Market Operations Weekly Report - Week Ended 26 July 2026

Overview

National hydro storage remains above average at 134% of the historic mean for this time of year. Residuals have been below average due to the increased demand and calmer low wind periods during the peaks.

In this week's insight we detail the Low Residual Customer Advice Notice (CAN) sent before Wednesday's morning peak and some of the risks that we consider before issuing these notices.

Security of Supply

Energy

National hydro storage has remained at 134% of historic mean at the end of last week. South Island storage has increased from 135% to 137% and North Island storage decreased from 120% to 111%. Storage levels remain well above average across both islands, supported by continued above-average inflows into the South Island catchments.

Capacity

Residuals have been less than average with the increasing demand and lower thermal unit commitment linked with high hydro storage. The lowest residual of 324 MW occurred during the evening of Monday 20 July. Wednesday morning reached 442 MW after the wind picked up and industry responded to our CAN.

The N-1-G margins in the NZGB forecast show tighter spots continuing as we are now in winter; 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 825 GWh last week to 875 GWh this week. The highest demand peak of 6,620 MW occurred at 6:00 pm on Sunday 26 July during. Demand doesn't usually peak this high on a weekend and signifies the beginning of the national cold snap for the week to come.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week increased from $20/MWh the week prior to $64/MWh. Wholesale prices peaked at $202/MWh at Ōtāhuhu at 4:30 pm on Wednesday 22 July.

There has been significant price separation between the North and South Island due to high HVDC transfer going northwards. The reserve price separation was highest at Sunday 26 July 1:00 pm.

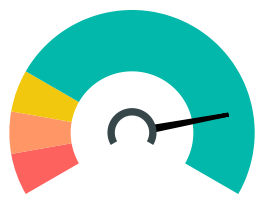
Generation Mix

Wind generation decreased from 13% of the generation mix to 7%. Hydro generation contributed 65%, above its yearly average of 60%. Thermal generation increased from 1% of the mix last week to 3%. Geothermal generation decreased slightly to 23% last week.

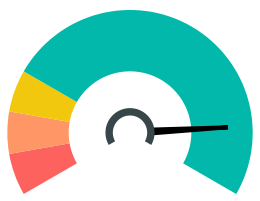
HVDC

HVDC flows last week were entirely northward. Overall, 247 GWh was transferred north. There were several periods of inter-island energy and reserve price separation due to the high HVDC northward transfer and the HVDC link setting the North Island risk. The highest northward transfer was 1120 MW on Sunday 26 July 11:30 am.

New Zealand Energy Risk

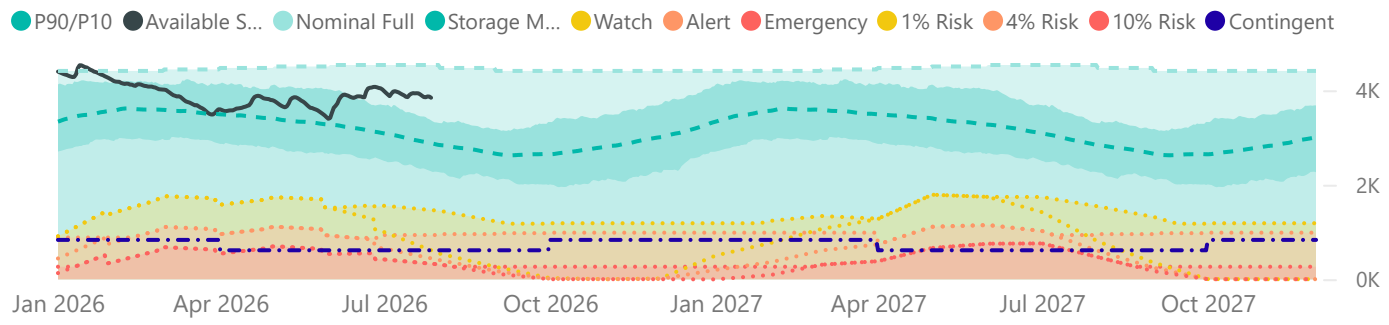


South Island Energy Risk

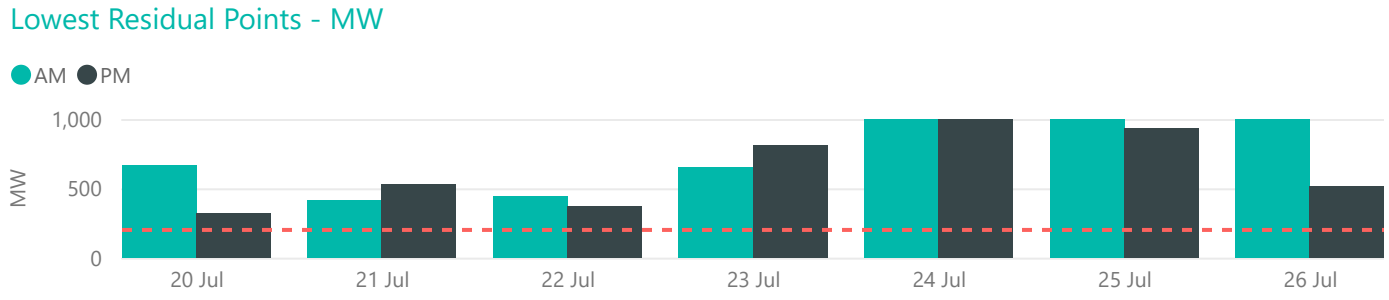


Normal Watch Alert Emergency

New Zealand Electricity Risk Status Curves (Available GWh)

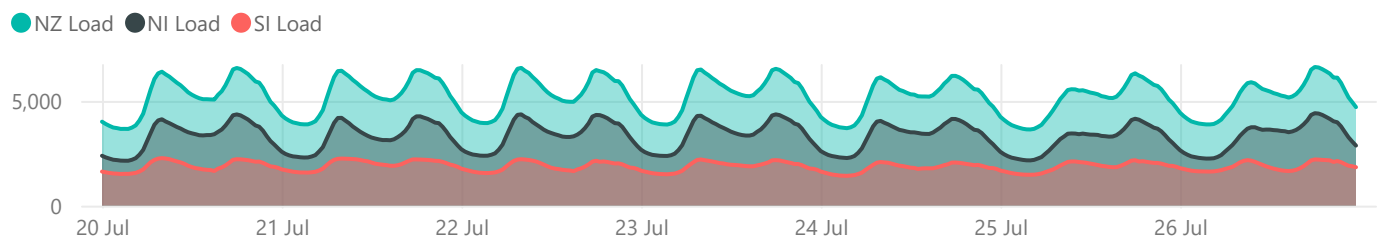


Lowest Residual Points - MW

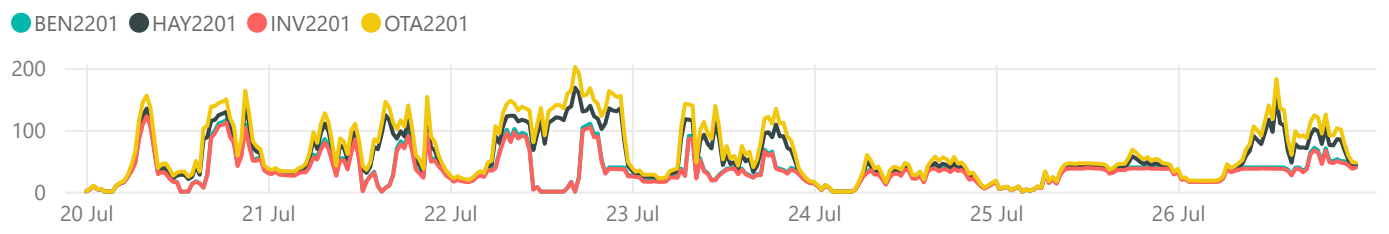


NZGB Look-Ahead (excluding next 7 days)

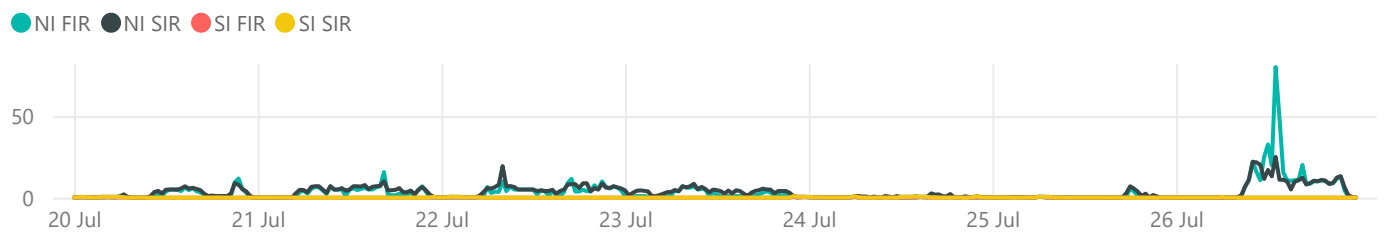
National Demand by Trading period - MW



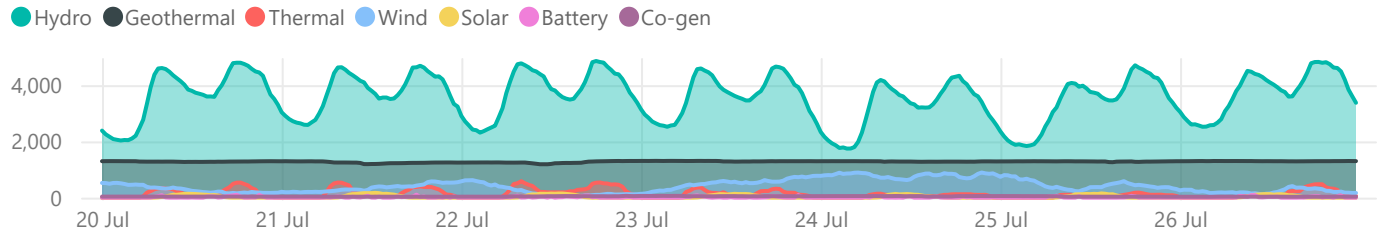
Energy Prices - $/MWh



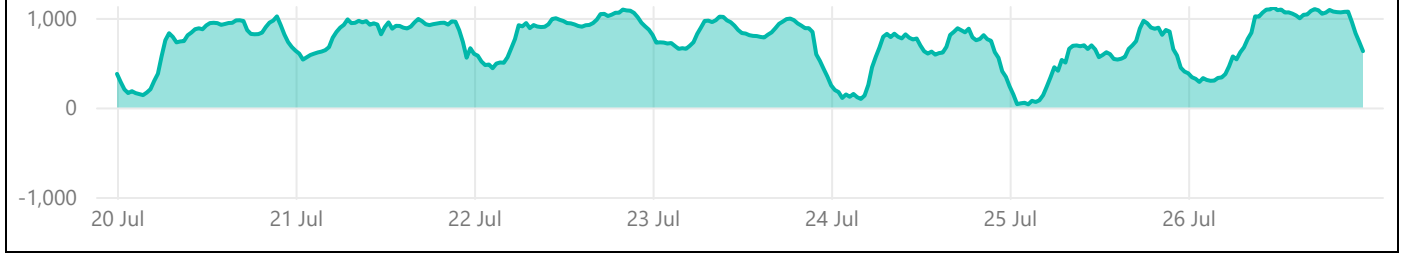
Reserve Prices - $/MW



Generation - MW



Net HVDC Transfer - MW (Northward positive)



