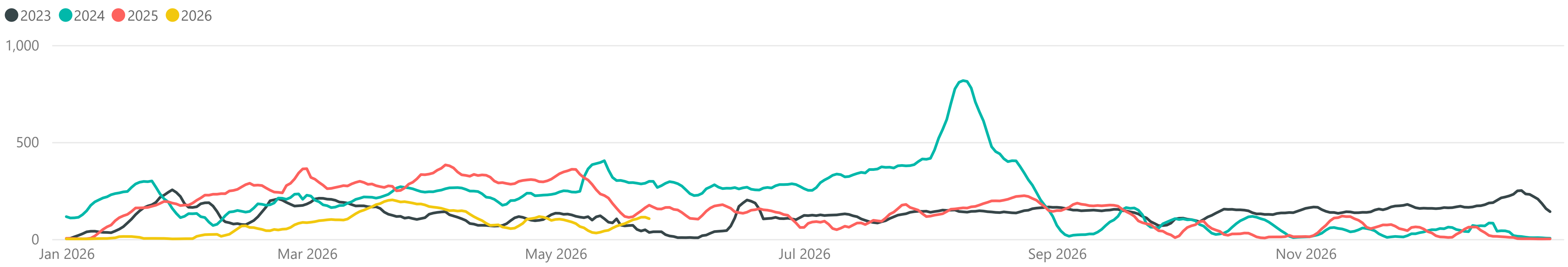


Weekly Profiles

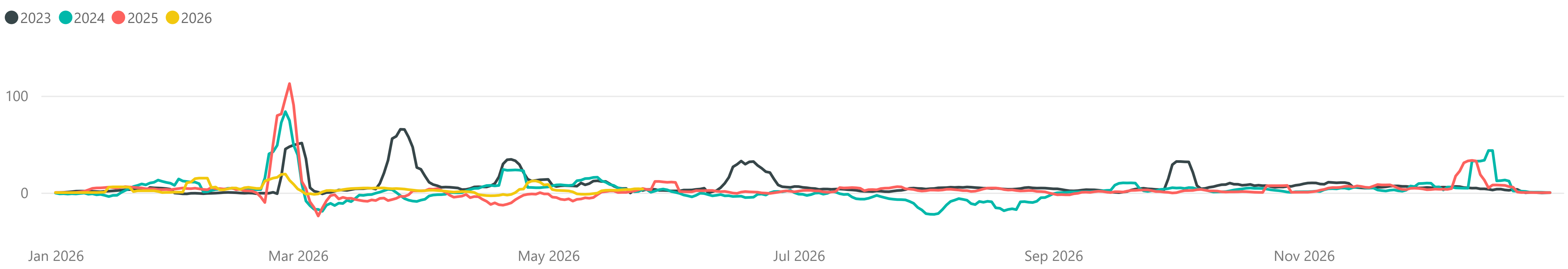
National Weekly Demand - GWh - 7 Day Rolling



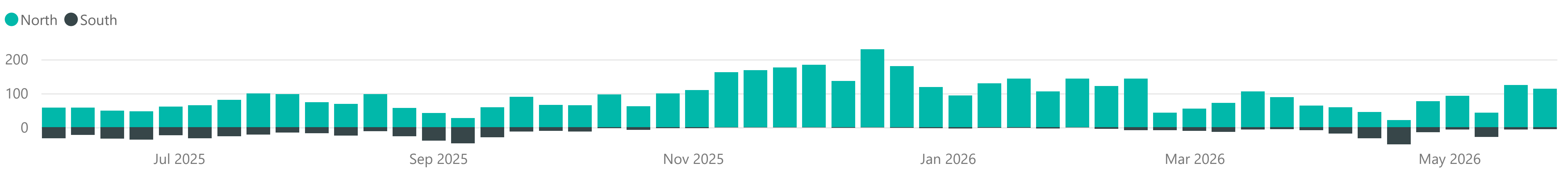
OTA2201 Weekly Rolling Average Spot Price - $/MWh



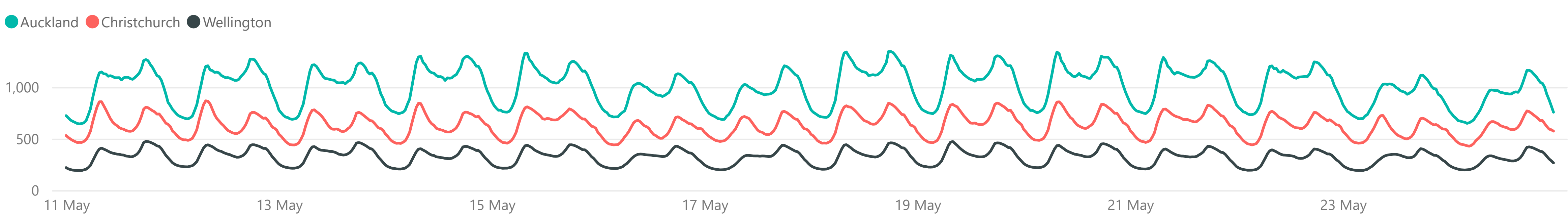
Weekly Rolling Price Separation (HAY2201 - BEN2201) - $/MWh



