

Market Operations Weekly Report - Week Ended 25 October 2026

Overview

National hydro storage continued its decline last week, falling to 114% of the seasonal average from 119% the previous week. Solar generation made another record this week with a 4% contribution to the generation mix, higher than any previous week.

In this week's insight we look at the impact of small distributed solar generation (<10 MW) on daily demand profiles.

Security of Supply Energy

Below average inflows last week meant that National hydro storage decreased to 114% of the seasonal average from 119% the week prior. This was despite lower than average hydro generation and relatively low demand. South Island storage decreased from 126% to 120% while North Island storage increased slightly from 76% to 77%.

Capacity

Residual generation was healthy last week. The lowest residual was 817 MW on the morning of Monday 19 October.

The N-1-G margins in the NZGB forecast are at healthy levels through to late December. 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 decreased last week to 733 GWh from 764 GWh the week prior. The highest demand peak occurred at 7:30 am on Monday 19 October at 5,520 MW with cooler temperatures in parts of the country.

Weekly Prices

Wholesale electricity spot prices decreased last week with the average Ōtāhuhu price down to \$66/MWh from \$75/MWh the previous week. The Ōtāhuhu price peaked at \$312/MWh at 9:00 pm on Wednesday 21 October, with constrained HVDC northward flow requiring higher priced North Island hydro offers to be cleared.

Periods of inter-island energy price separation occurred throughout the week during periods of high HVDC northward transfer, with outages of lower North Island grid equipment lowering the northward transfer limit.

Generation Mix

Hydro generation was below average last week at 57%, down from 60% the week prior. Solar generation contributed a new record share of 4%. The geothermal share increased to 25% last week from 22% the week prior. Wind, thermal and co-generation were steady at 11%, 2% and 1% of the mix respectively.

HVDC

HVDC flows last week were almost entirely northward, consistent with above average South Island hydro storage. Northward transfer decreased over the weekend with lower demand and high North Island wind generation. In total 101 GWh was transferred north.

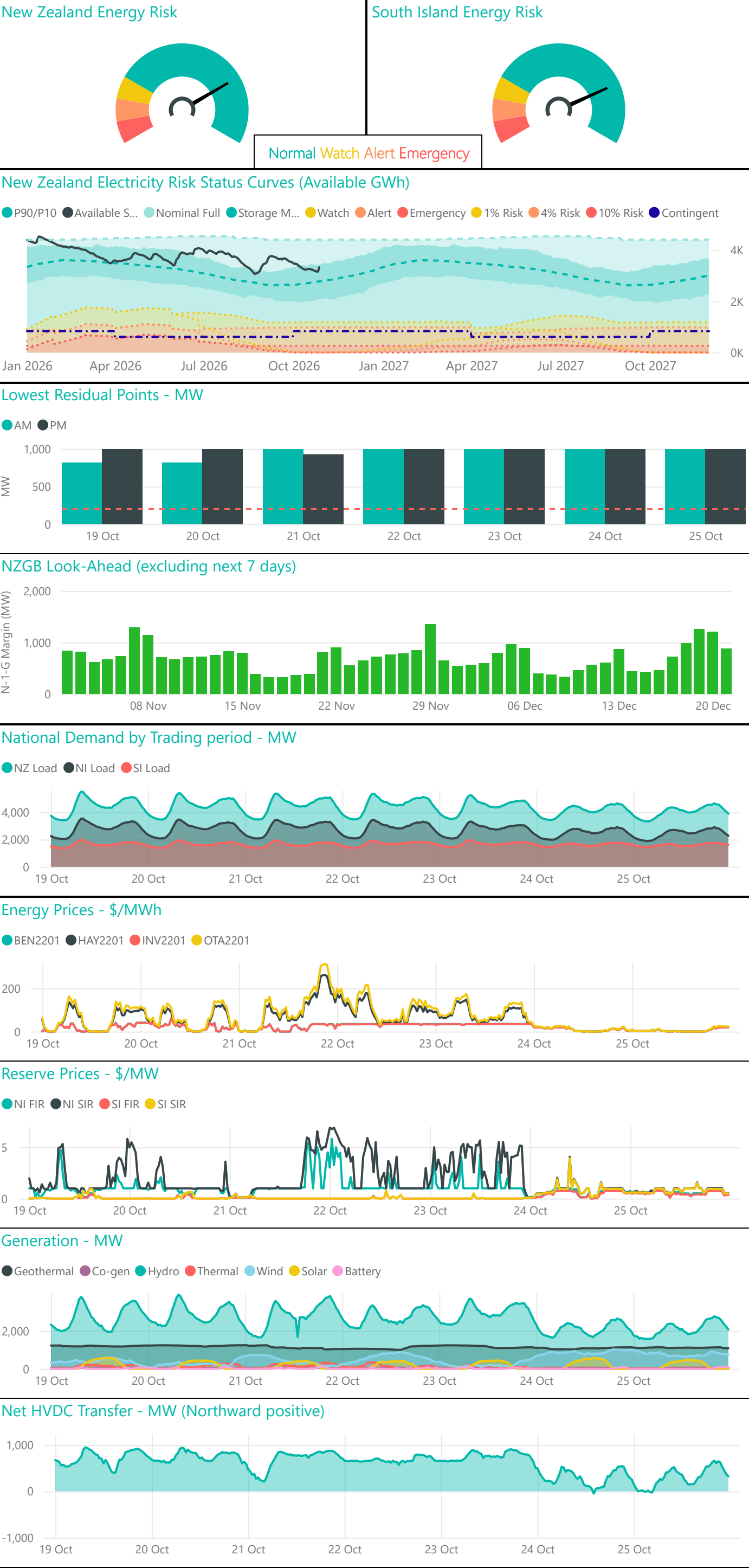
Consultations

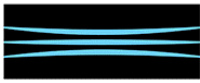
We are consulting on the [TSO:DSO coordination: operations requirements paper](#). Please send your feedback by email to system.operator@transpower.co.nz by 5pm on Friday 6 November 2026.

Ancillary Services Tender

The 2026 Ancillary Services tender is now open. The System Operator invites tenders for the provision of Over-Frequency Reserve and South Island Black Start services.

Tender responses are due by 5:00 pm on 3 November 2026 via the System Operator portal [here](#). Successful respondents will be offered contracts commencing 1 January 2027. Any questions about the tender process can be sent to system.operator@transpower.co.nz.





Weekly Insight - Solar ducklings: effects of distributed solar generation on wholesale market demand

In electricity markets with high distributed solar penetration, such as Australia, it has become common for power supplied from the grid to be lowest at midday. The shape of the resulting profile of power demand from the grid is often called a “duck curve”.¹

Installed solar capacity in the New Zealand wholesale electricity market is currently 620 MW and supplies 3-4% of market generation. A further 860 MW of distributed solar generation operates outside the wholesale market. This includes all small solar installations from domestic rooftop scale up to 10 MW. So far, New Zealand doesn’t have high enough distributed solar penetration to have a “duck curve” profile in wholesale market demand.² However, with the accelerating rate of solar installations there are early signs of a trend in this direction, particularly in the upper South Island.

On Sunday 4 October, the midday demand trough in the South Island fell below both the preceding and following overnight troughs, as shown in **figure 1**. This is the first time this has happened without a major unplanned outage or a Tiwai potline offload.³

South Island electricity demand, 2-6 October 2026

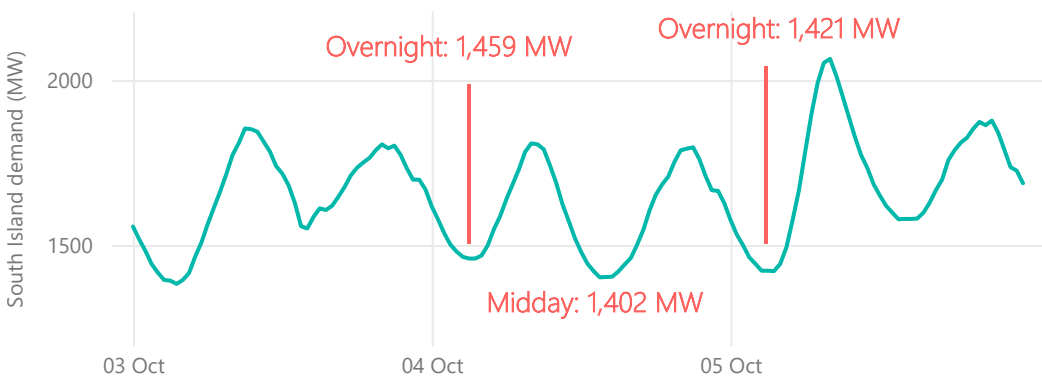


Figure 2: October 2026 average daily demand profile, selected South Island GXPs

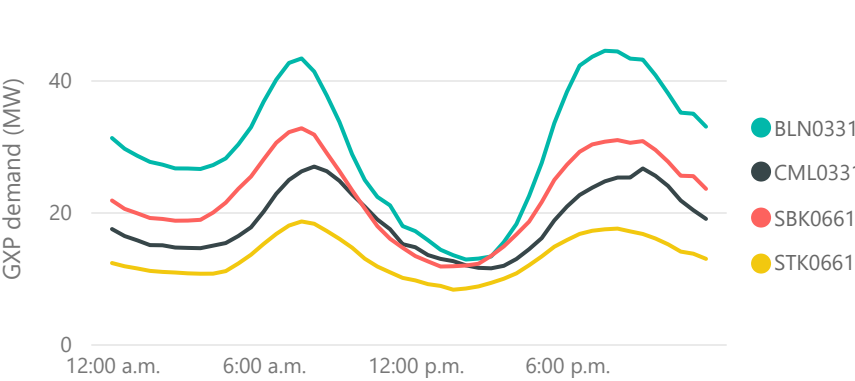


Figure 2 shows the average daily demand profile over the last four weeks for some selected South Island grid exit points (GXPs) with high concentrations of small distributed solar generation, with significantly lower wholesale market demand at these locations during the day than overnight.