Weekly Insight - 22 July Low Residual Customer Advice Notice (Low Residual CAN)

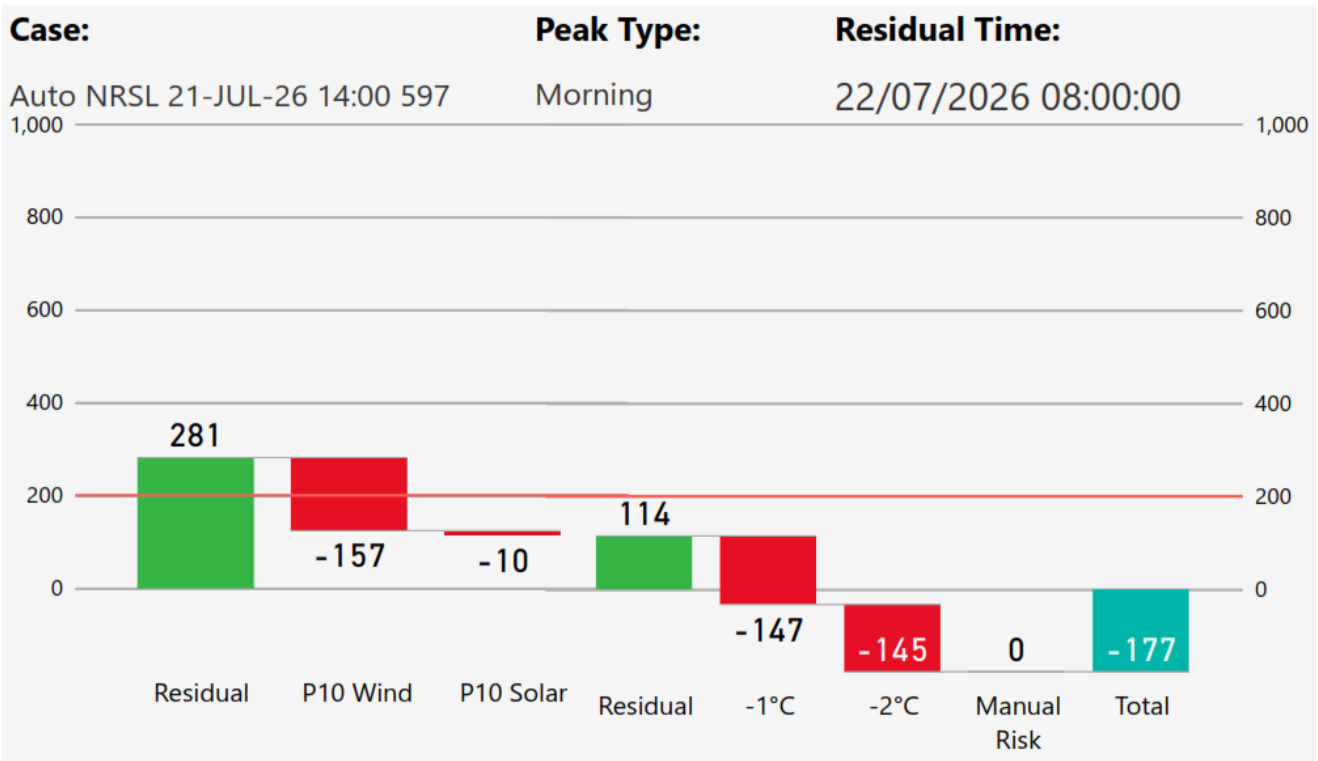
On Tuesday 21 July, we issued a Low Residual Customer Advice Notice (CAN) to industry due to the potential for residual generation on Wednesday's morning peak to drop below 200 MW. This insight looks at the power system conditions that led to the notice being issued and the response from the sector.

The normal trigger for sending a Low Residual CAN is when residual generation drops below 200 MW. However, we may also issue one when residual generation approaches 200 MW and we predict further downside risk, such as because advice from our central weather forecaster indicates that temperatures could be lower than forecast or that conditions could be calmer than anticipated, reducing the wind generation available.

We took a range of these factors into account before issuing the CAN for Wednesday morning's peak. The assessment started when we ran our 2pm NRSL (Non-Response Schedule Long) on Tuesday afternoon. This is one of our long forecast schedules that solves for each trading period up to 36 hours ahead – it showed 281 MW of residual generation forecast nationally for the next morning's peak.

Figure 1 shows the base residual in the 2pm NRSL and the additional risk we took into account alongside their potential effects on the power system. These are not forecasts of what is likely to happen; rather they are an estimate of the worst-case combination of events across the peak.

Figure 1: Residual sensitivities based on the 2pm NRSL (pre-CAN)

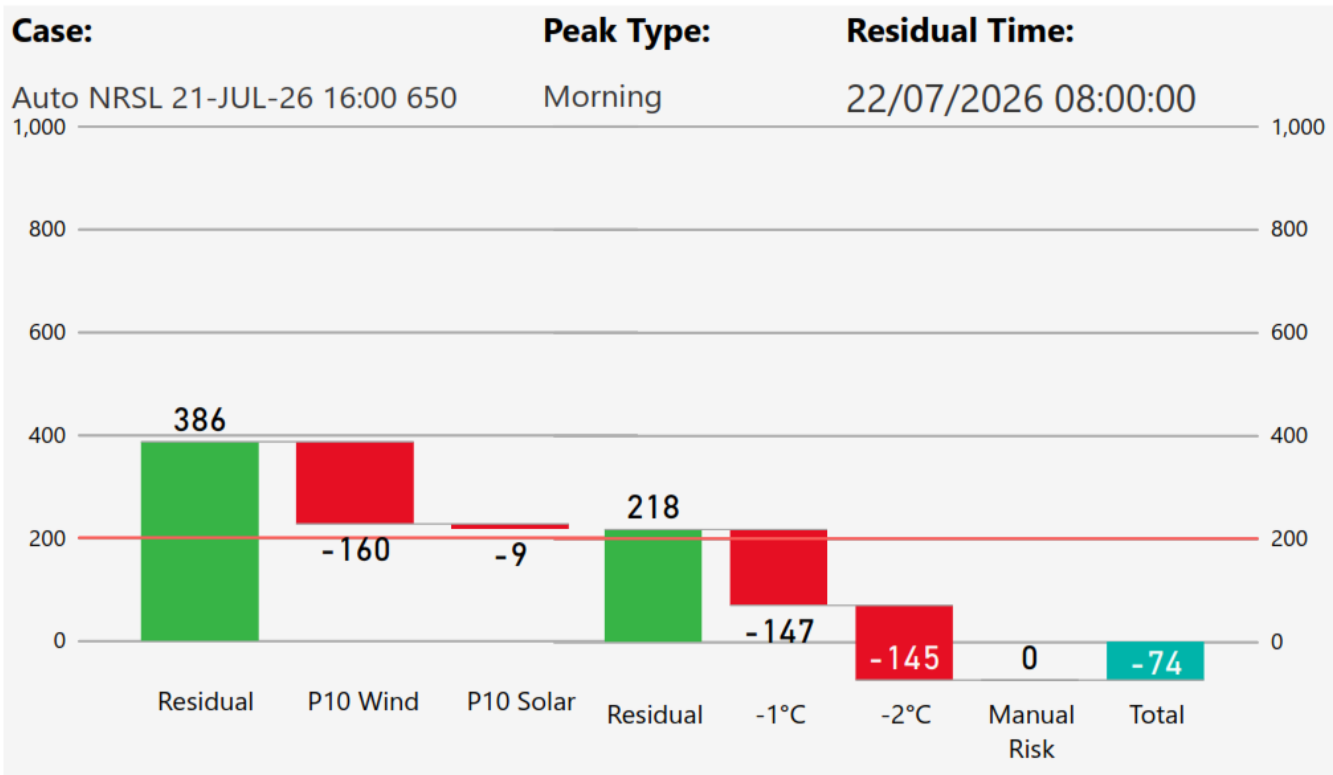


In this instance, there was a real possibility that the indicated forecast generation could fall below 200 MW due to a combination of colder than forecast temperatures in Auckland and Hamilton and the risk of lower than forecast wind generation. As Figure 1 shows, a one degree drop in temperature can increase demand nationally by almost 150 MW. There was also risk of losing a little over 150 MW of wind generation if our worst case wind forecasts eventuated.

As a result, we issued the notice as a precautionary measure to alert industry, encourage additional generation offers and to obtain controllable load difference bids. The response was strong with industry participants updating offers, batteries moving to discharge during the peak, and more than 300 MW of difference bids submitted. This improved forecast residuals and helped to ensure a secure morning peak without requiring further interventions.

Figure 2 below shows the forecast residual sensitivities for the 4pm NRSL after the CAN was issued. Note the difference in base residual compared to the 2pm NRSL. A change in offers reduced the possibility of a low residual event occurring. Before the CAN, low wind and a drop in temperature could have resulted in a shortfall. Following the industry response, if both eventuated we would still have sufficient capacity to keep the lights on. Additionally, what is not visible in the below chart is the 300 MW of difference bids that were also submitted for controllable load that we could use if necessary.

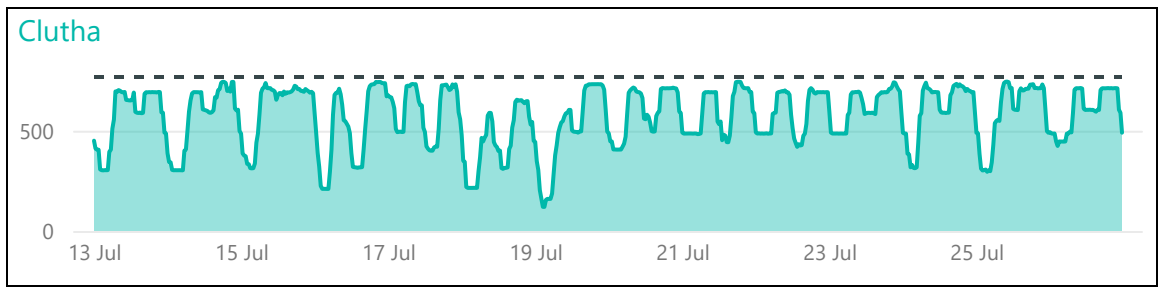
Figure 2: Residual sensitivities based on the 4pm NRSL (post-CAN)