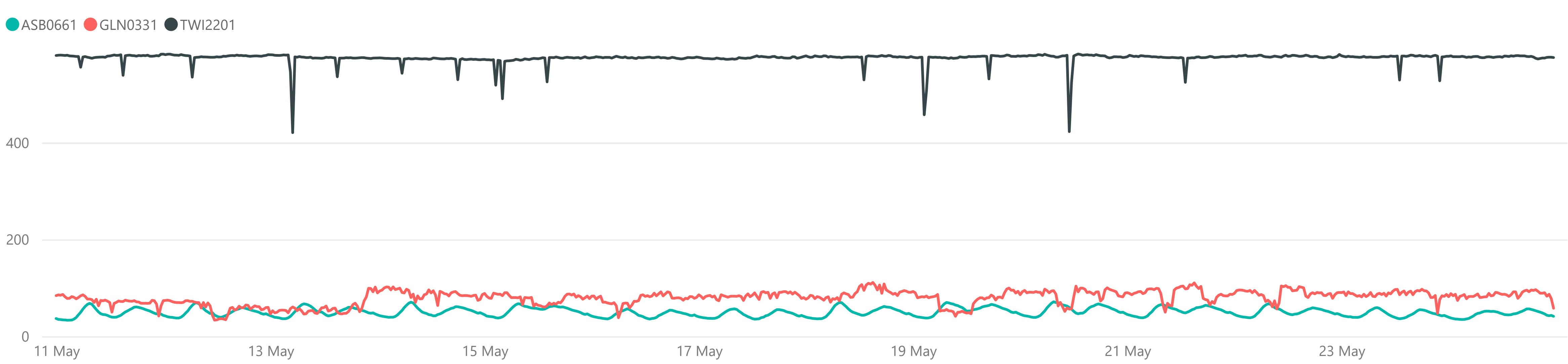
HVDC Transfer - Weekly GWh



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



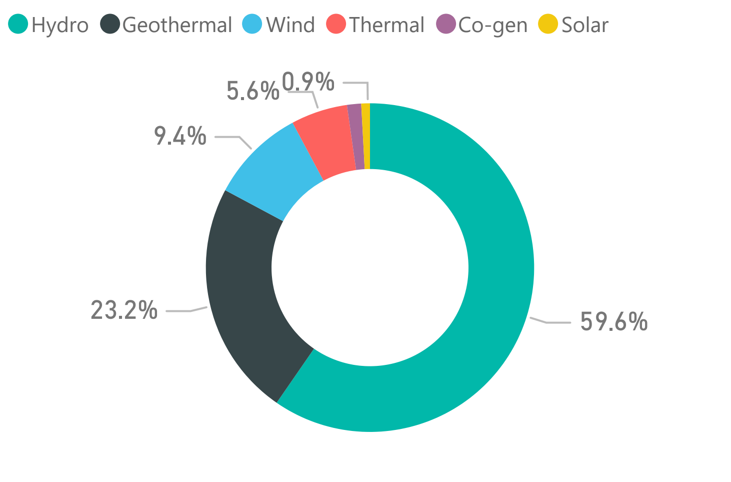
Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*



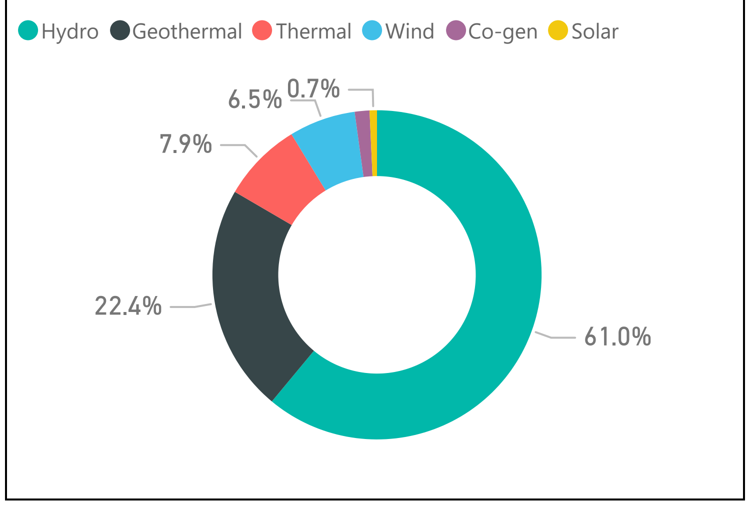
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