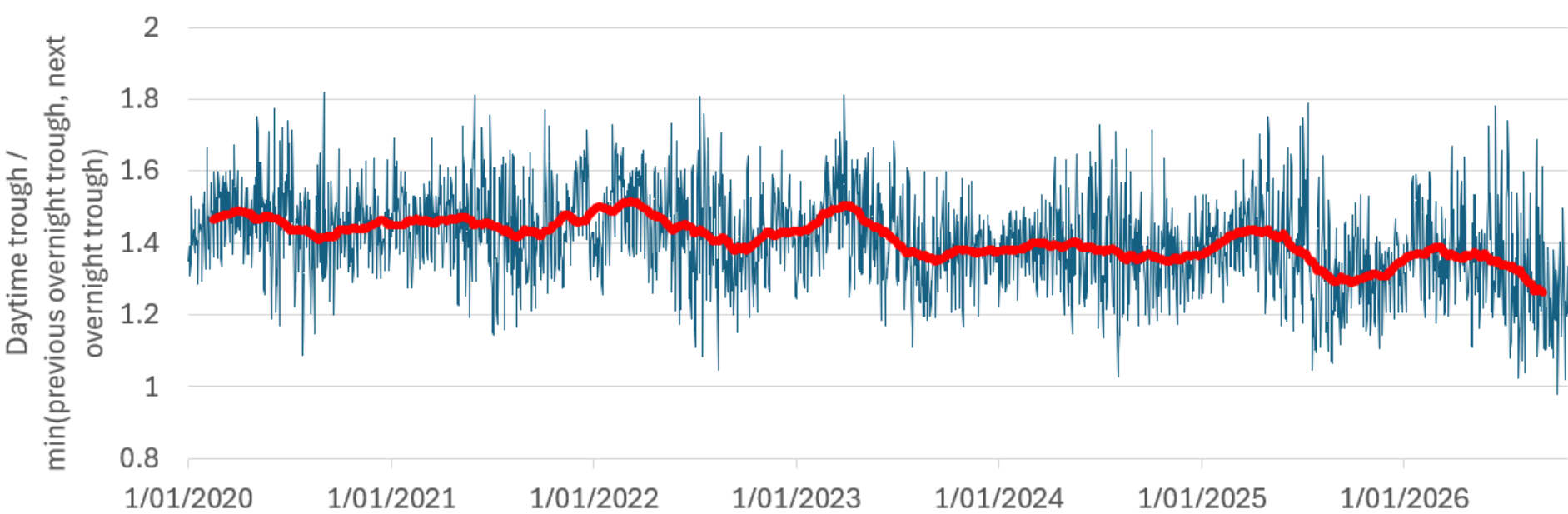
The Electricity Authority publishes information about the location and installed capacity of distributed solar generation.⁴ The table below shows the GXPs with the highest installed capacity of small distributed solar generation. Five of these are in Canterbury and the upper South Island. CML0331 and STK0661 from figure 2 are also shown in the table.

Rank	Grid Exit Point	Name	Island	Small distributed solar Installed capacity (MW)	Average GXP demand (MW)
1	ISL0661	Islington	SI	49.70	231.40
2	BLN0331	Blenheim	SI	40.70	29.80
3	ASB0661	Ashburton	SI	25.90	54.00
4	STK0331	Stoke	SI	24.60	61.90
5	TAK0331	Takanini	NI	23.70	64.00
6	SBK0661	Southbrook	SI	23.60	22.30
11	CML0331	Cromwell	SI	17.70	18.80
22	STK0661	Stoke	SI	12.30	13.10

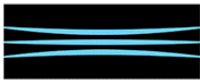
Solar generation can vary significantly between days as well as within days, and the concentration of small distributed solar generation in the upper South Island has led to some operational challenges in planning voltage management ahead of time. We are working with our demand forecast provider to monitor our forecasting at GXPs with large amounts of small distributed solar generation.

As mentioned above this is an emerging trend, and it is likely to accelerate along with the accelerating rate of solar installations. **Figure 3** below shows the ratio of the daytime trough to the lesser of the previous and subsequent overnight troughs for the South Island excluding Tiwai. 4 October 2026 is the only day when this was less than one, but the 90-day moving average shows that there has been a downward trend from about 2023 that appears to be accelerating in 2026.

Figure 3: Ratio of daytime trough to overnight troughs, South Island excluding Tiwai