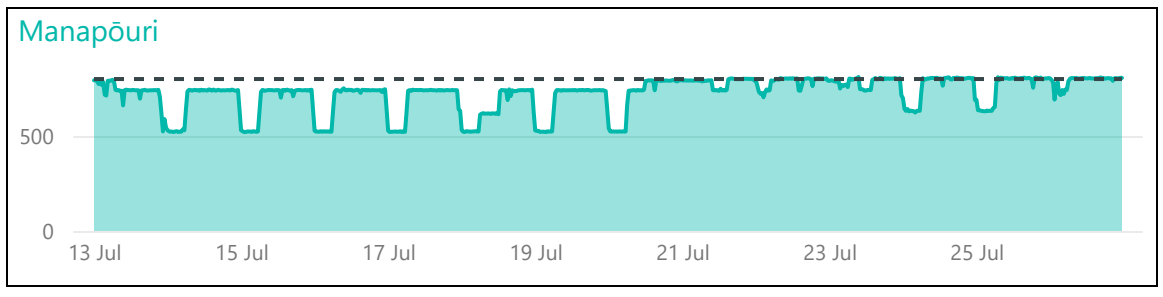


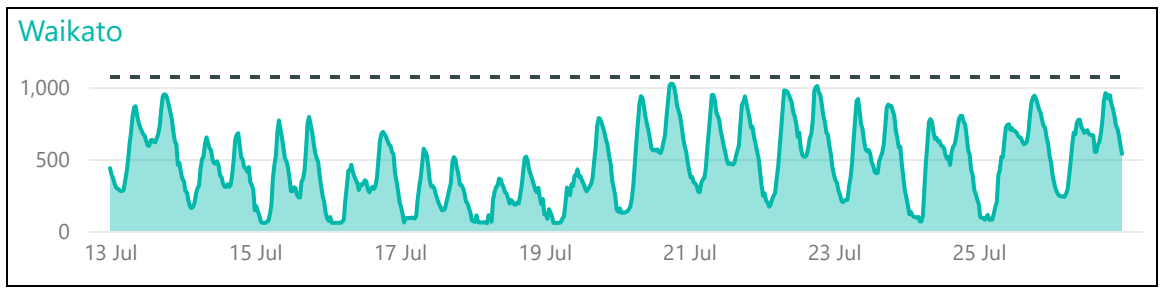
Low Residual CANs are not something that happen often. This was our first such notice since October last year, and then we have to go back to May 2024 for the previous one. They tend to happen more often when our hydro lakes are full, as they are now at around 134% of average for the time of year, which tends to result in thermal units not running as frequently. If this coincides with a cold snap and low wind generation, then low residual situations become more likely. Because thermal units can take some time to be ready to generate, we move early with these notices so that our generation partners have plenty of notice to get them warmed up. Next week's market summary will highlight a number of additional Low Residual CANs issued since 26 July.

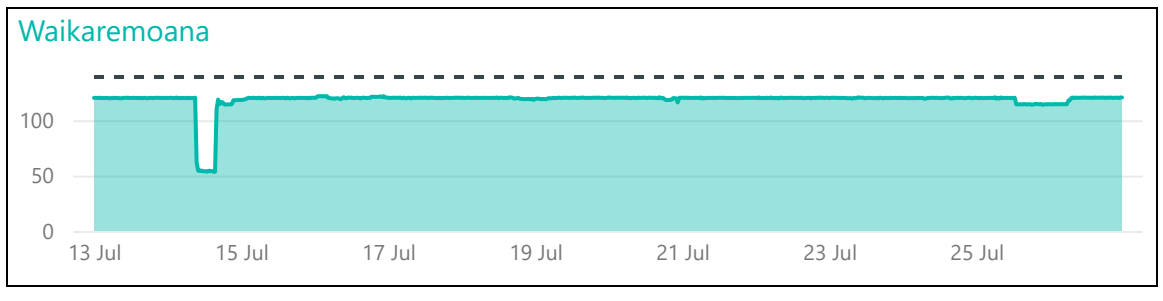
Generation Breakdown - Last Two Weeks

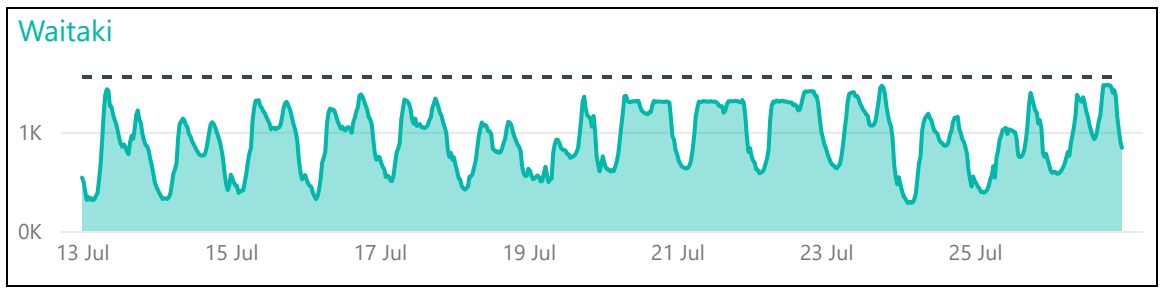
Measured in MW and displayed at trading period level for last 14 days