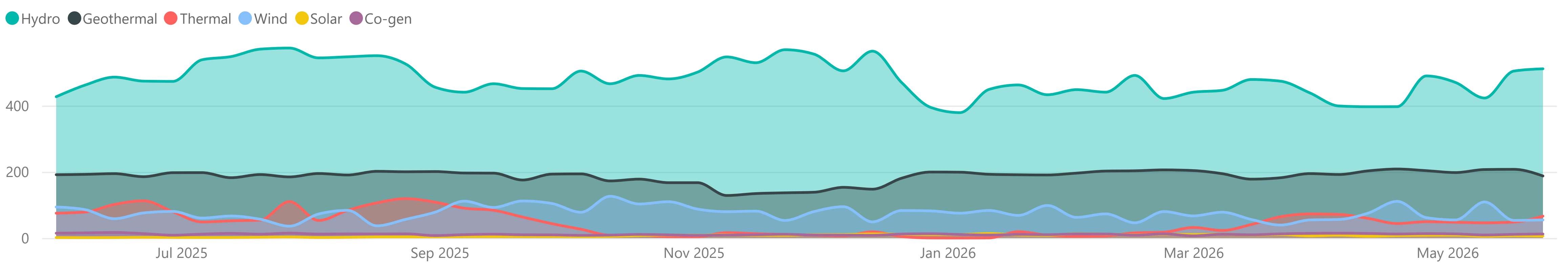
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
91%	56,137	66.6

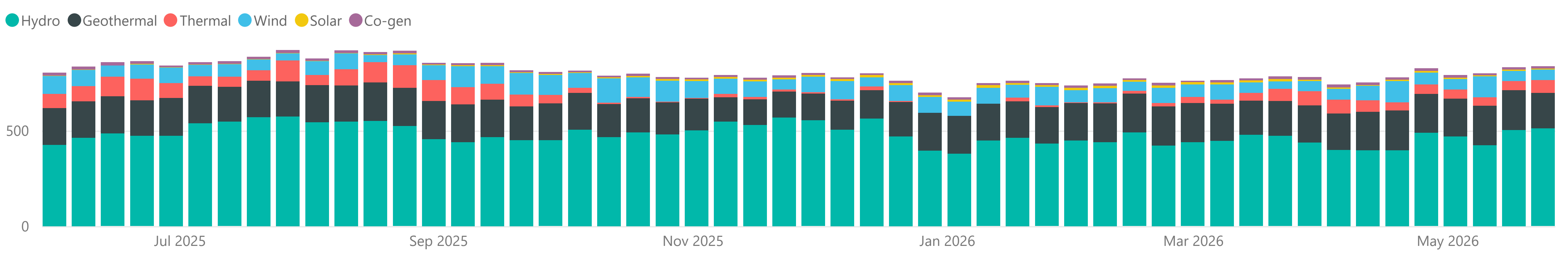
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
93%	42,245	51.3