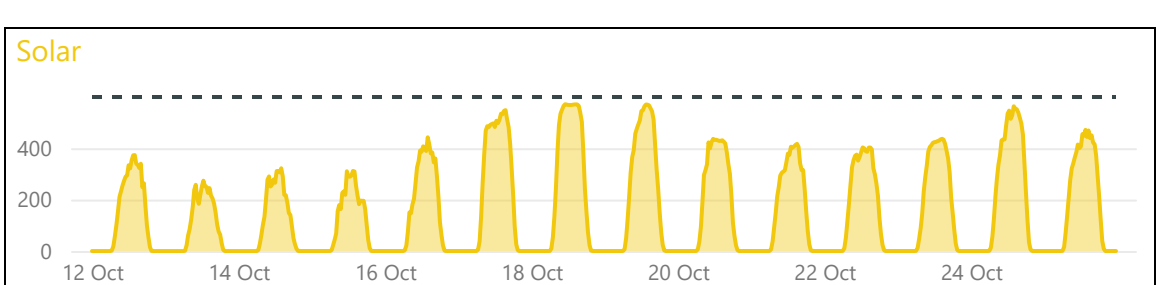
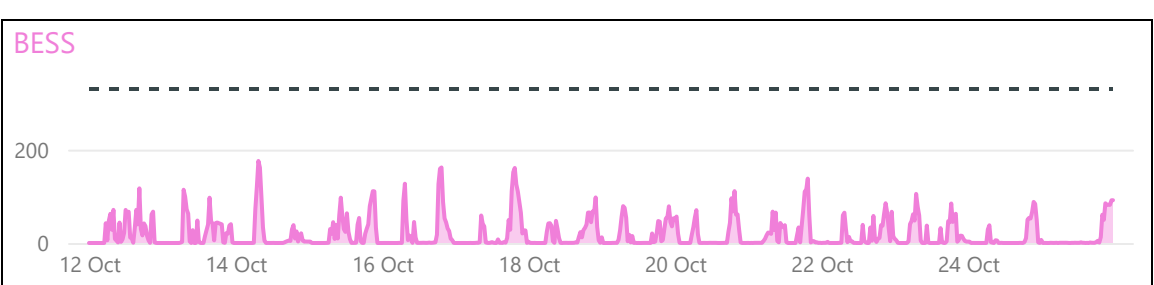
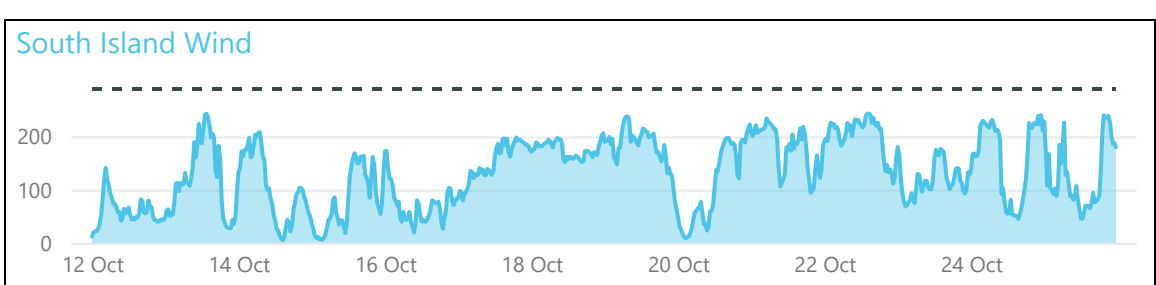
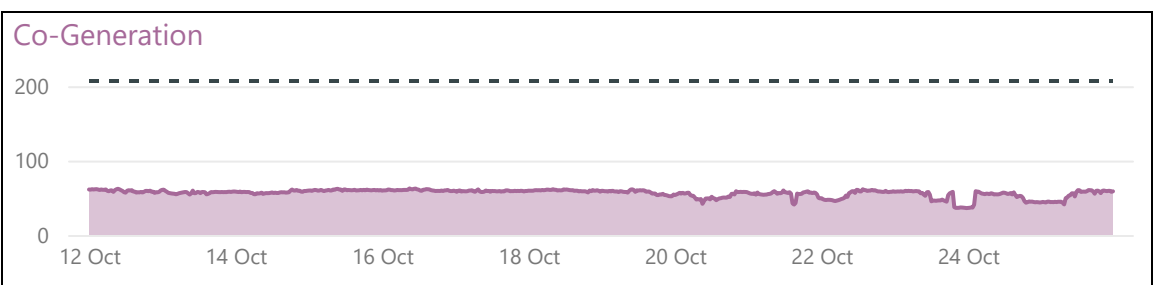
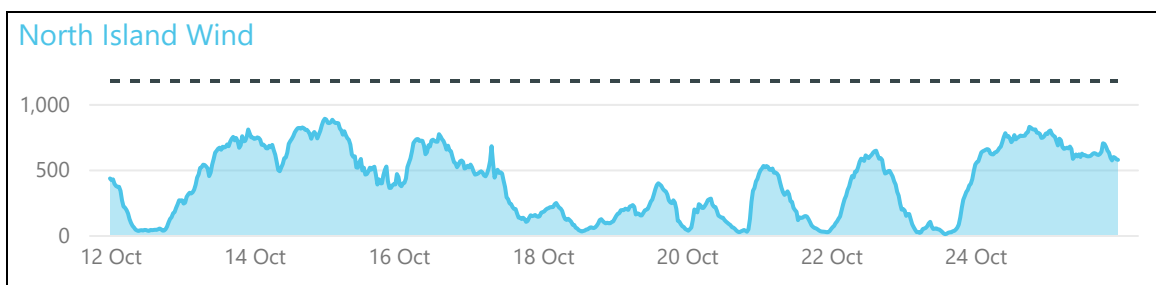
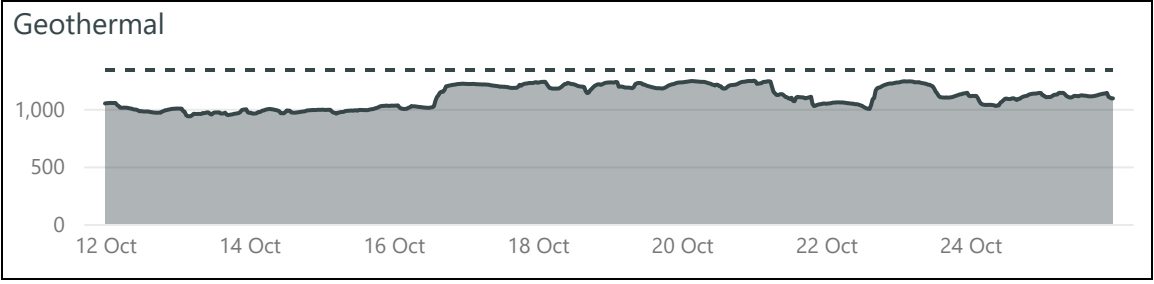
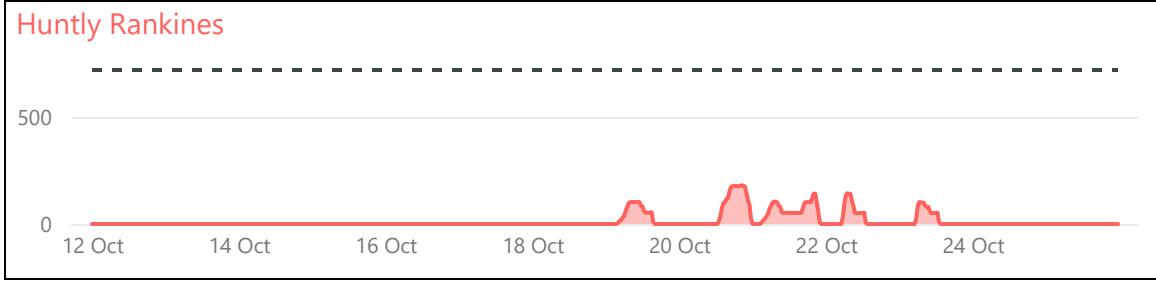
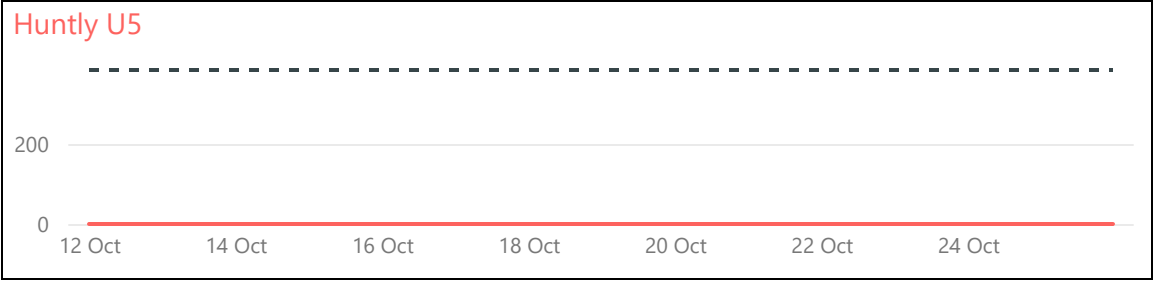
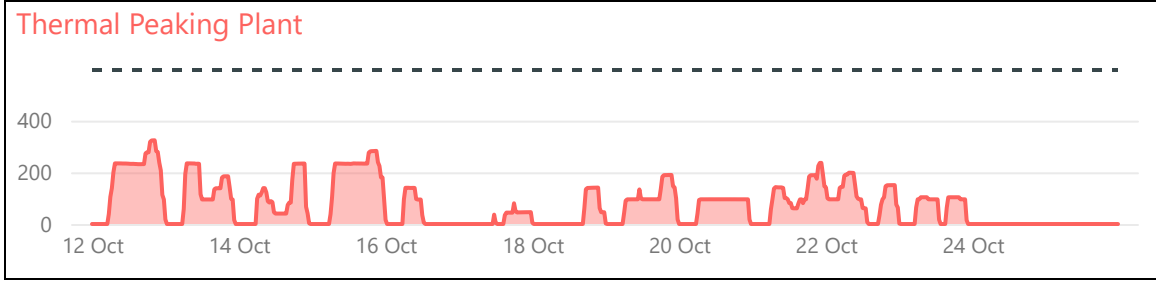
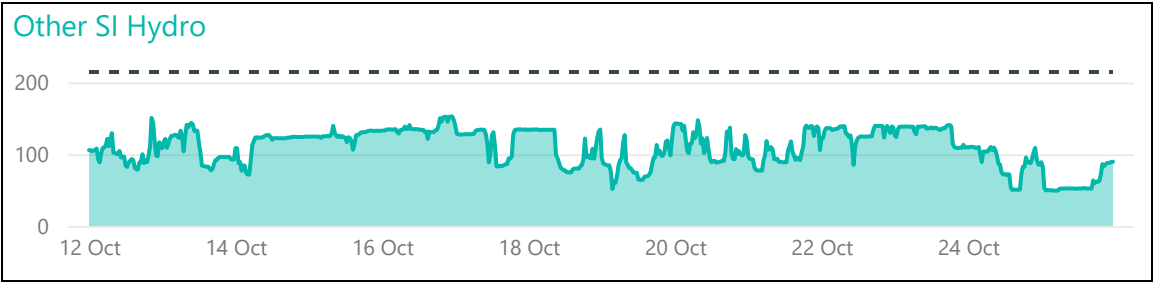
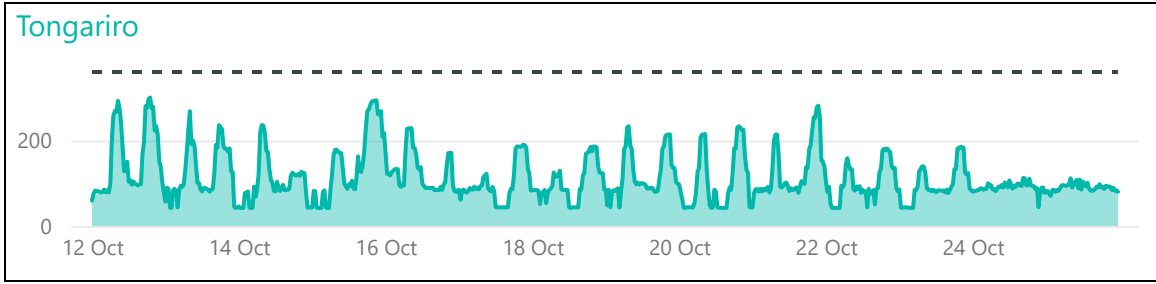
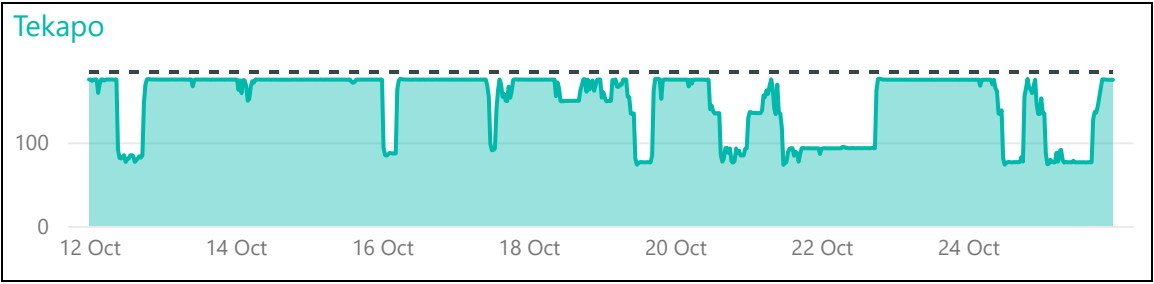
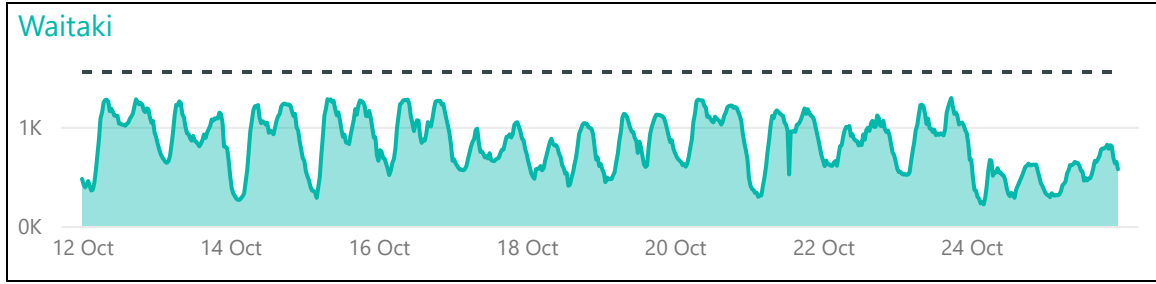
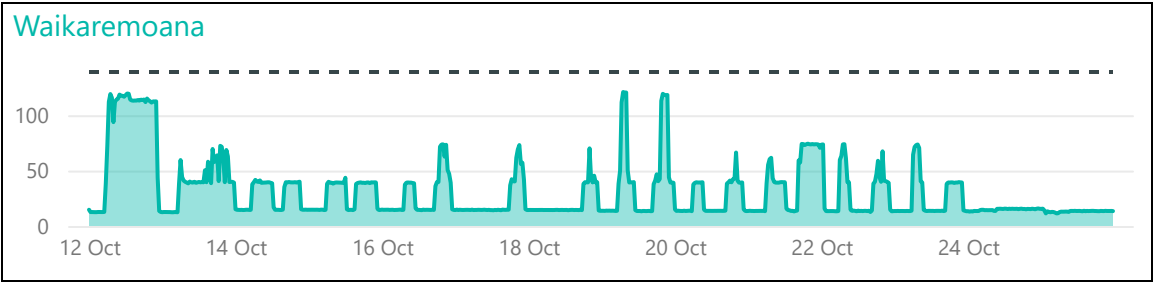
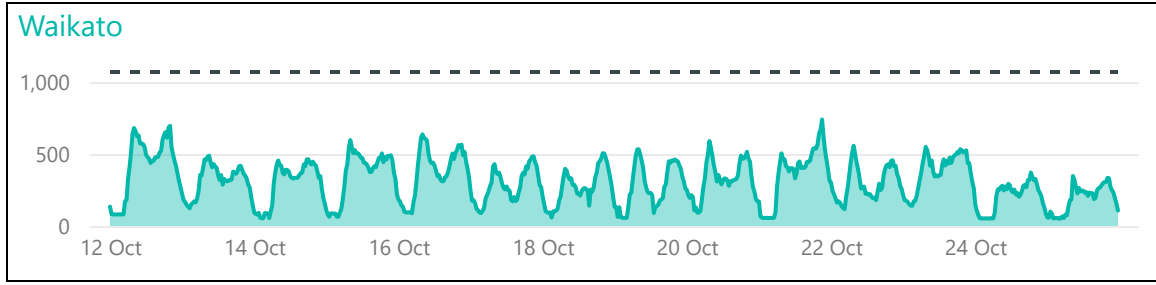
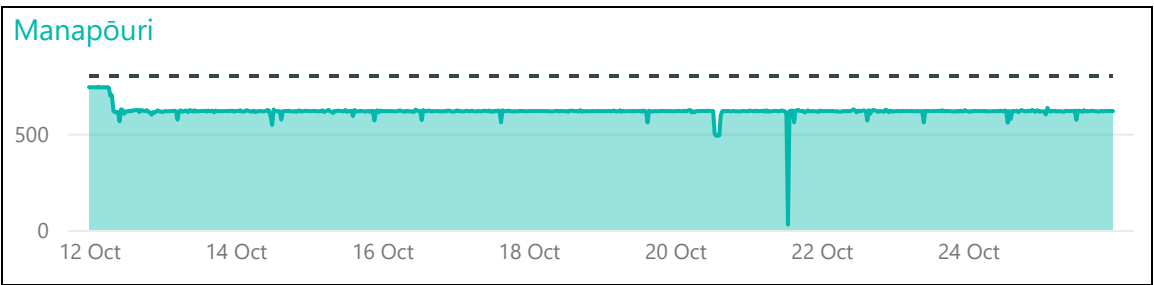
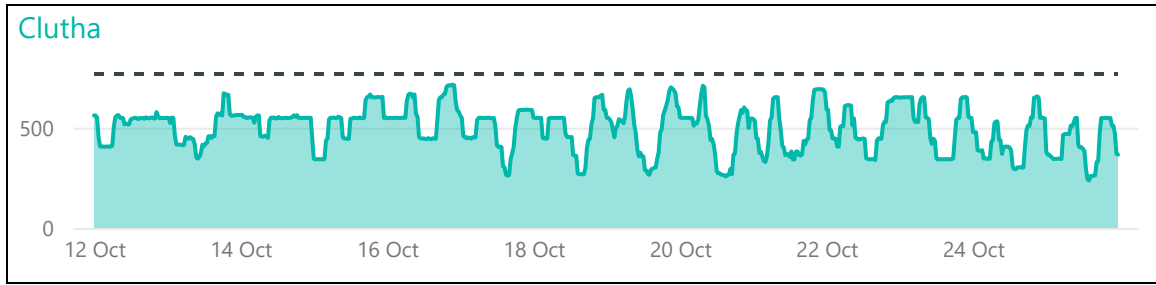