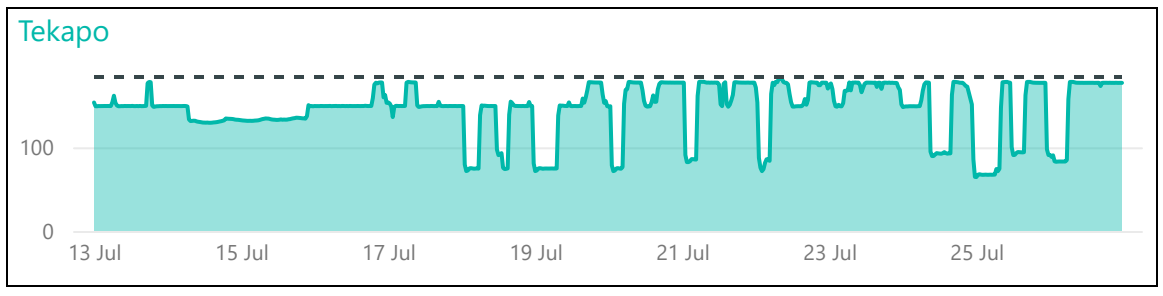


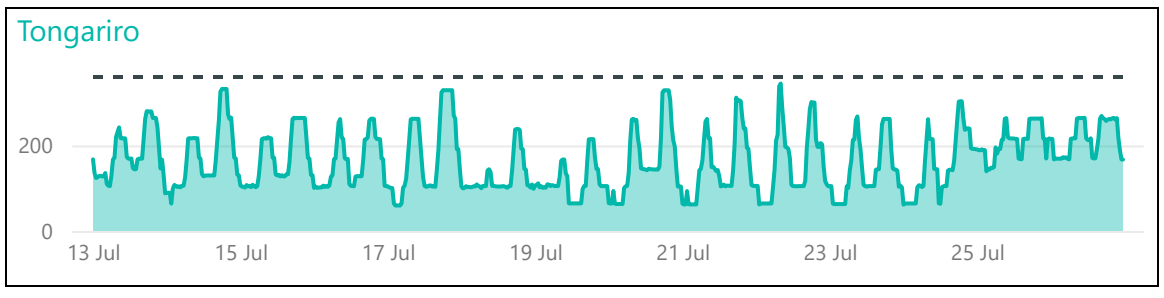


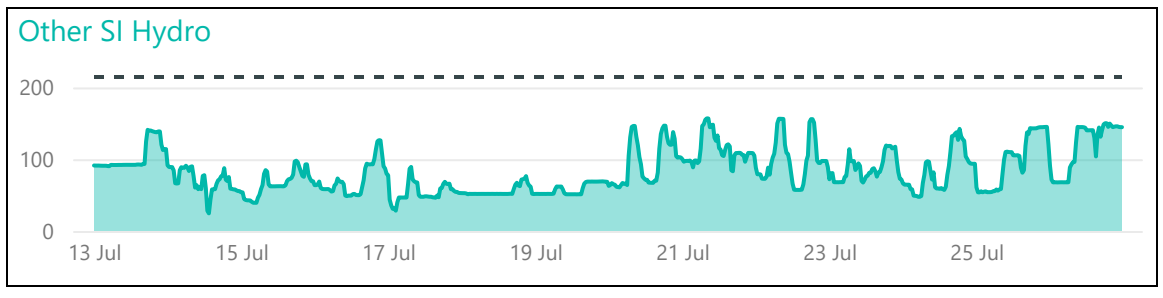


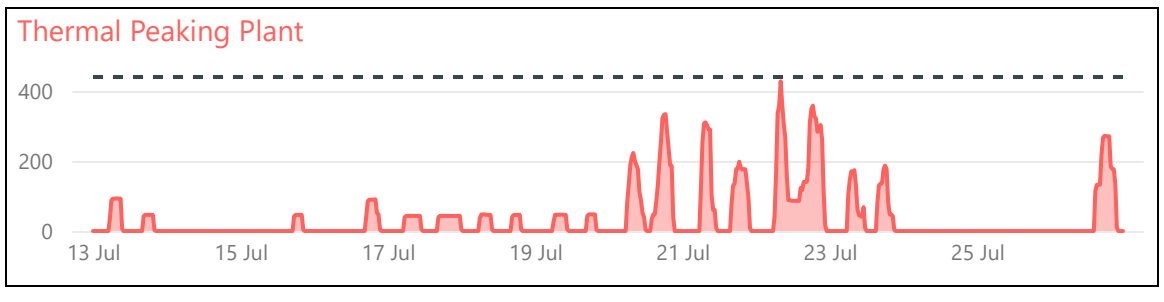


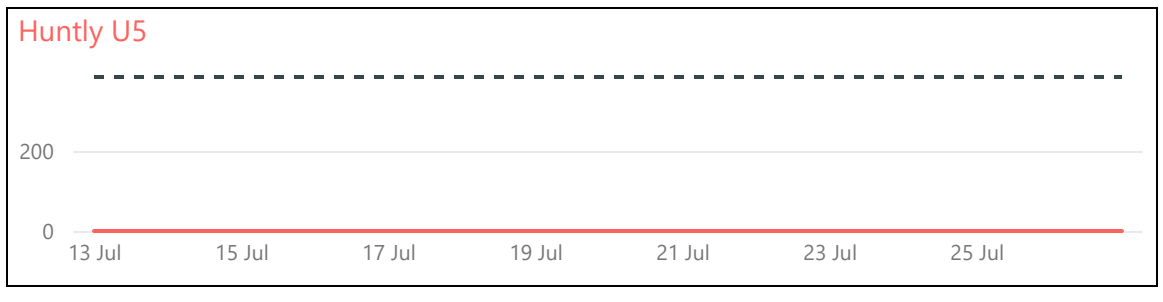


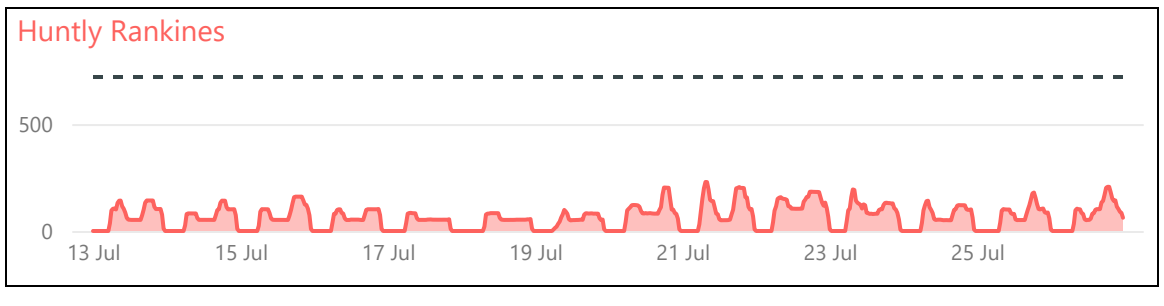


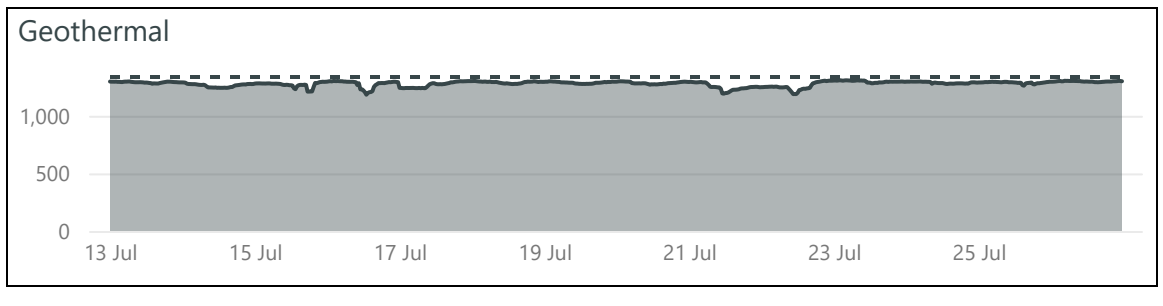


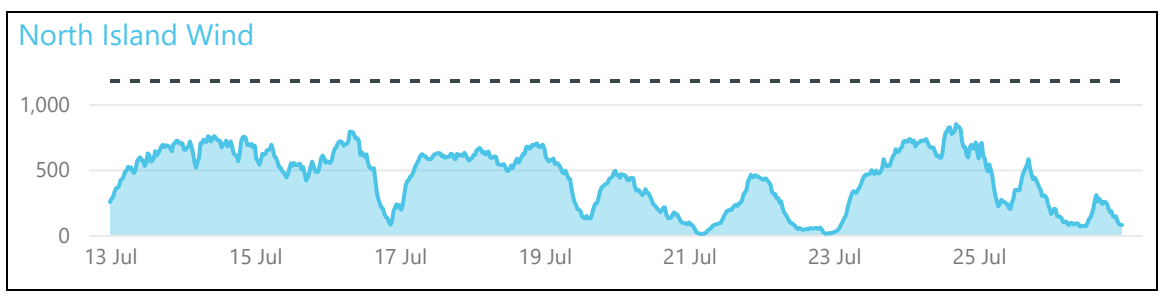


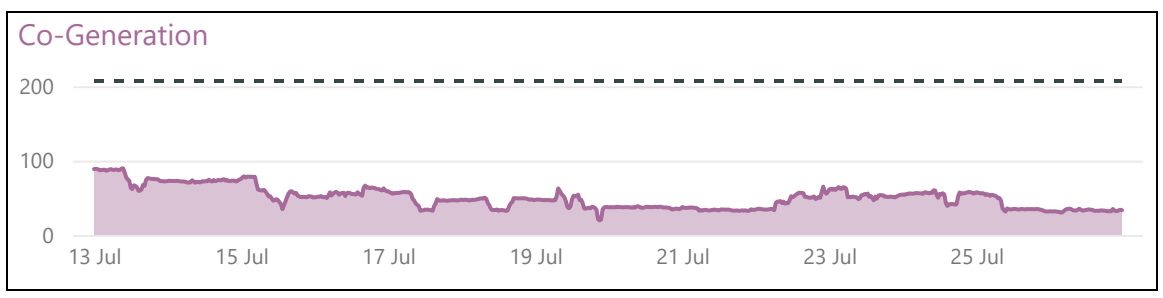


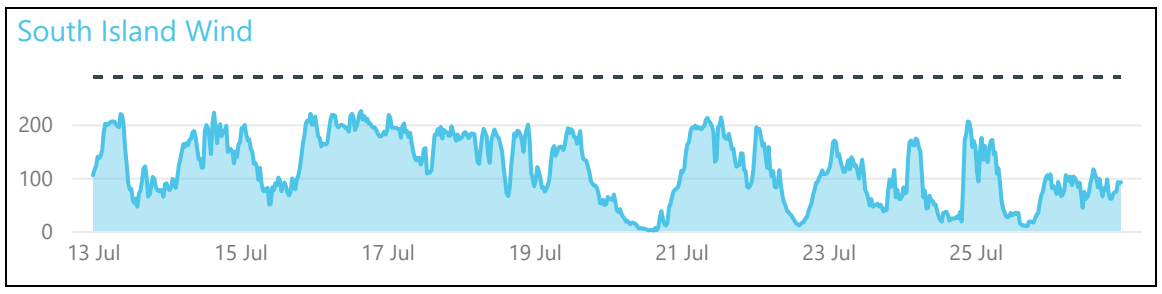


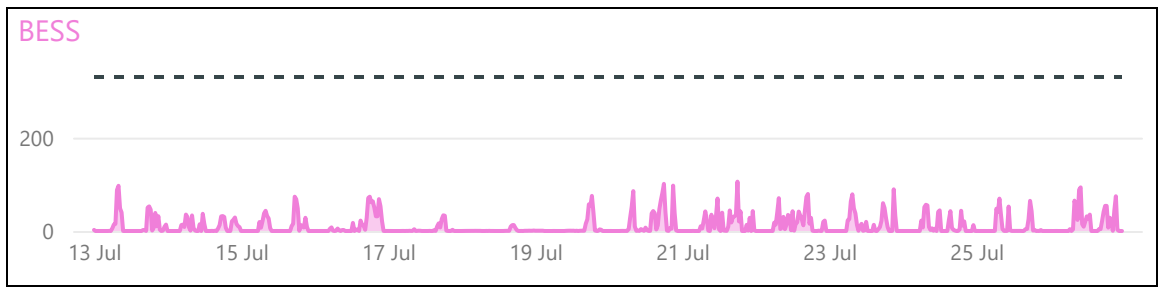


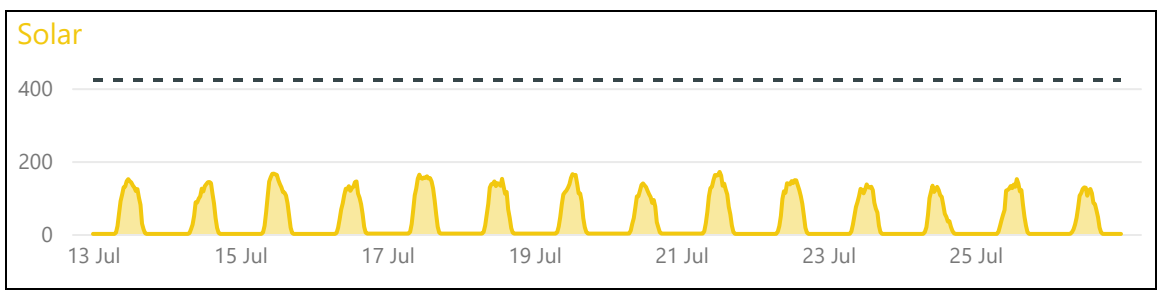






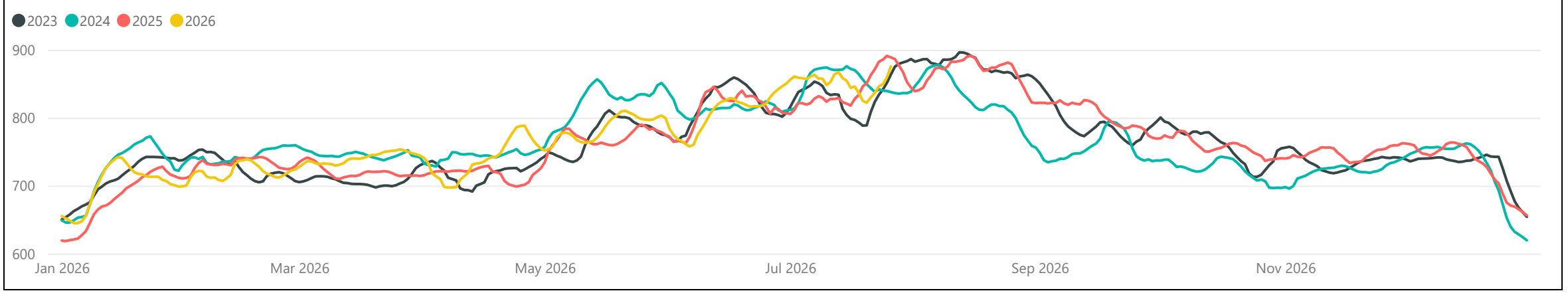




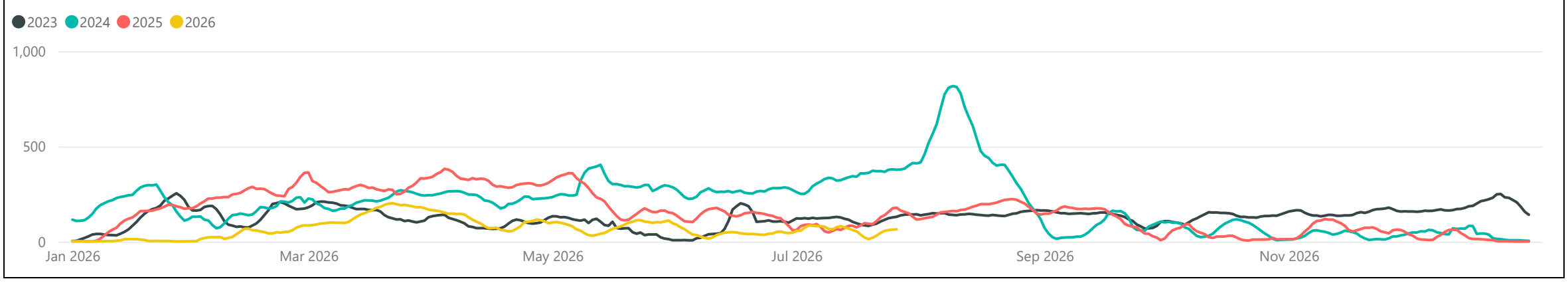


Weekly Profiles

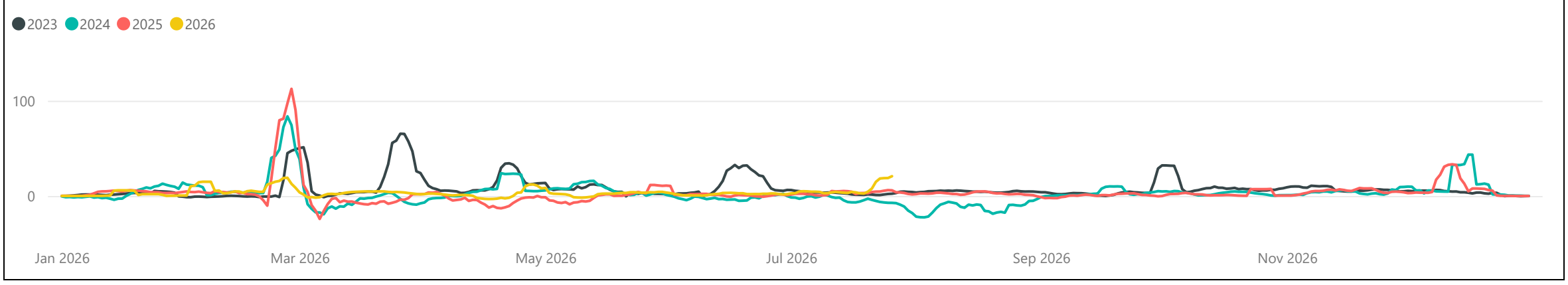
National Weekly Demand - GWh - 7 Day Rolling