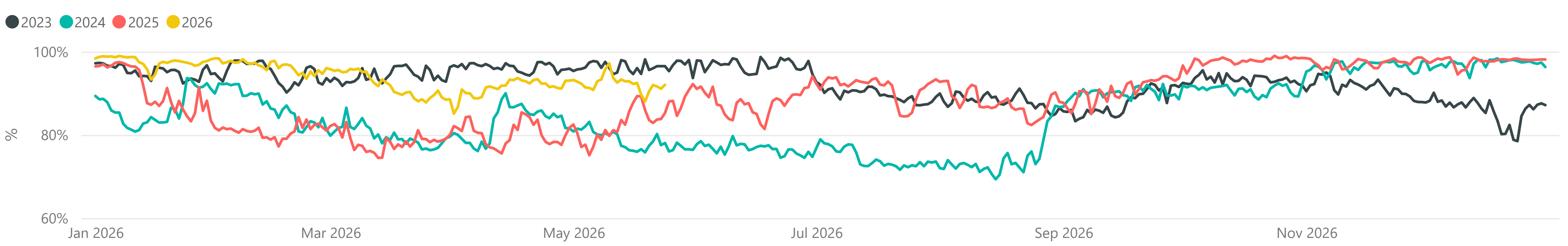
Weekly Generation Mix - GWh



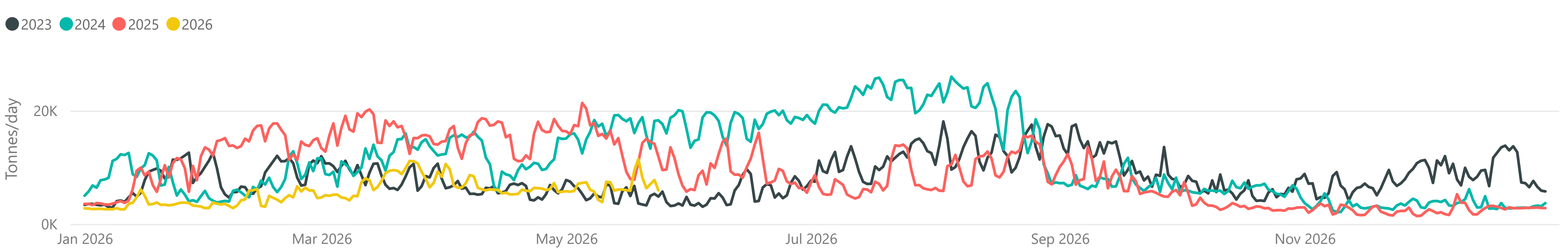
Weekly Generation Mix - GWh



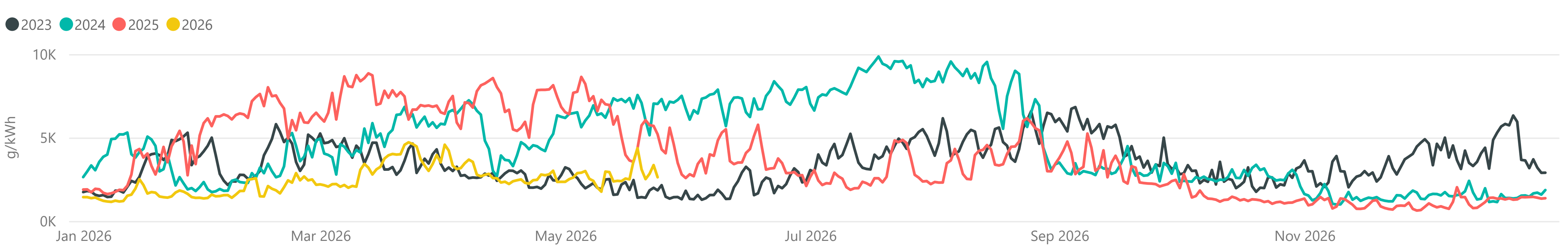