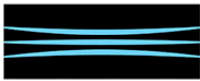
¹ [Solar duck curve: Why we must fix the cause and not just the symptoms | RenewEconomy](#).
² “Wholesale market demand” refers to demand that must be met by generators trading in the wholesale market. This matches the definition of demand used elsewhere in this report and excludes demand met by generators that aren’t traded, including all generators under 10 MW.
³ Demand peaks and troughs referred to in this insight are half-hour averages.
⁴ [Installed distributed generation trends | Electricity Authority - EMI \(market statistics and tools\)](#).



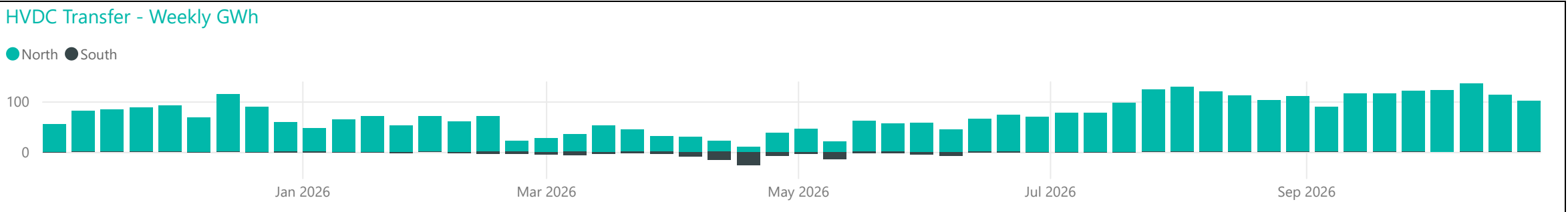
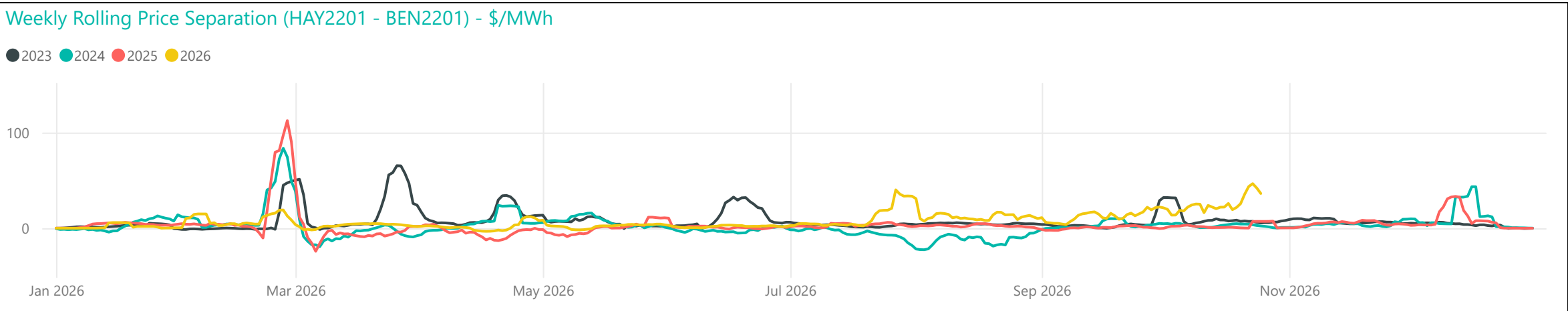
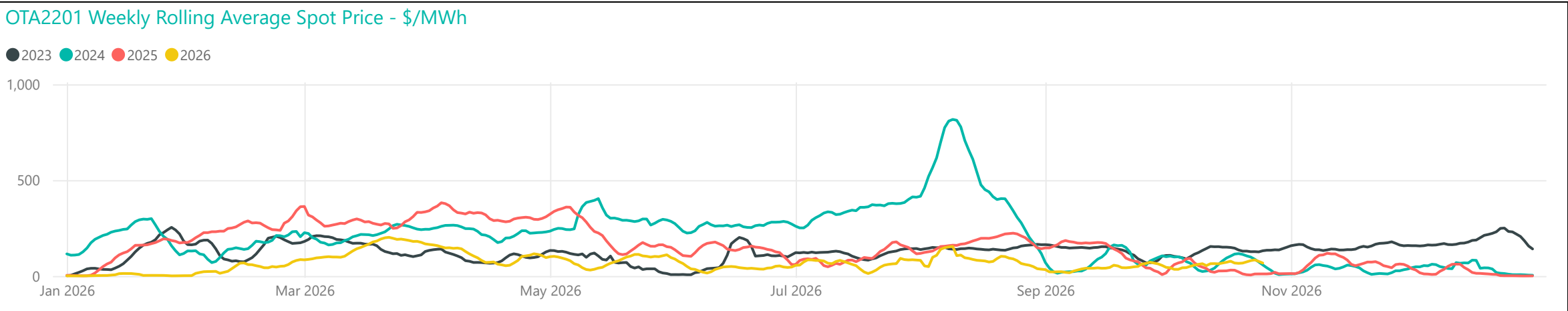
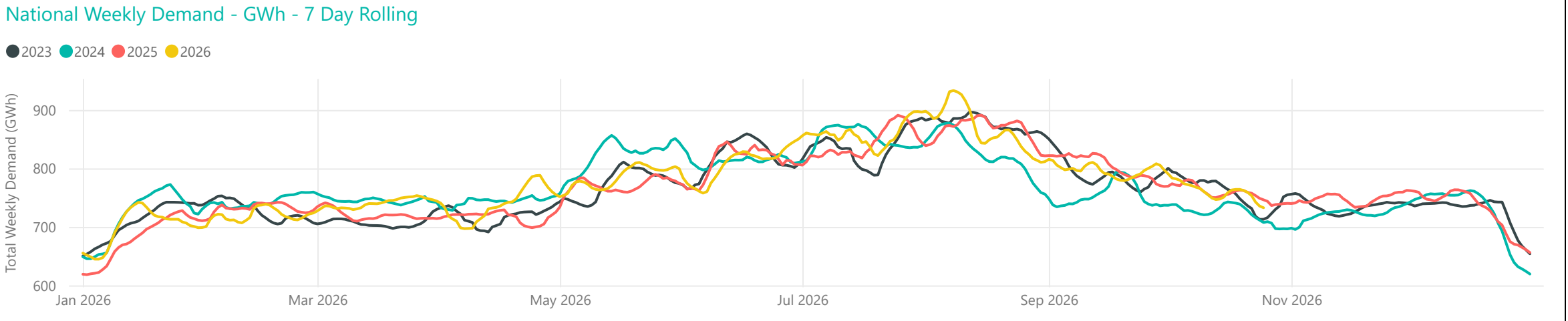
Generation Breakdown - Last Two Weeks