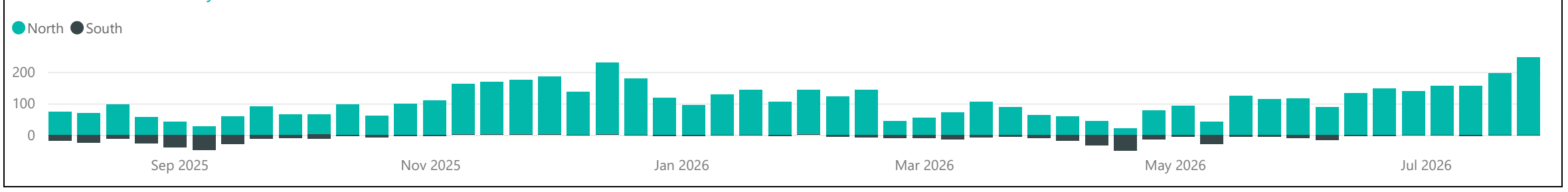
OTA2201 Weekly Rolling Average Spot Price - $/MWh



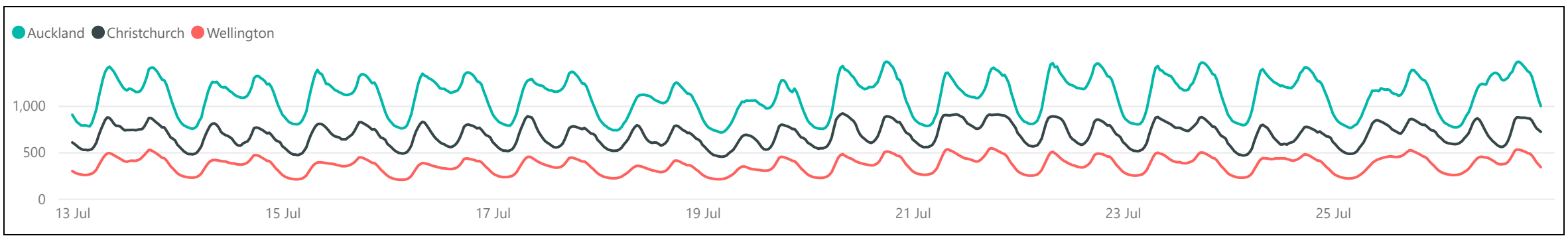
Weekly Rolling Price Separation (HAY2201 - BEN2201) - $/MWh



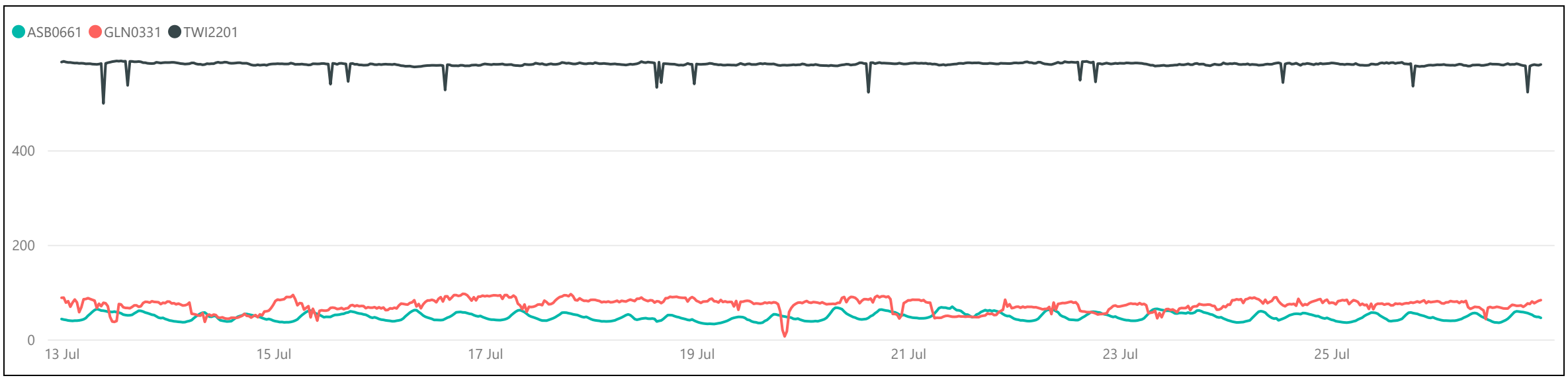
HVDC Transfer - Weekly GWh



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



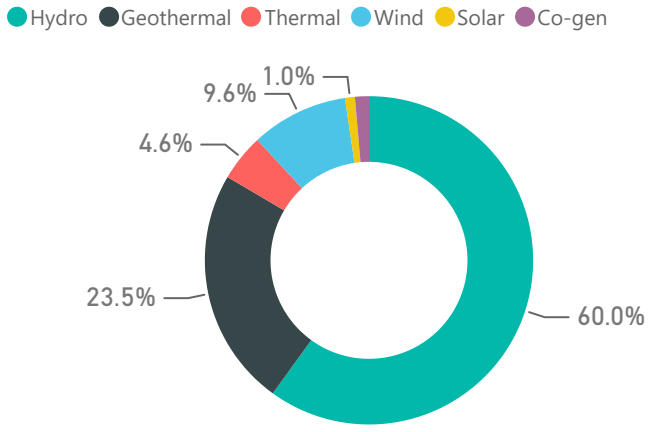
Non-Conforming Load Profiles - Last Two Weeks *Measured in MW shown by GXP*



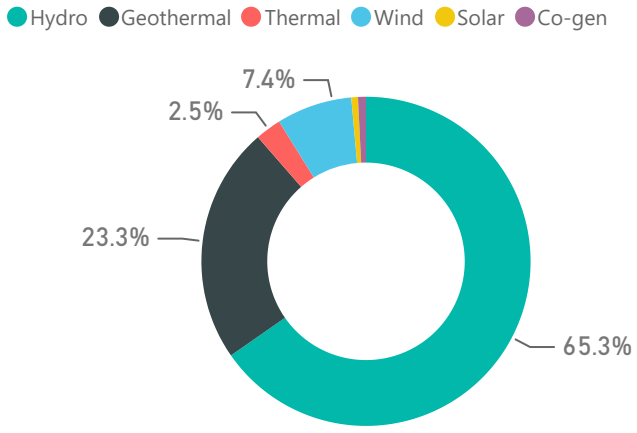
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



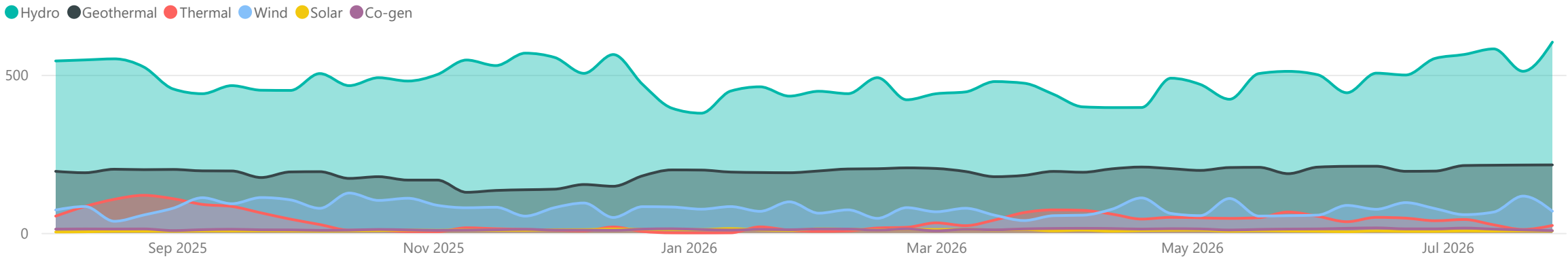
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
97%	33,558	35.2

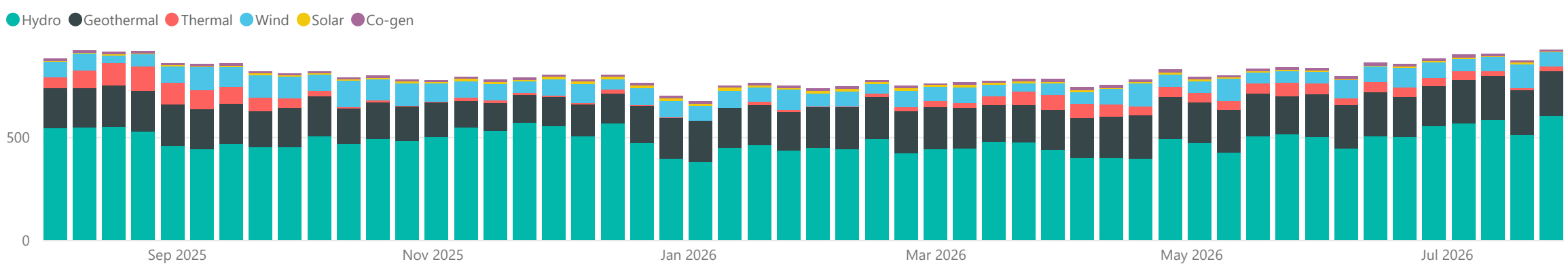
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
94%	38,832	47.3