NZ Renewable Percentage



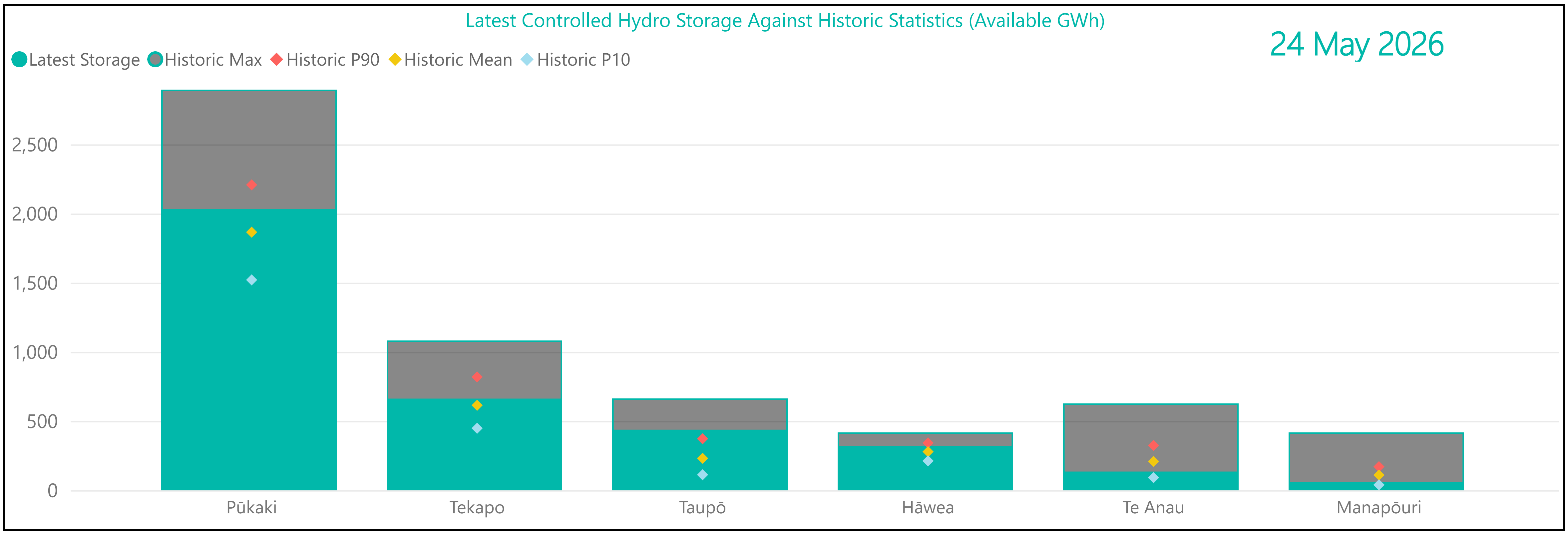
CO2 Tonnes/Day

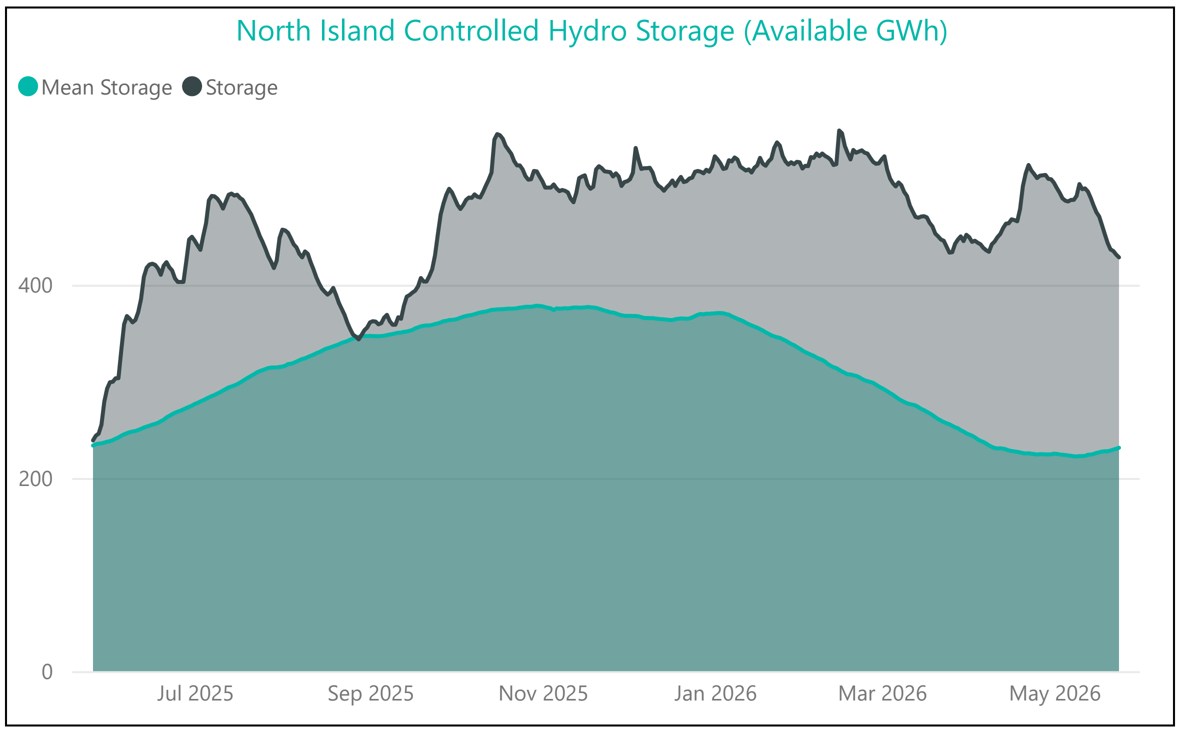