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

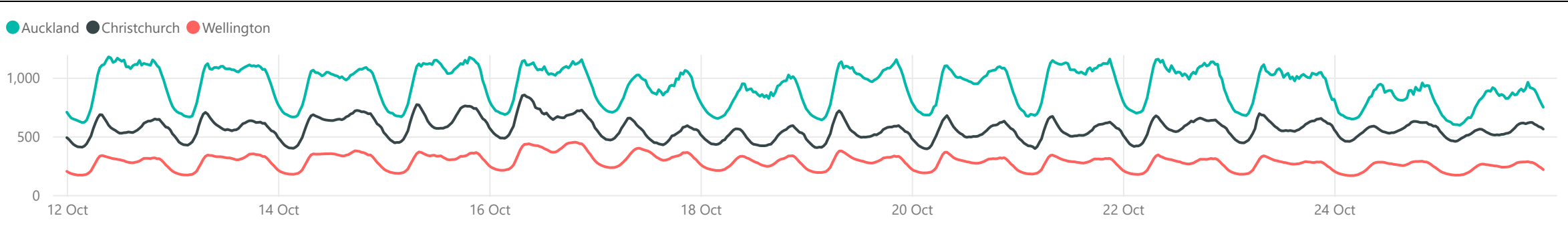




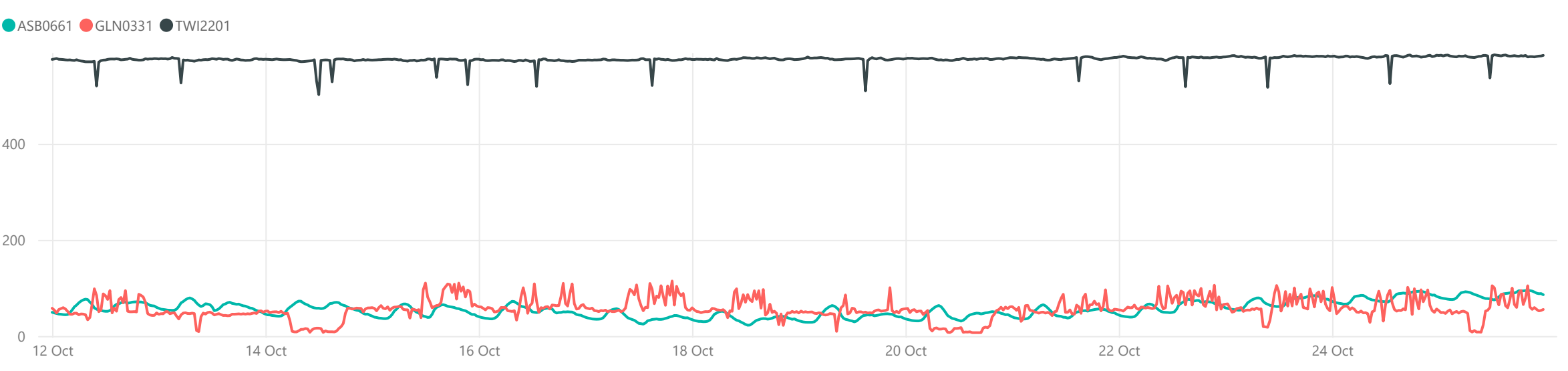
Weekly Profiles



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

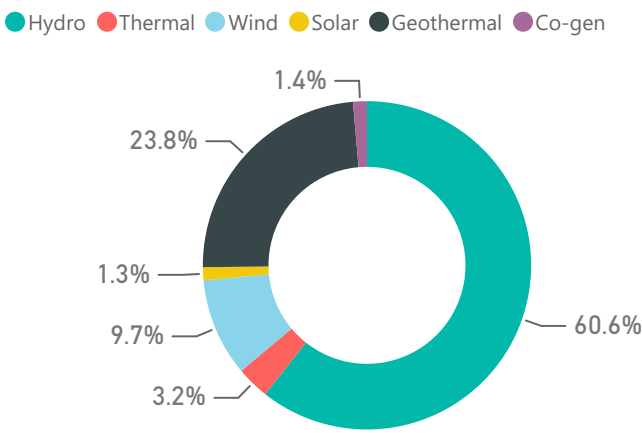


Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*

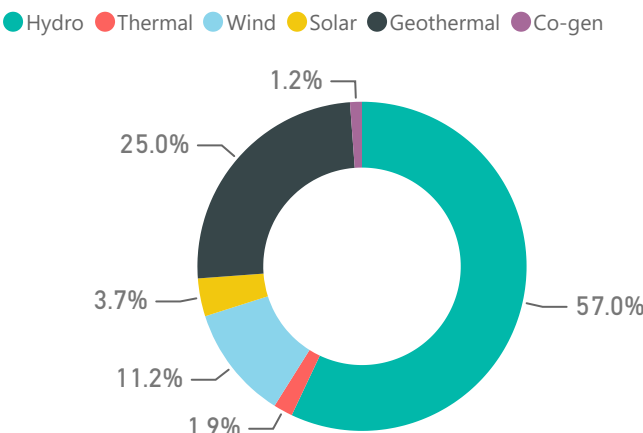


Generation Mix

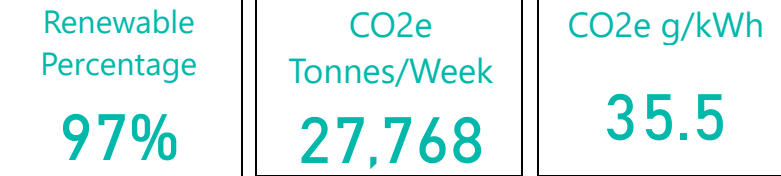
Last 52 Weeks Generation Mix - Weekly GWh