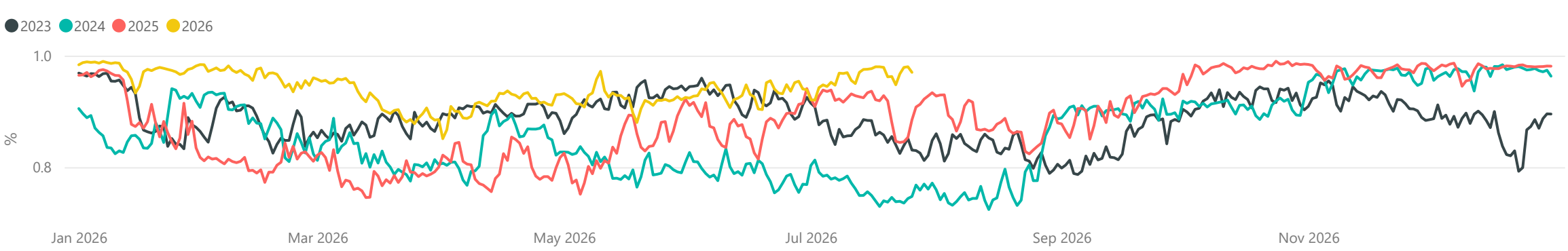
Weekly Generation Mix - GWh



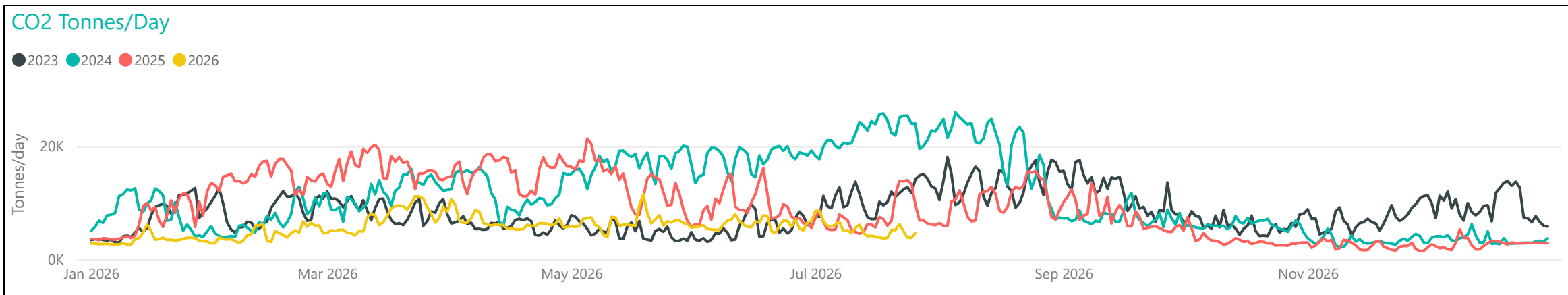
Weekly Generation Mix - GWh



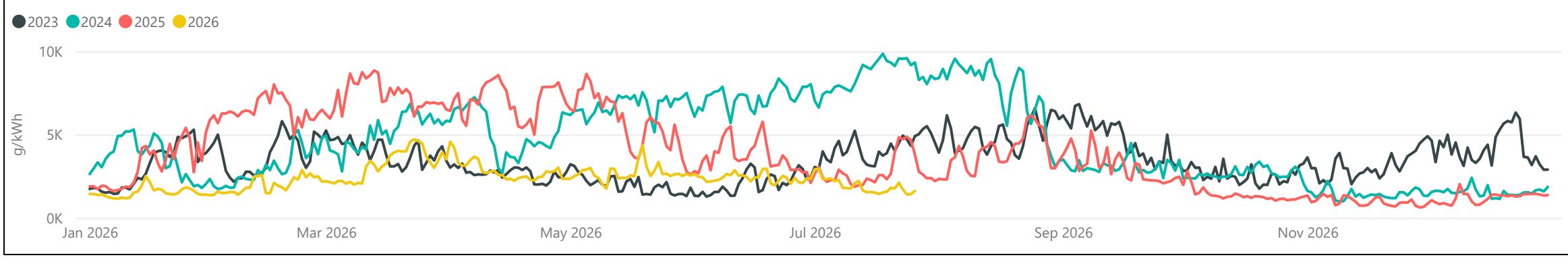
NZ Renewable Percentage



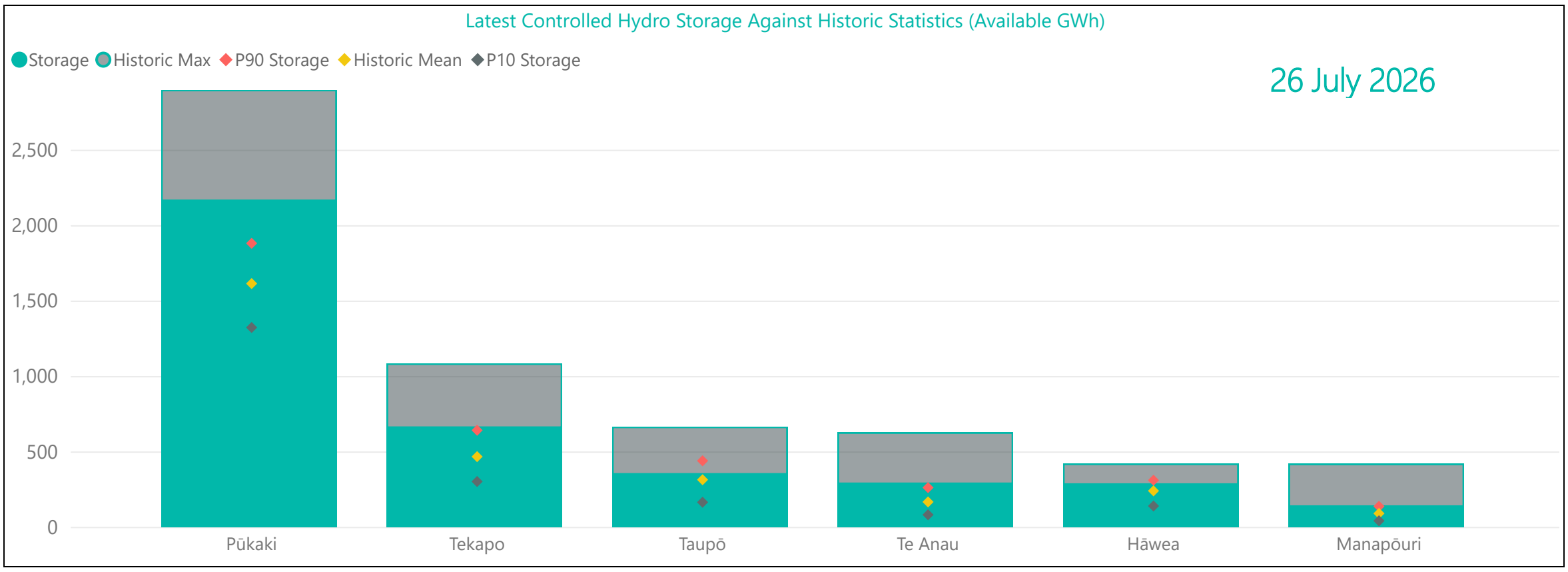
CO2 Tonnes/Day

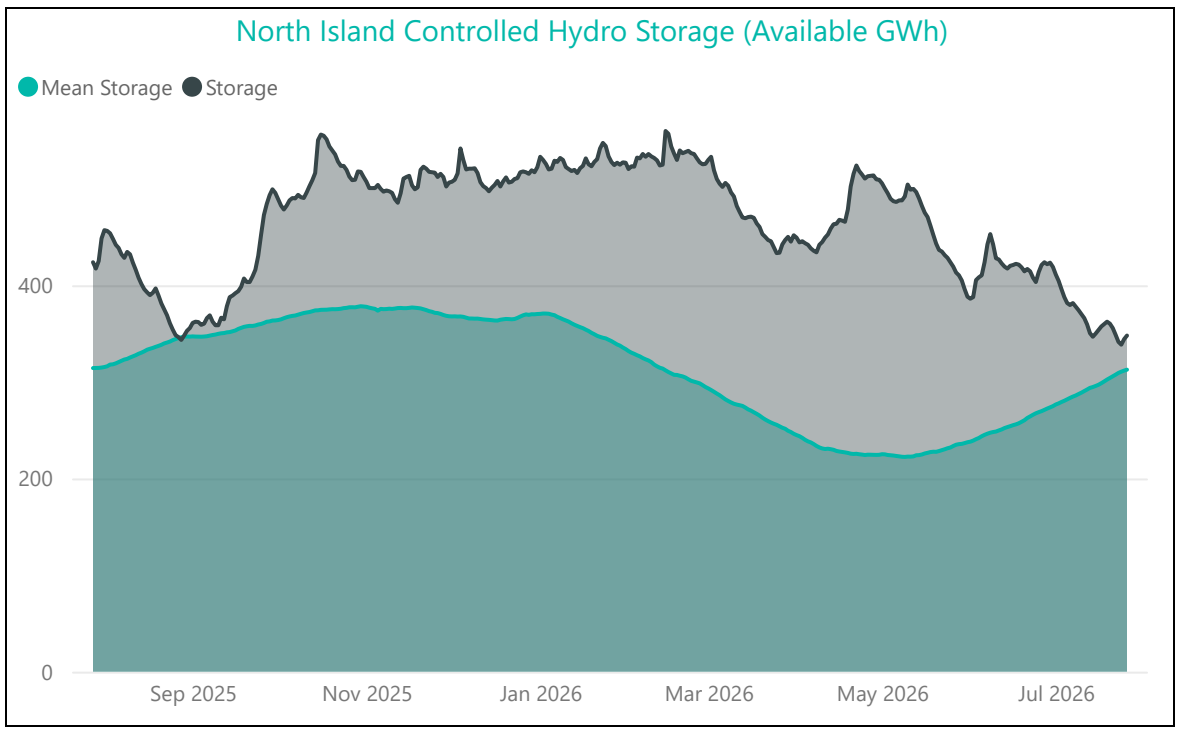