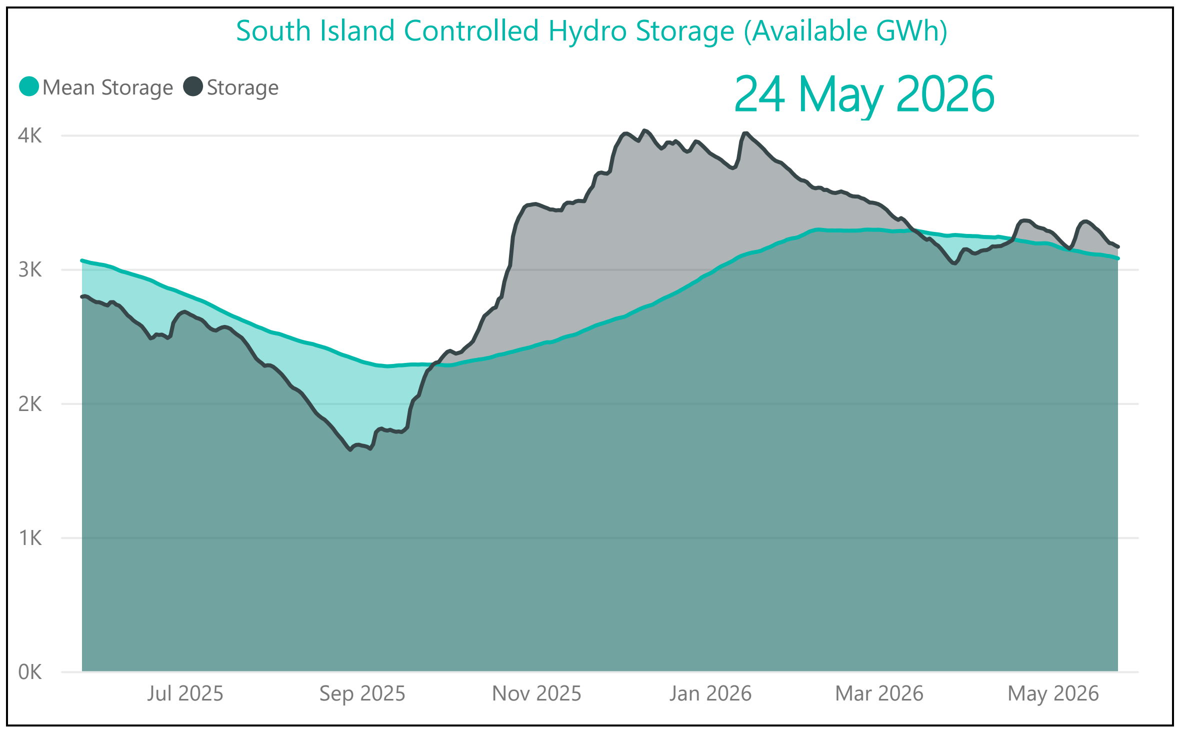
CO2 g/kWh

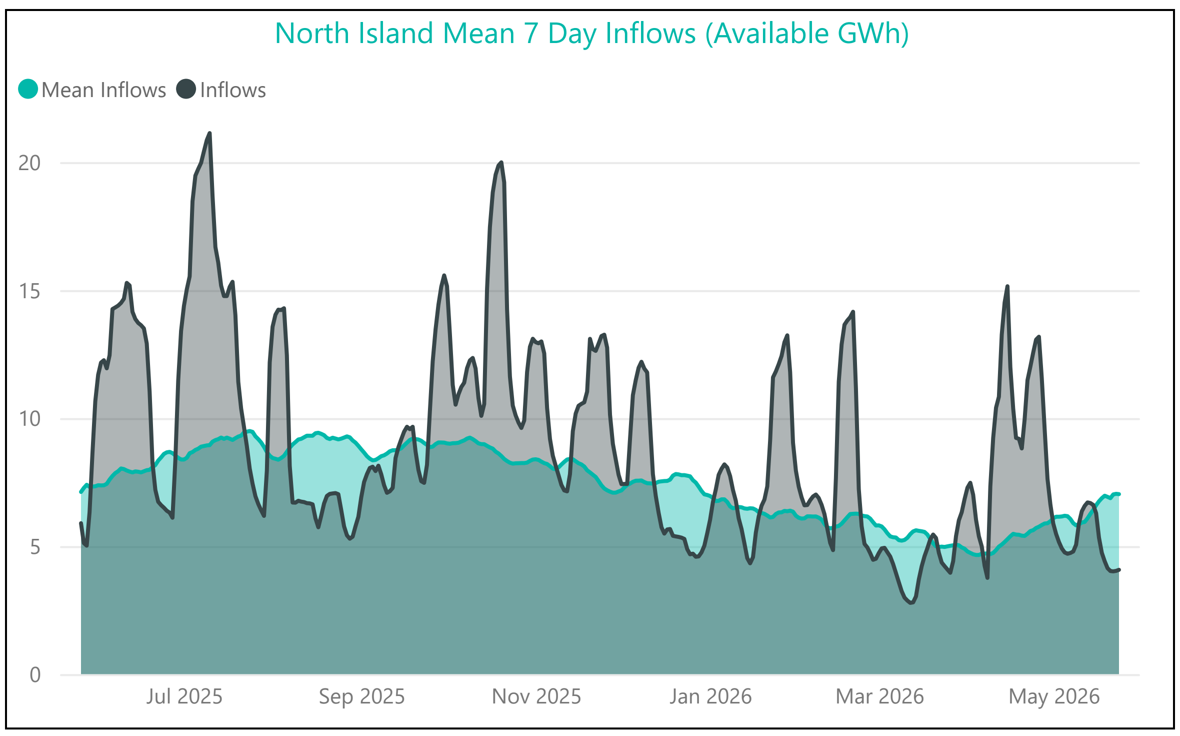


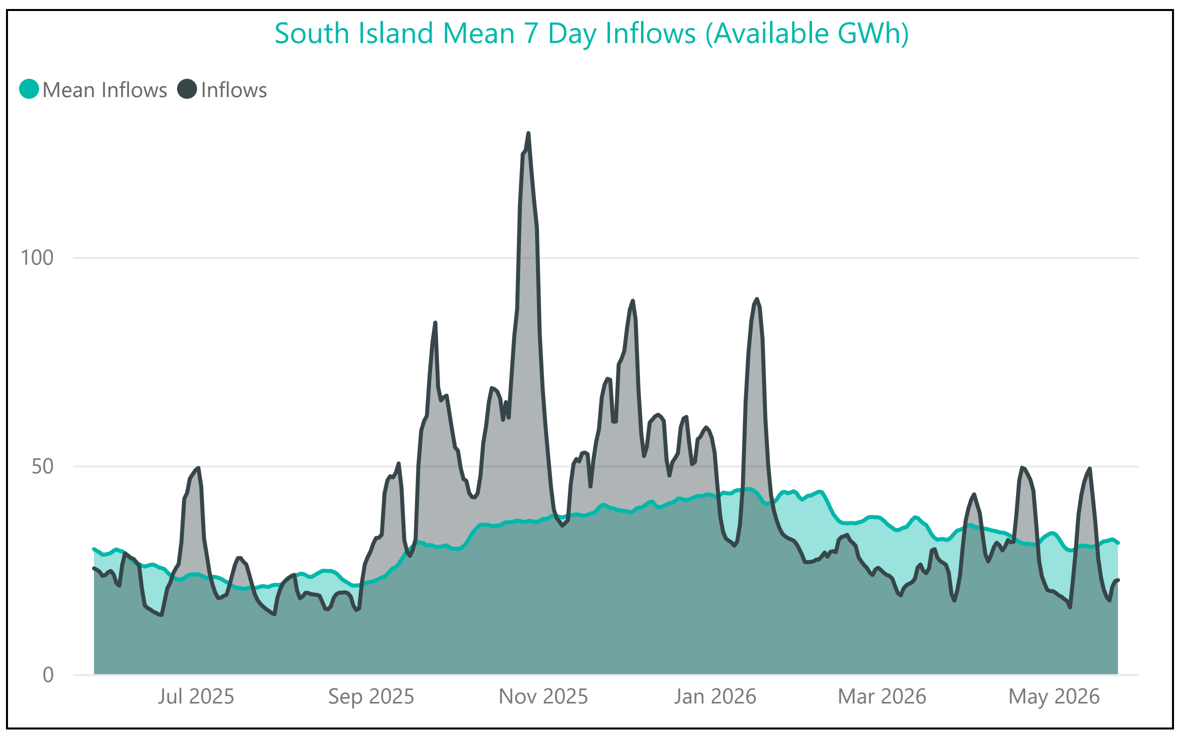
Hydro Storage