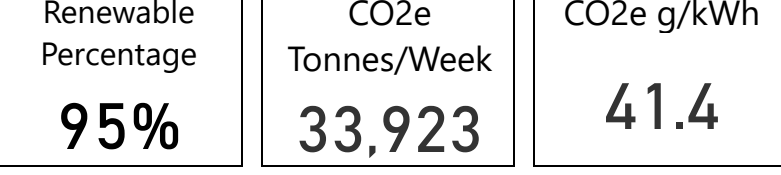
Last 7 Days Generation Mix - Weekly GWh



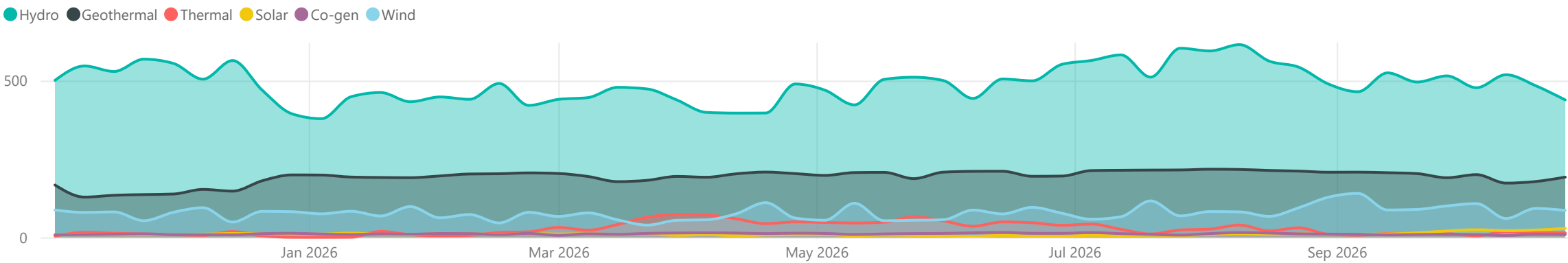
Average Metrics Last 7 Days



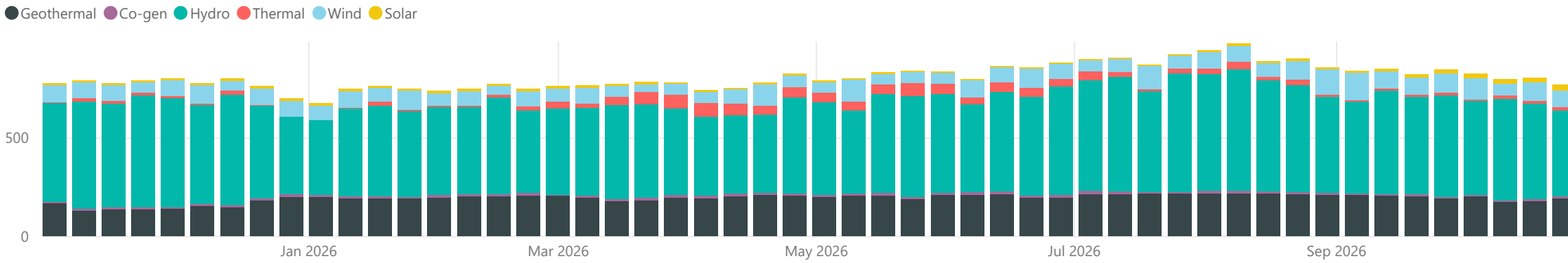
Average Metrics Last 52 Weeks



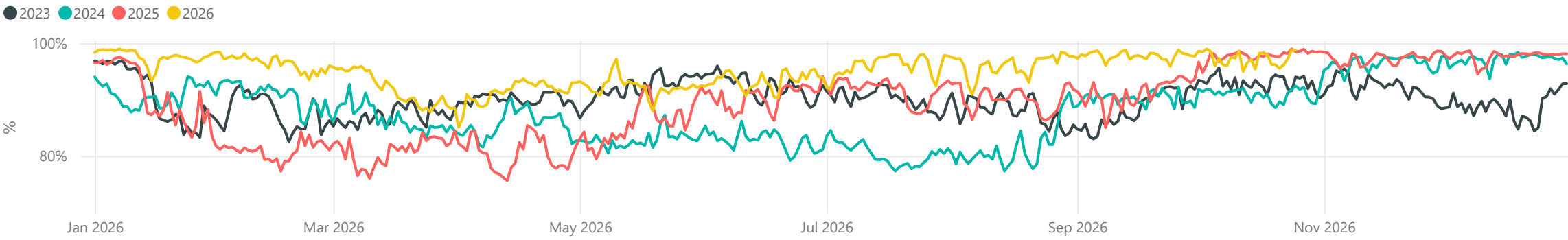
Weekly Generation Mix - GWh



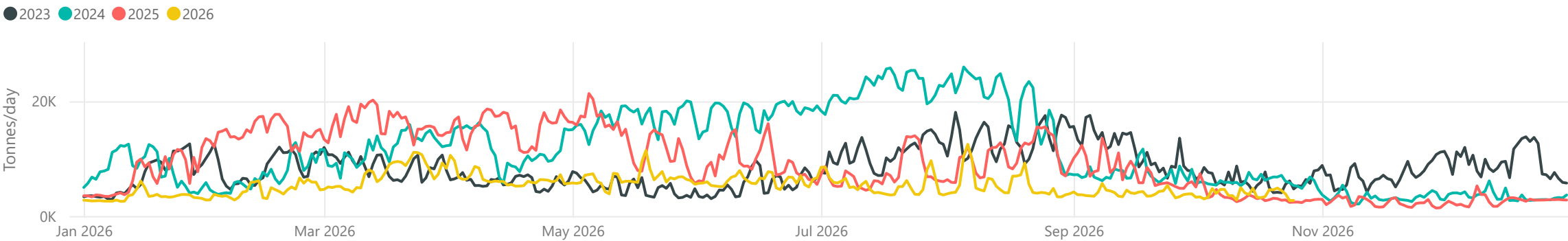
Weekly Generation Mix - GWh



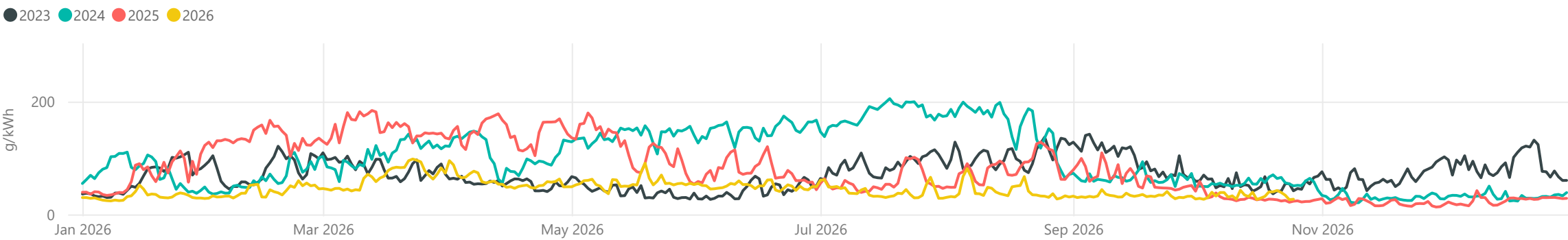
NZ Renewable Percentage

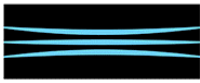


CO2 Tonnes/Day

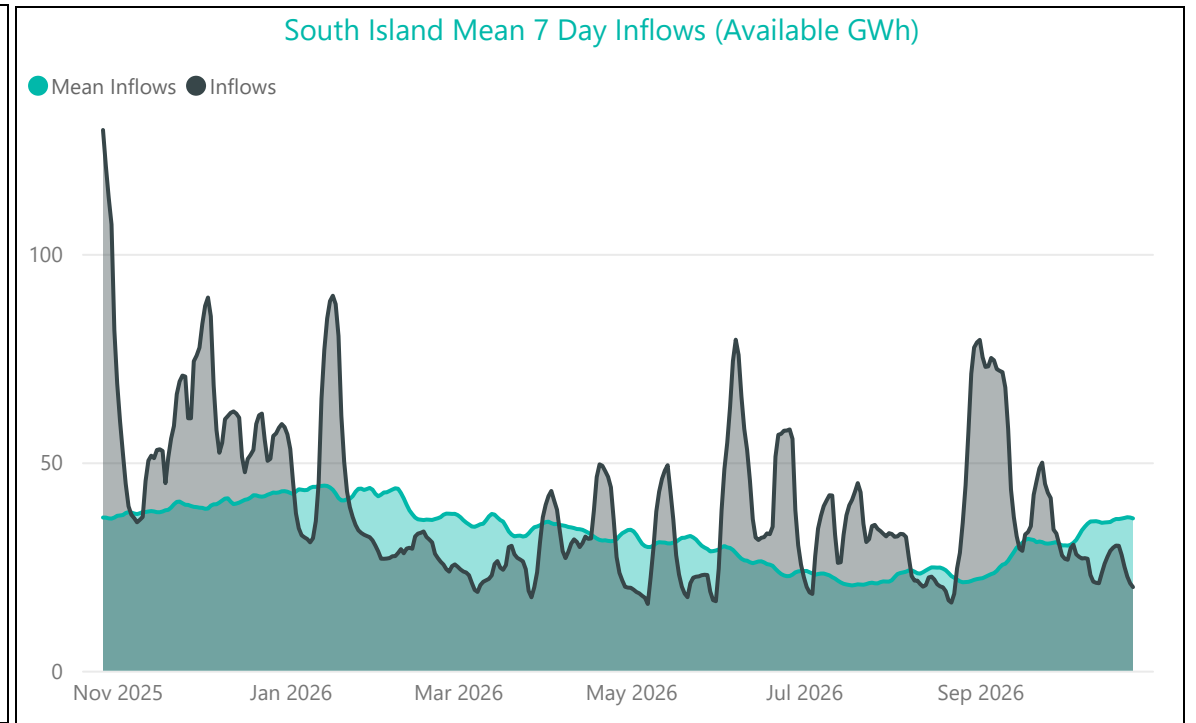
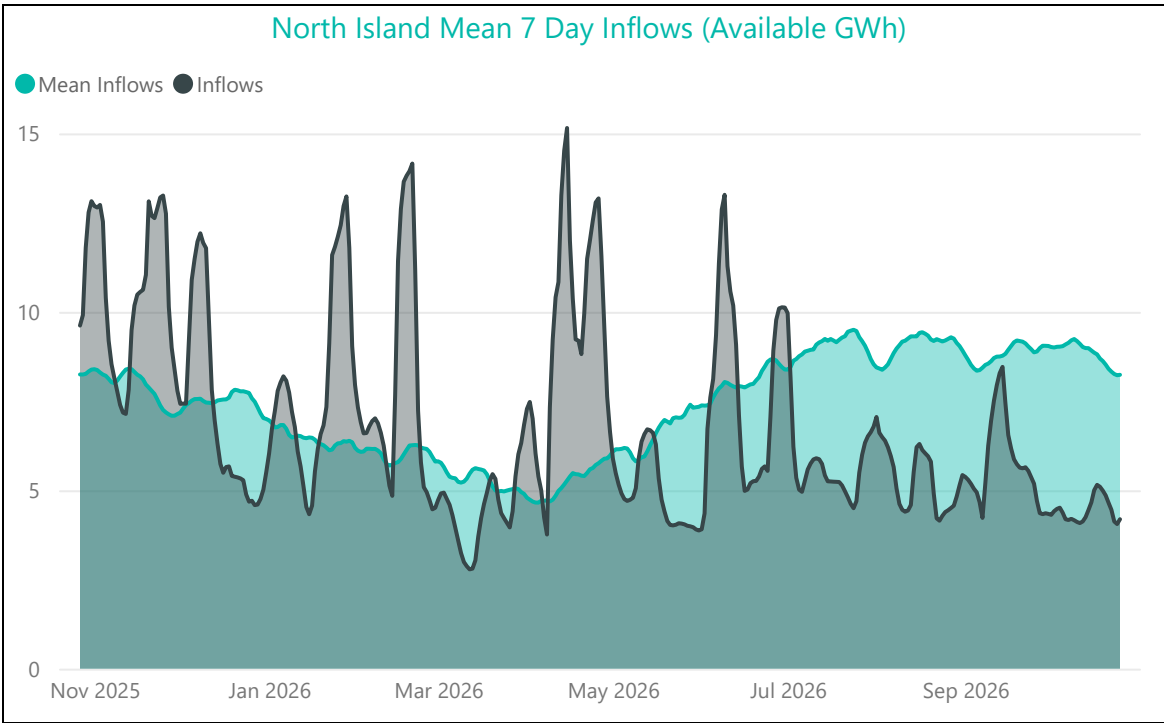
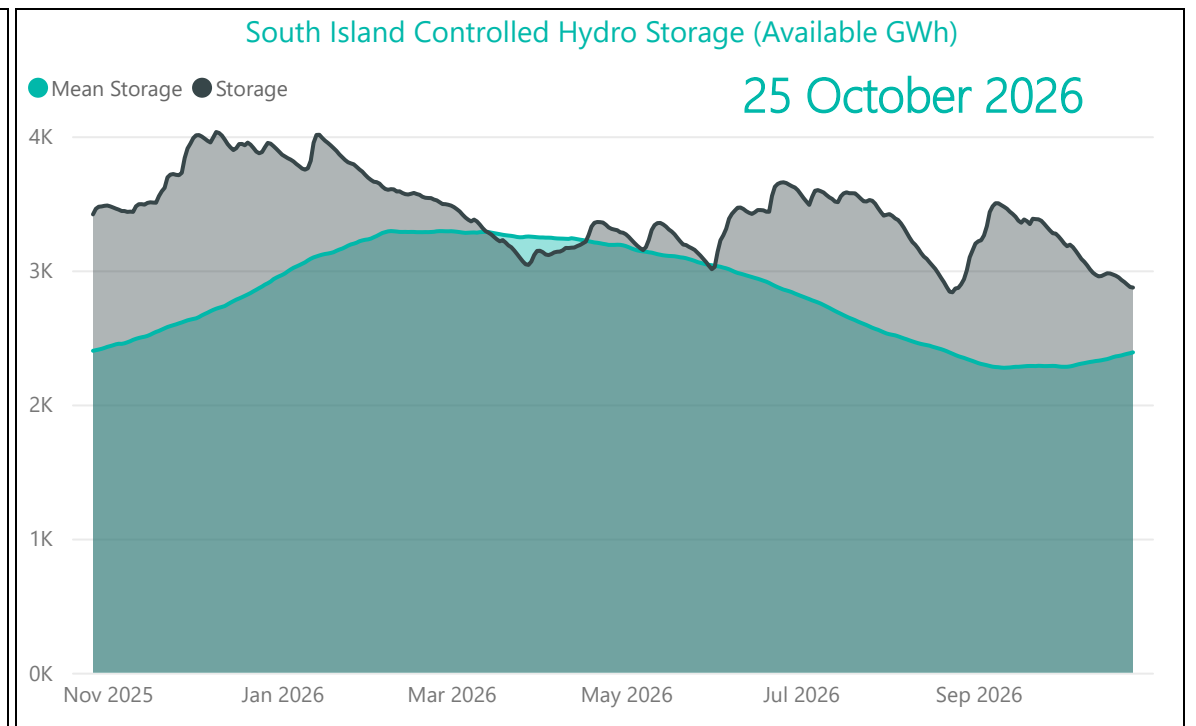
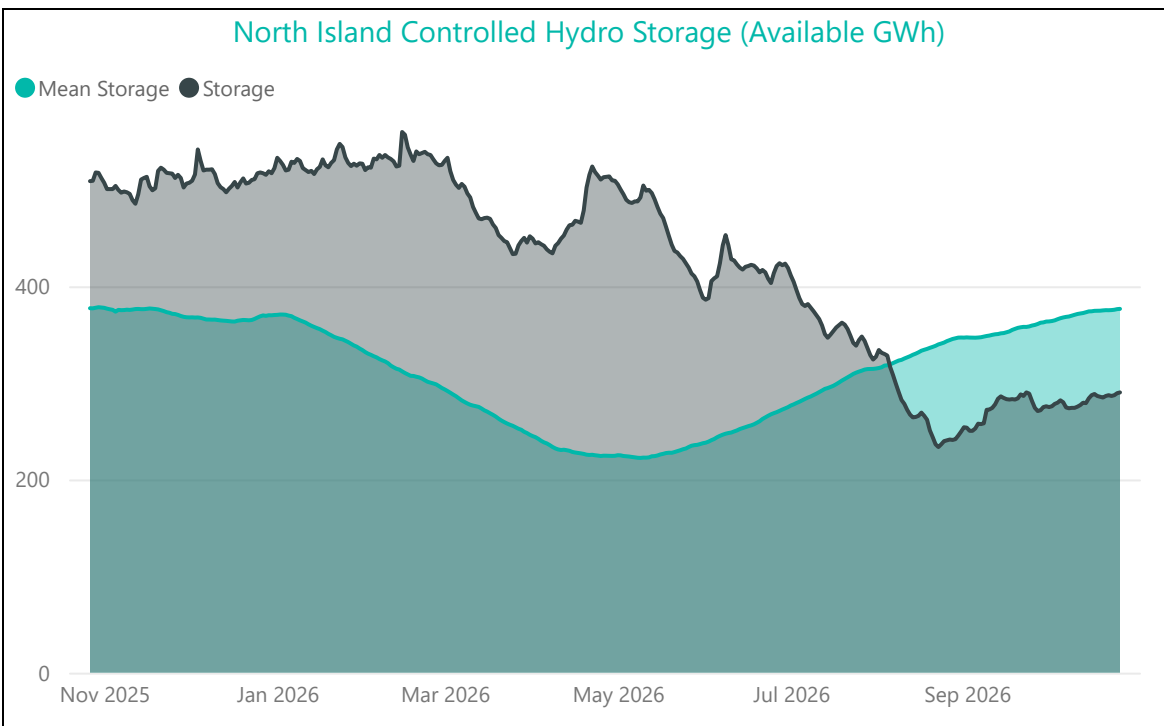
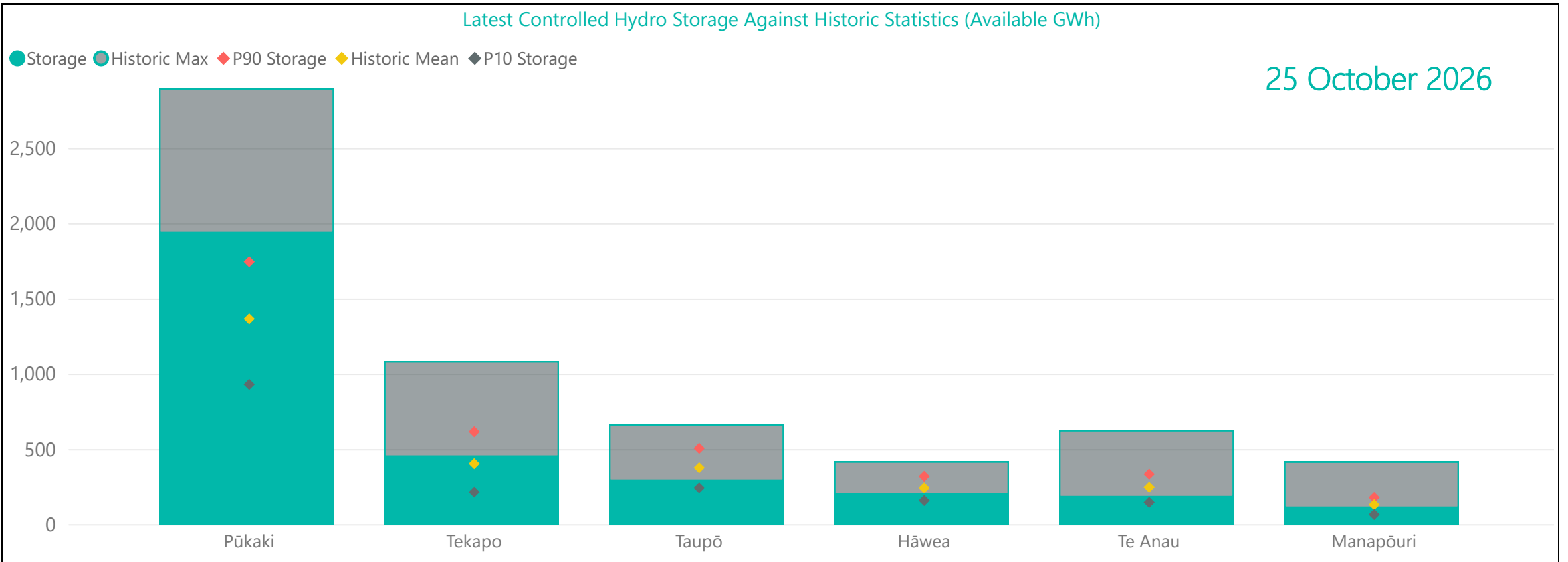