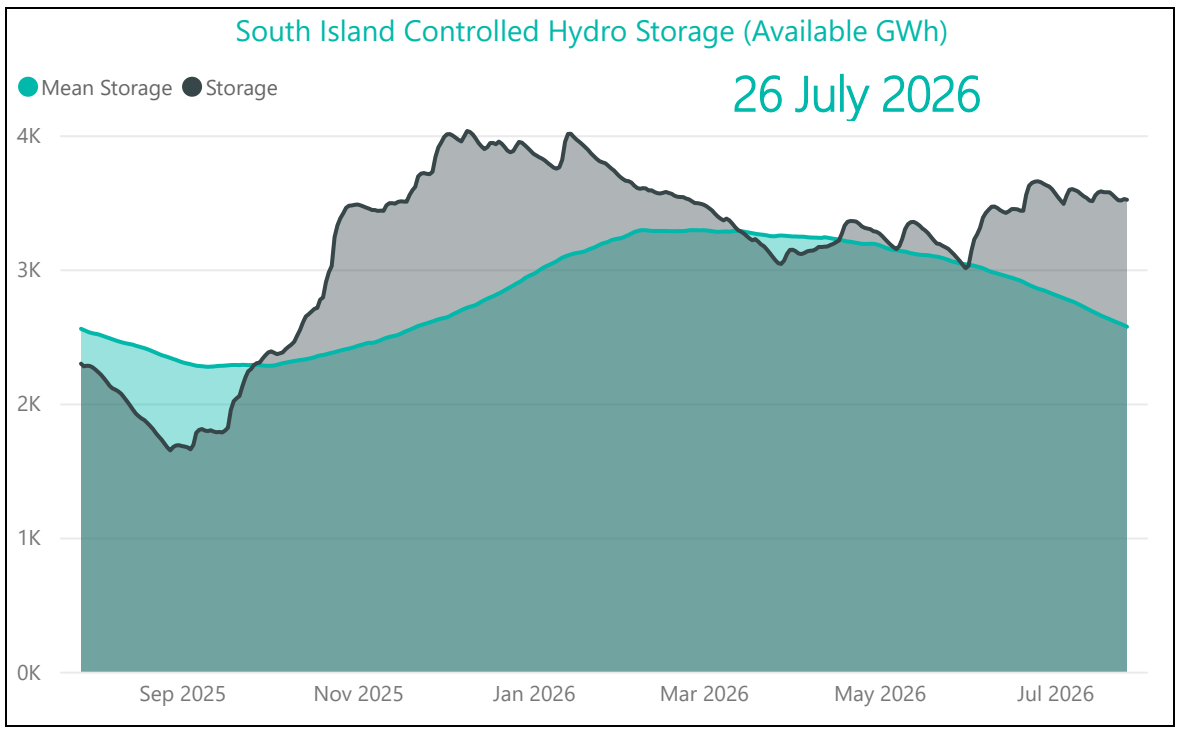
CO2 g/kWh

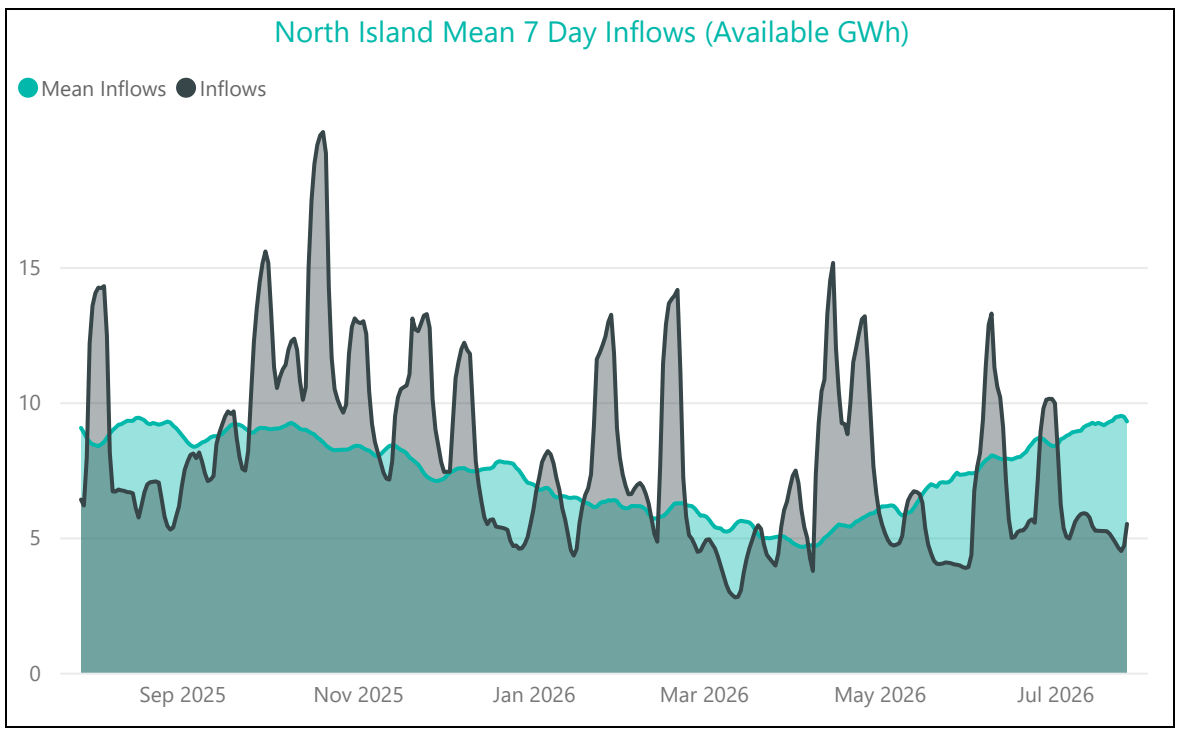


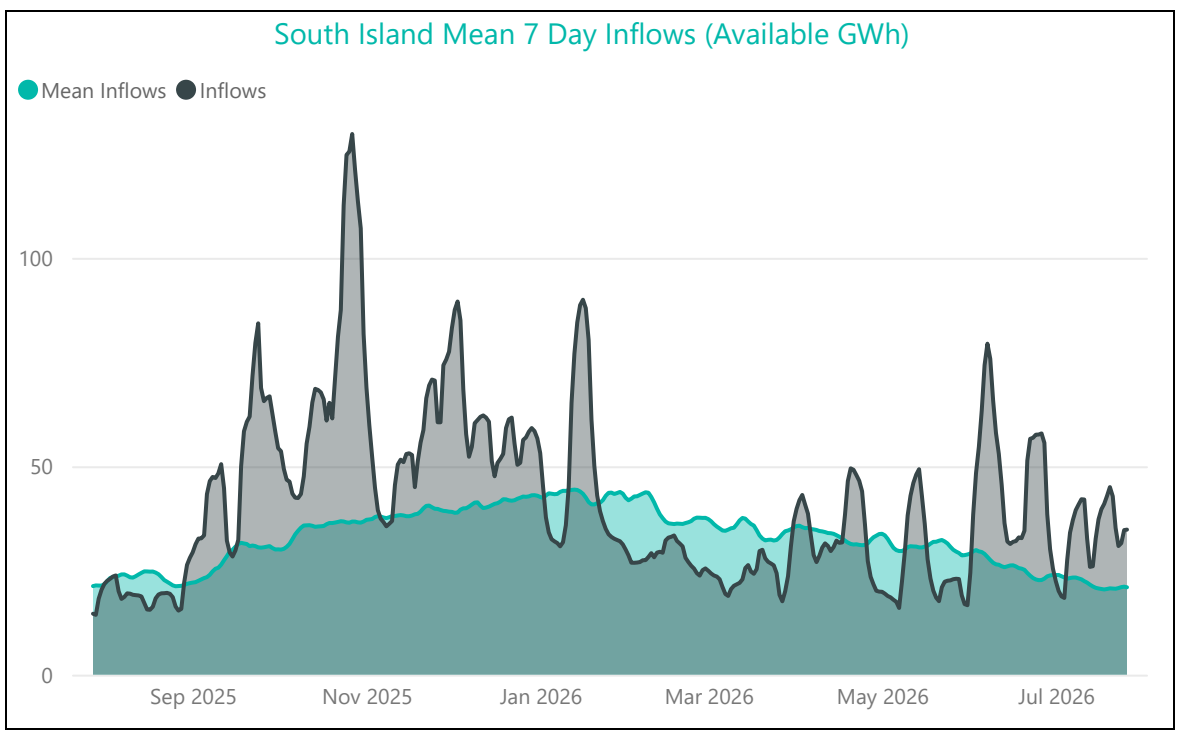
Hydro Storage











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

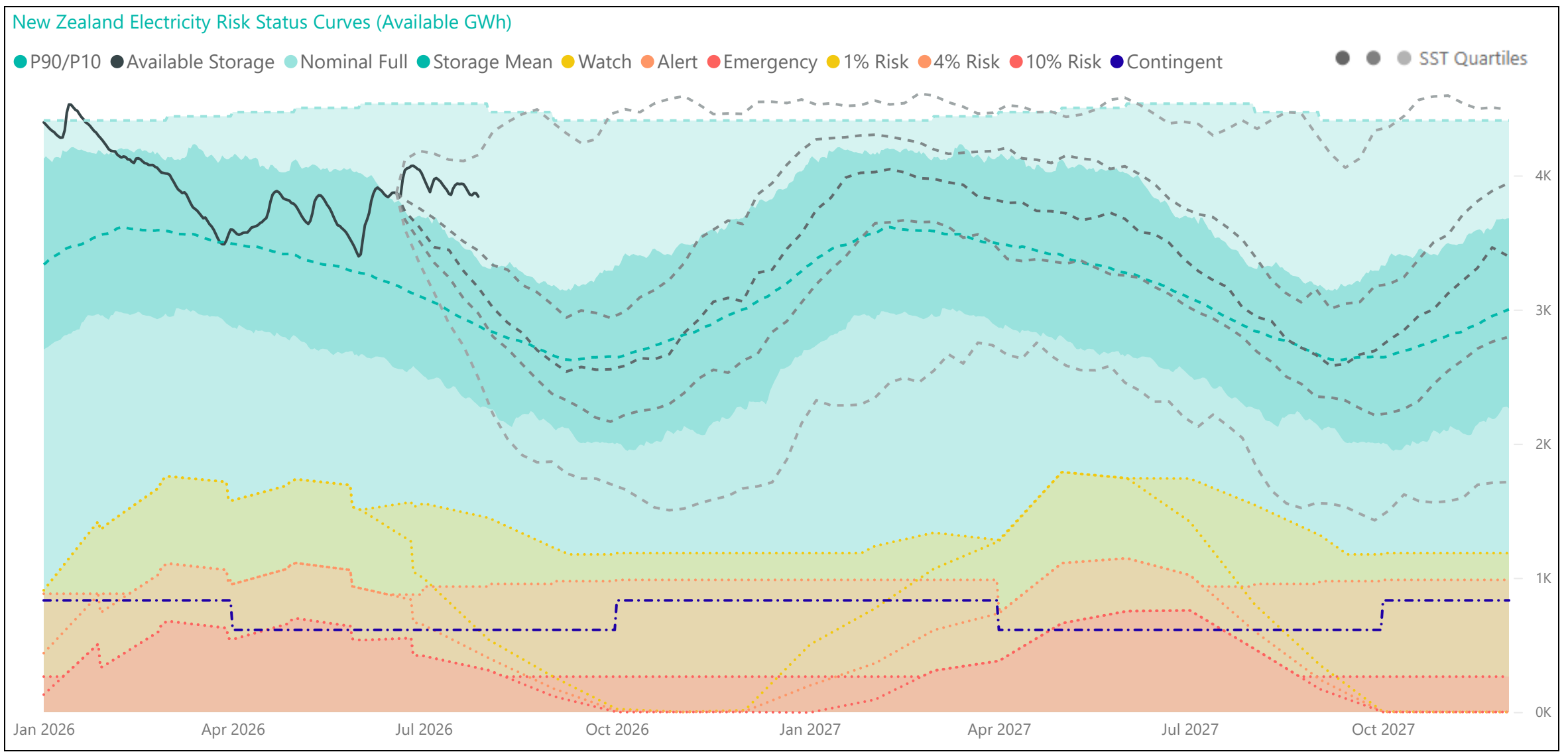
For any inquiries related to security of supply contact market.operations@transpower.co.nz