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

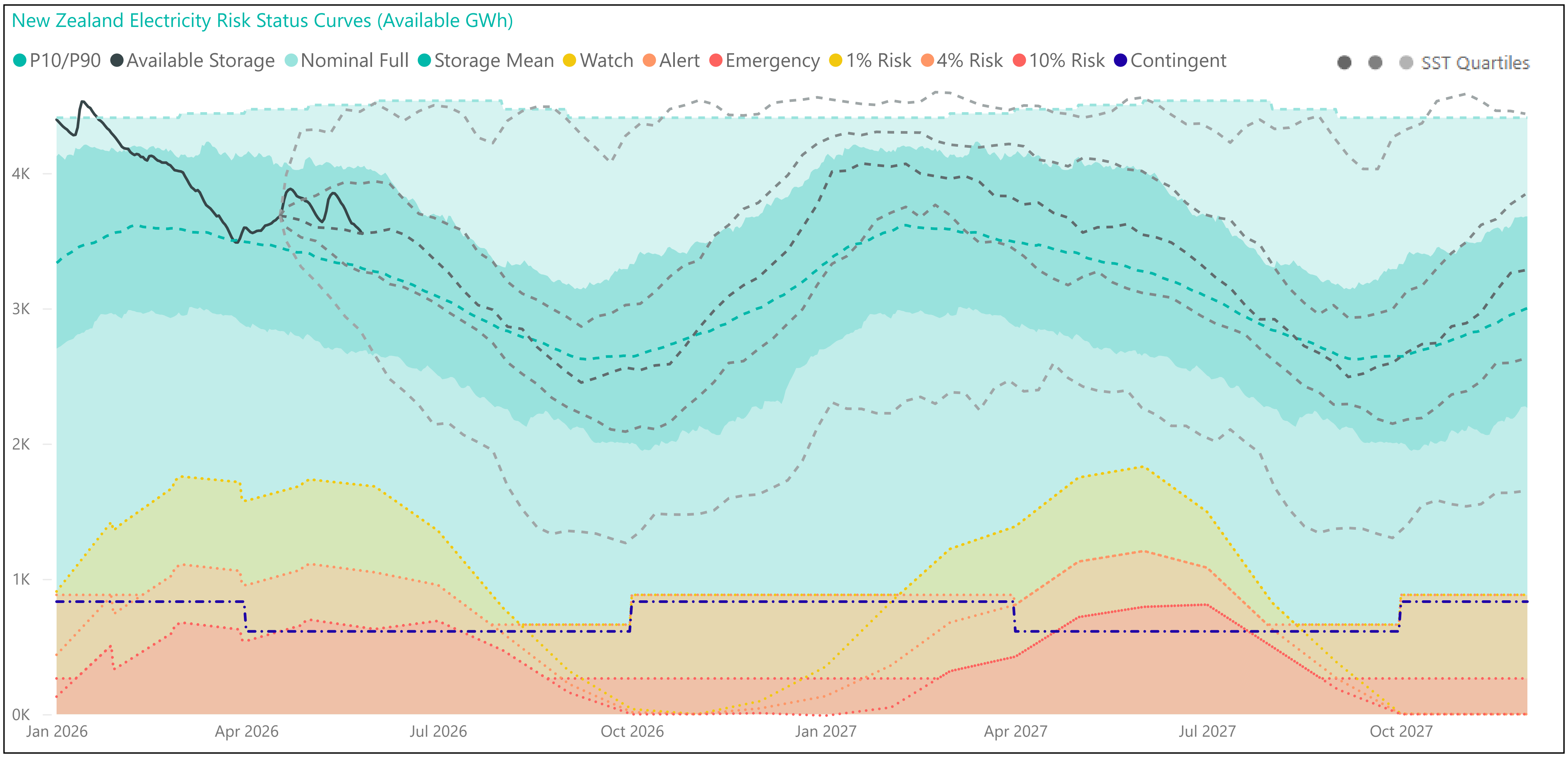
For any inquiries related to security of supply contact market.operations@transpower.co.nz