Average CO2 g/kWh





Hydro Storage



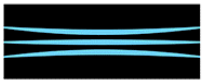
For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: <https://www.transpower.co.nz/system-operator/security-supply>.

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](https://www.nzx.com/markets/energy/hydro).

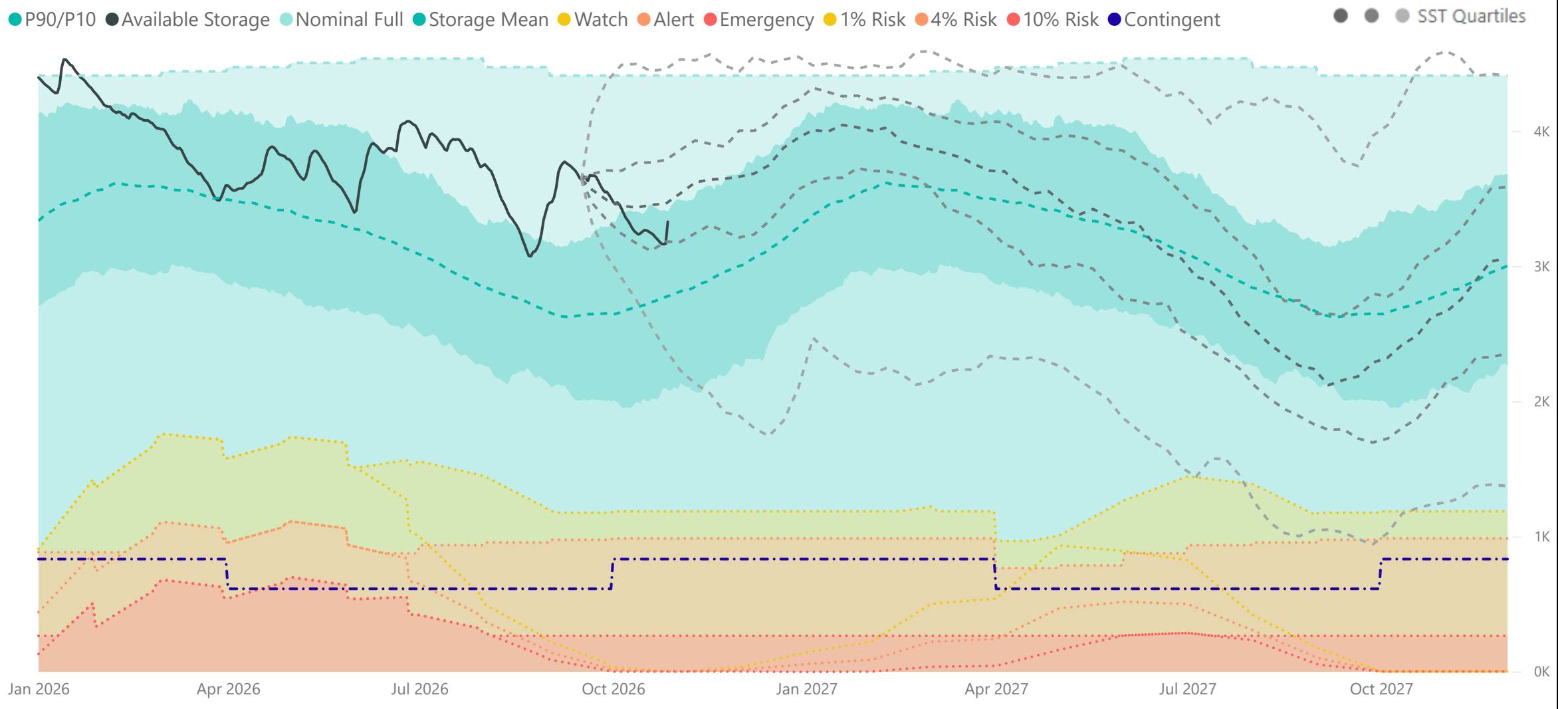
Electricity risk curves have been developed for the purposes of reflecting the risk of extended energy shortages in a straightforward way, using a standardised set of assumptions.