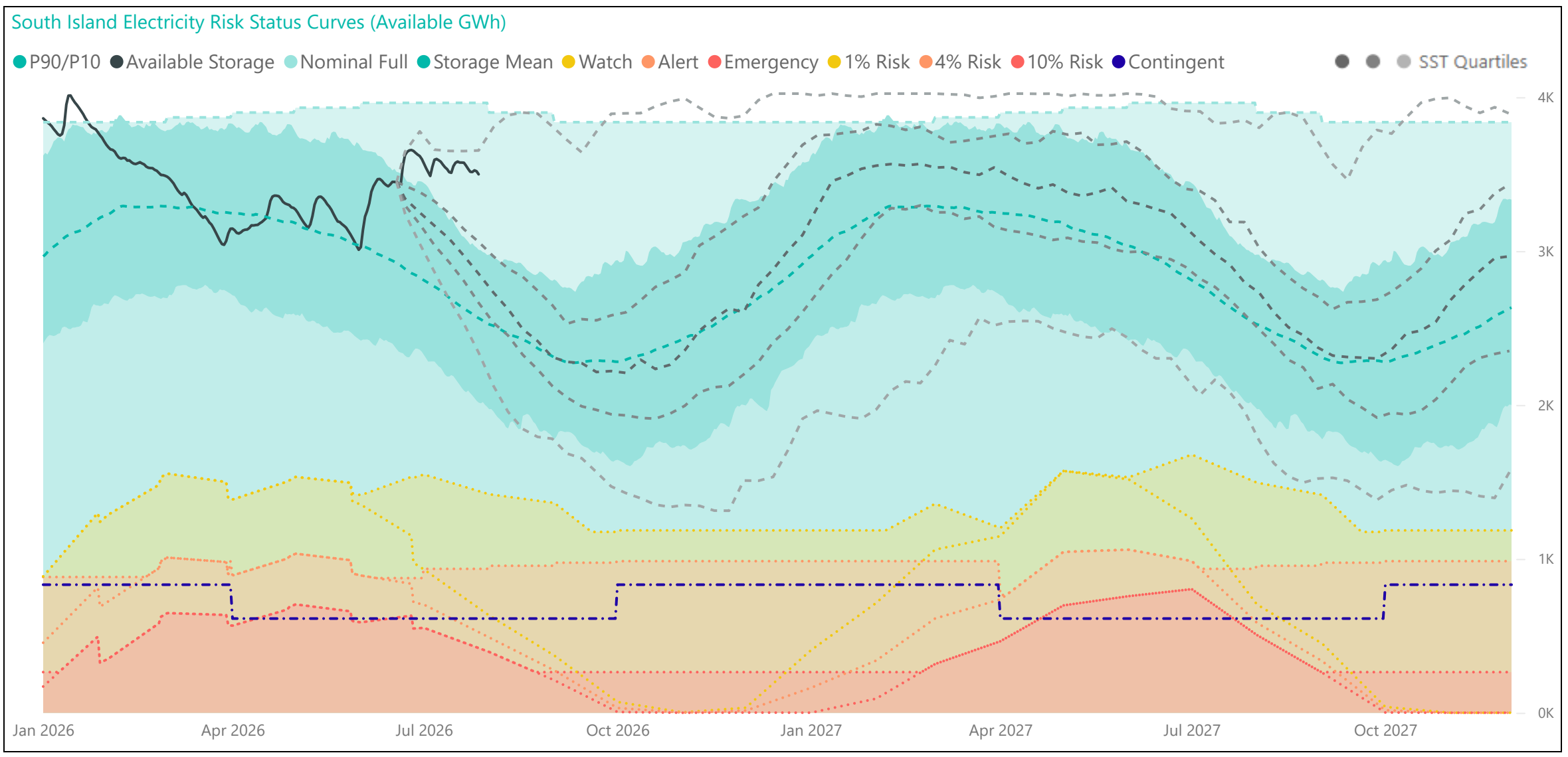
Hydro data used in this report is sourced from *NZX Hydro*.

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





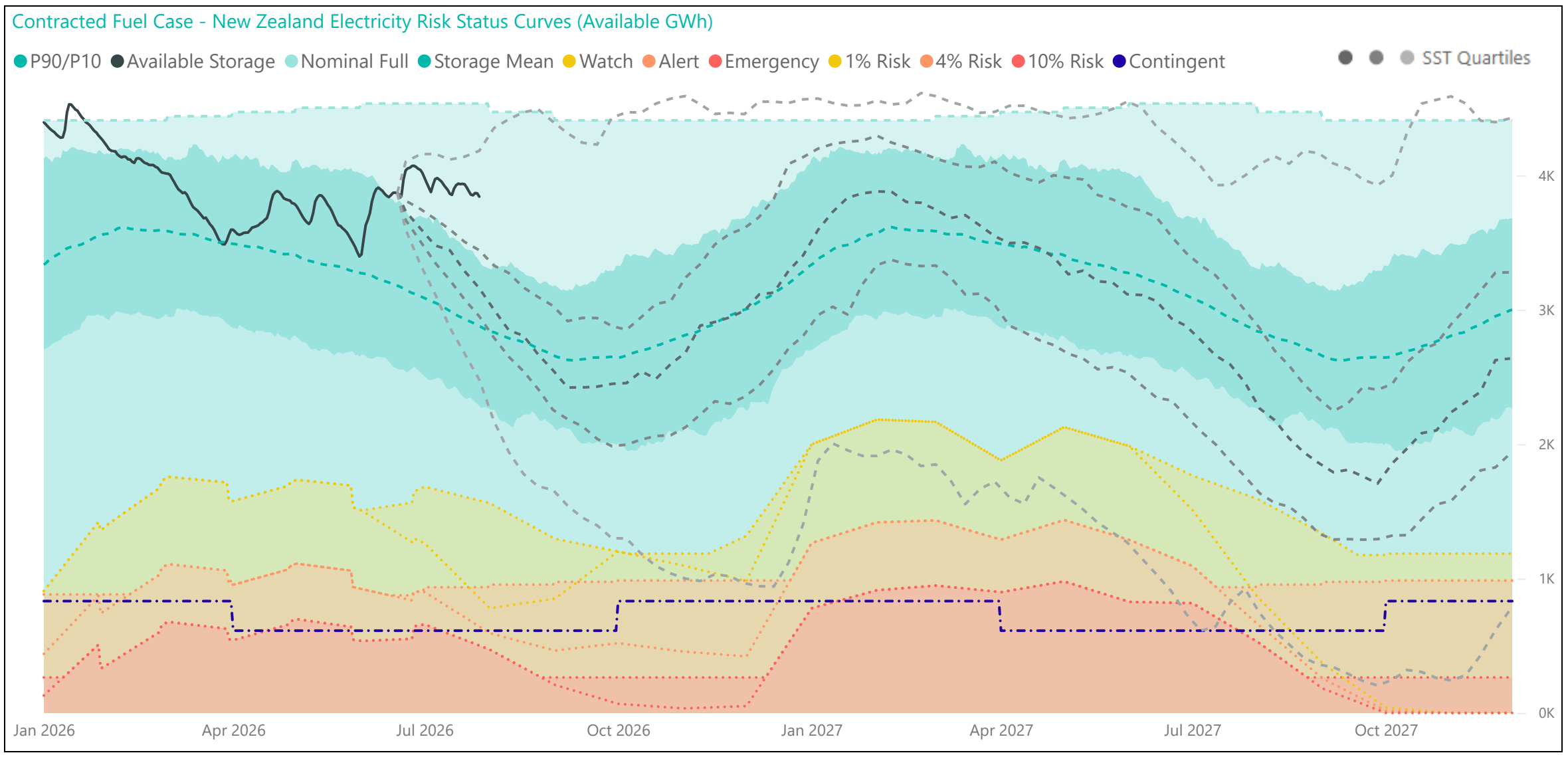
Electricity Risk Curve Explanation:

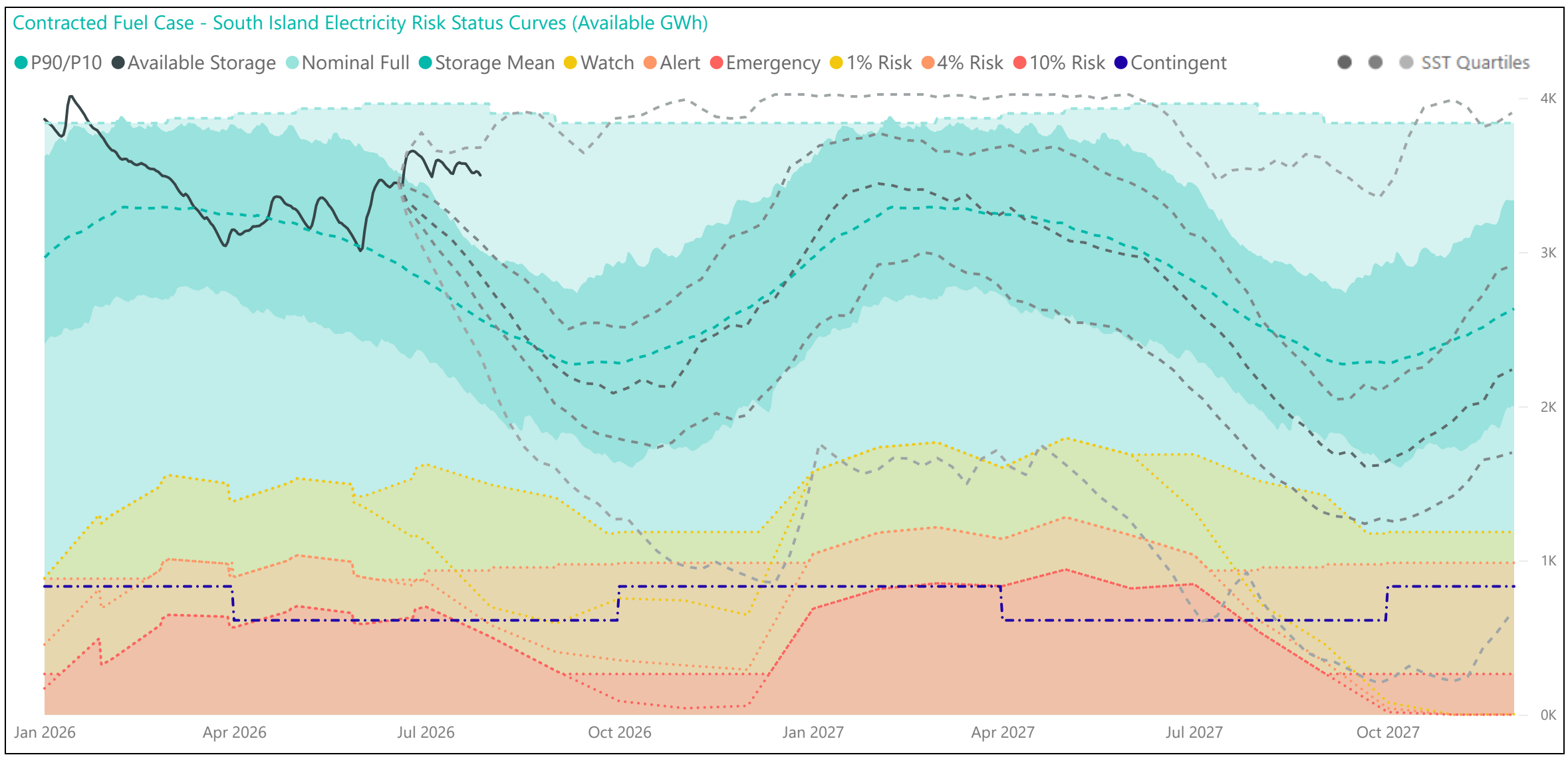
Watch Curve - The maximum of the one percent risk curve or the Alert curve plus the greater of the Watch adder or the worst-case simulated storage drop
Alert Curve - The maximum of the four percent risk curve and the floor and buffer
Emergency Curve - The maximum of the 10 percent risk curve and the 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





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.

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).