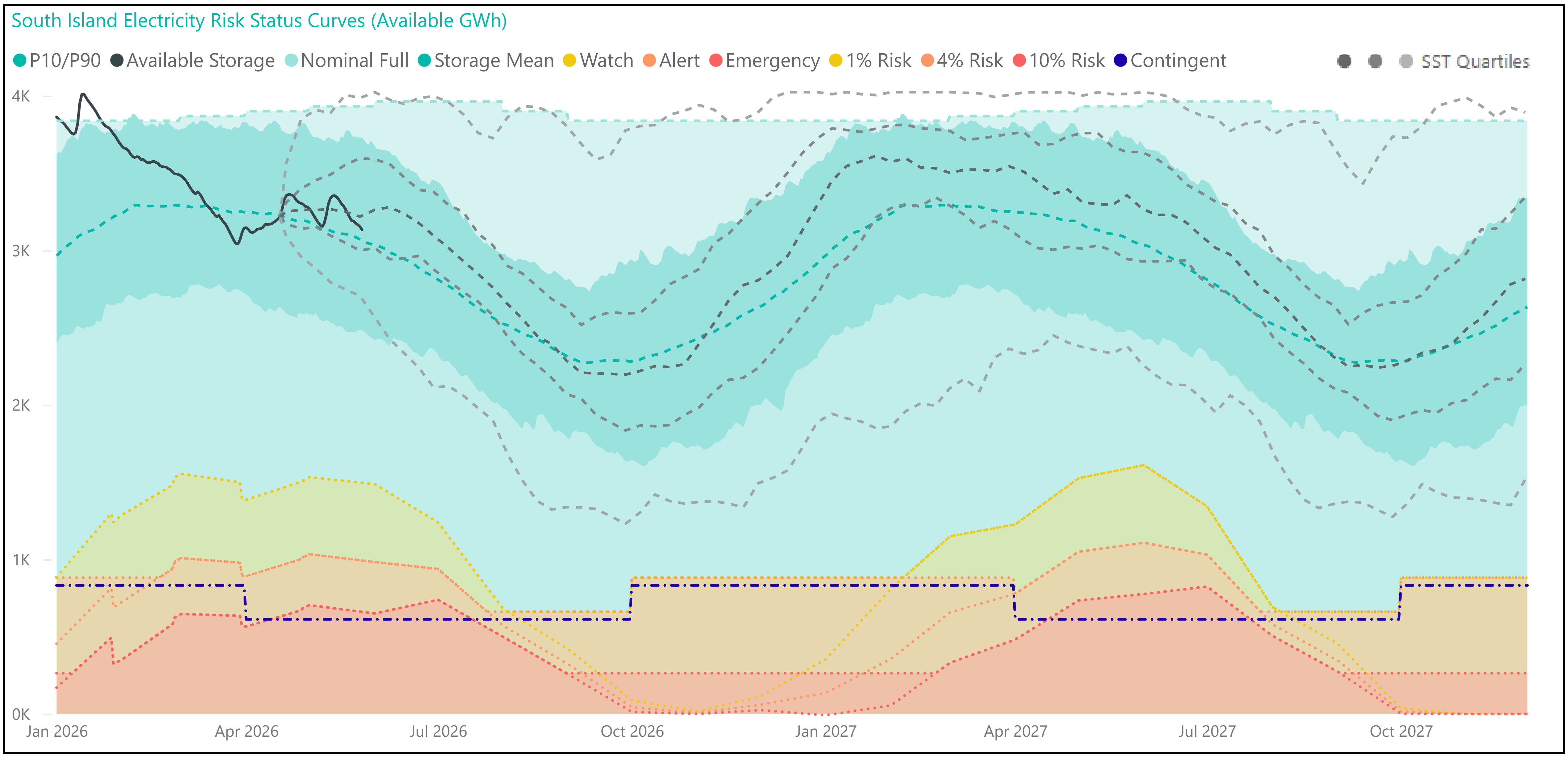
Hydro data used in this report is sourced from *NZX Hydro*.

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).