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>

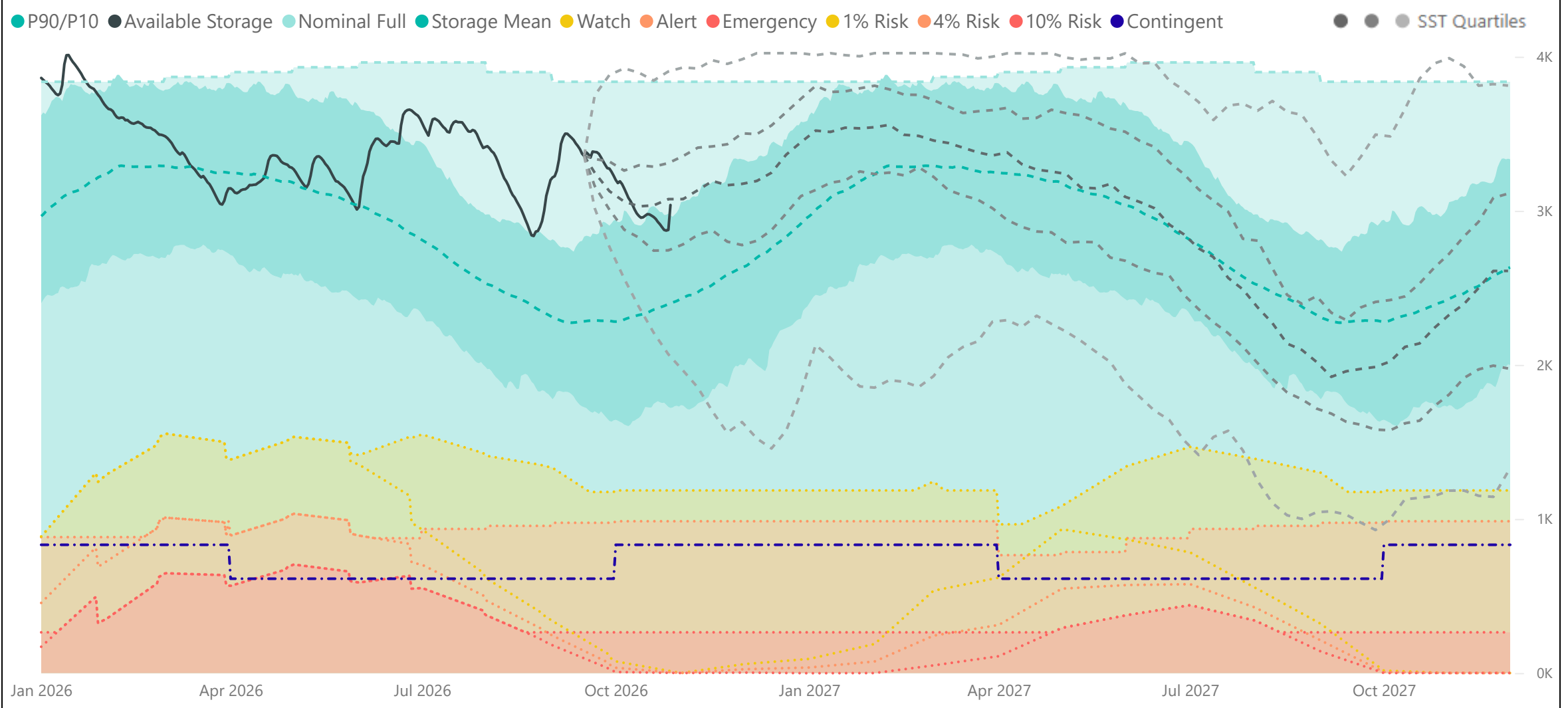


Electricity Risk Curves

New Zealand Electricity Risk Status Curves (Available GWh)



South Island Electricity Risk Status Curves (Available GWh)



Electricity Risk Curve Explanation:

Watch Curve - The maximum of the one percent risk curve or the Alert curve plus the greater of the Watch adder or the worst-case simulated storage drop

Alert Curve - The maximum of the four percent risk curve and the floor and buffer

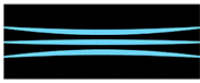
Emergency Curve - The maximum of the 10 percent risk curve and the floor and buffer

Official Conservation Campaign Start - The Emergency Curve

Official Conservation Campaign Stop - The maximum of the eight percent risk curve and the floor and buffer

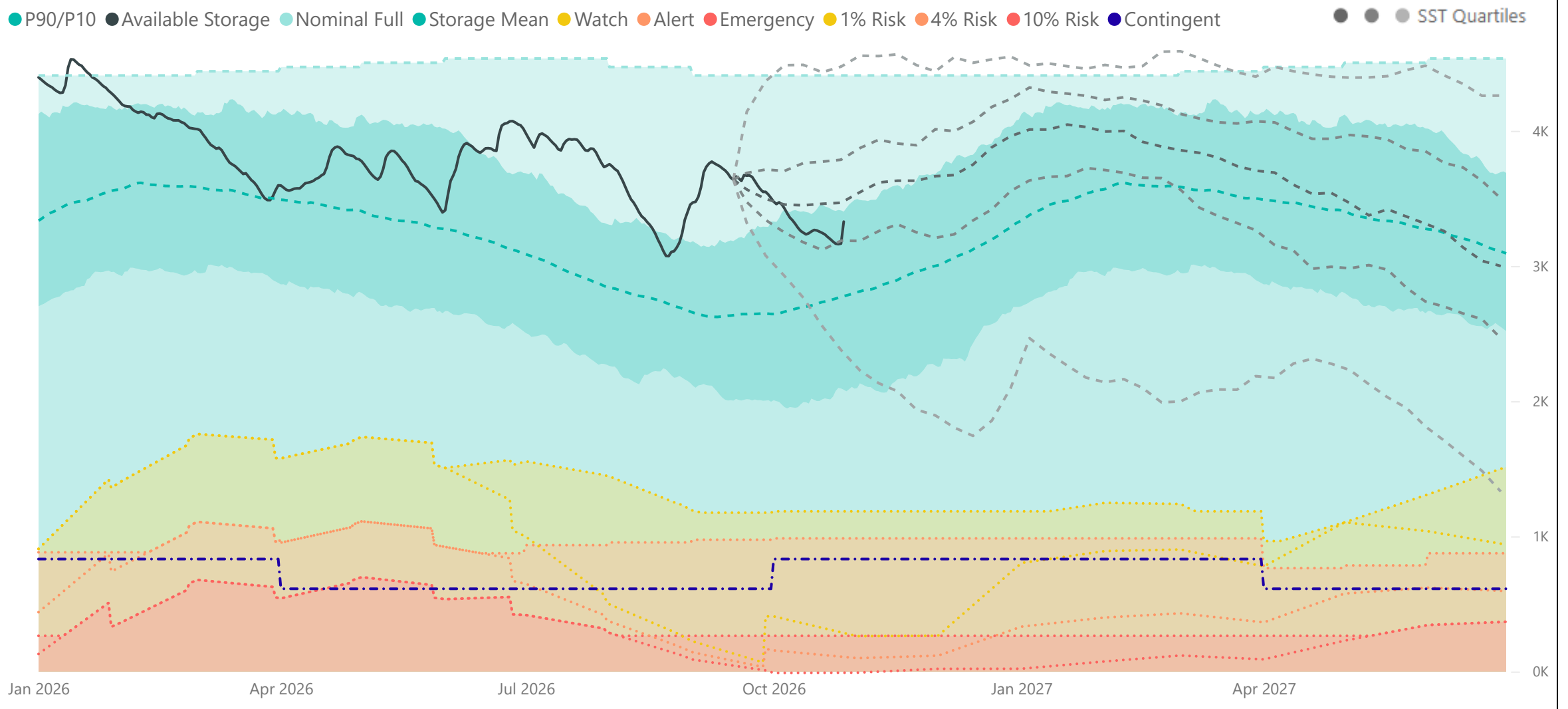
Note: The floor is equal to the amount of contingent hydro storage that is linked to the specific electricity risk curve, plus the amount of contingent hydro storage linked to electricity risk curves representing higher levels of risk of future shortage, if any, and the buffer as specified in the SOSFIP.

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).

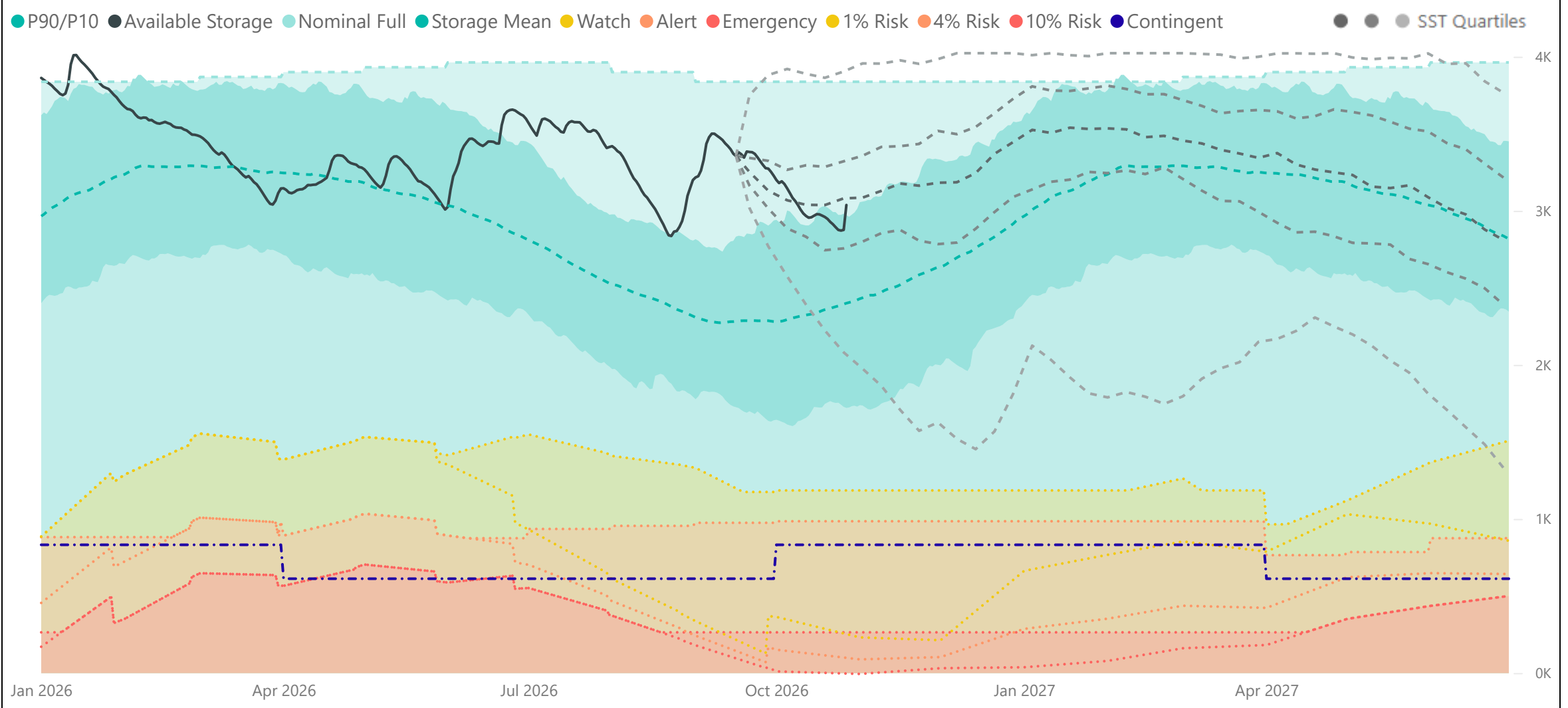


Electricity Risk Curves - Contracted Fuel Case

Contracted Fuel Case - New Zealand Electricity Risk Status Curves (Available GWh)



Contracted Fuel Case - South Island Electricity Risk Status Curves (Available GWh)



Electricity Risk Curve Explanation:

Watch Curve - The maximum of the one percent risk curve or the Alert curve plus the greater of the Watch adder or the worst-case simulated storage drop

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

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, and the buffer as specified in the SOSFIP.

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