

## Market Operations Weekly Report - Week Ended 22 March 2026

### Overview

New Zealand hydro storage has decreased from 105% to 103% of the historic mean for this time of year, contributing to the decrease in renewable generation to 90% of the weekly generation mix.

This week's insight looks at load control and how it is influencing system behaviour.

### Security of Supply Energy

National hydro storage has decreased to 103% of the seasonal mean at the end of last week. South Island hydro storage decreased from 100% to 97% of the historic mean, and North Island storage remained at 173%.

### Capacity

Residuals were healthy with the lowest residual of 475 MW occurring during the morning of Tuesday 17 March where low wind generation coincided with the morning demand peak.

The N-1-G margins in the NZGB forecast are healthy through to mid May. 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 740 GWh to 749 GWh for the week, and is in line with average demand at this time of year over the past three years. The highest demand peak of 5,368 MW occurred at 8:00am on Thursday 19 March.

#### Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week was \$198/MWh, increasing from \$145/MWh the week prior. This is in line with declining hydro storage and wind generation, and the increase in thermal generation. Wholesale prices peaked at \$328/MWh at Ōtāhuhu at 7:30pm on Wednesday 18 March, aligning again with a period of low wind generation.

#### Generation Mix

Wind generation was low last week, dropping to 5% of the mix. Hydro generation decreased from 62% to 61% of the mix. Thermal generation increased to its yearly average of 8% of the mix, despite only one Rankine unit being available for the week. Geothermal remained at 23% of the mix and solar contributed to 1% of the generation mix.

#### HVDC

HVDC flow last week was predominantly northward with the exception of some brief periods of overnight low southward flow. These periods coincided with periods of high wind generation and lower North Island demand. In total, 88 GWh was transferred north and just 6 GWh was transferred south.

#### Surveys and Engagement

We have opened our Annual System Operator Participant Survey to provide an opportunity for participants to set out their expectations and help us understand how we are performing the System Operator service. If you have not received the survey but would like to have your say, you can complete it [here](#). The survey closes 17 April 2026.

New Zealand Energy Risk

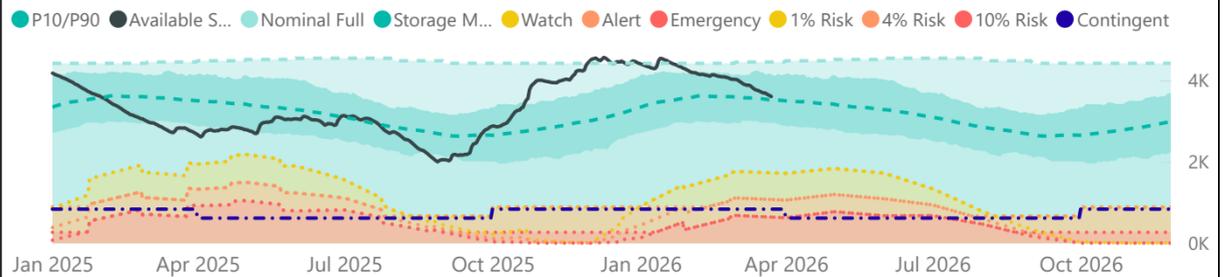


South Island Energy Risk

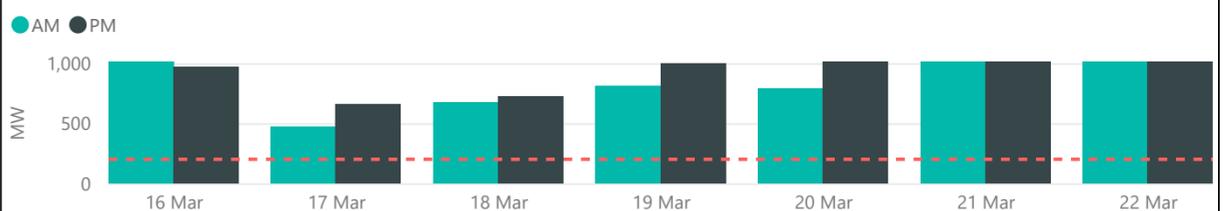


Normal Watch Alert Emergency

New Zealand Electricity Risk Status Curves (Available GWh)



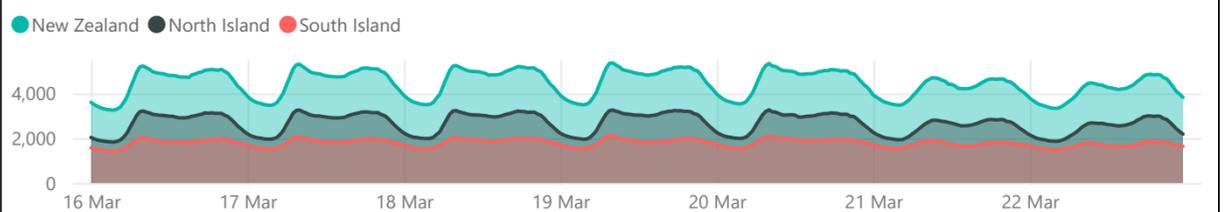
Lowest Residual Points - MW



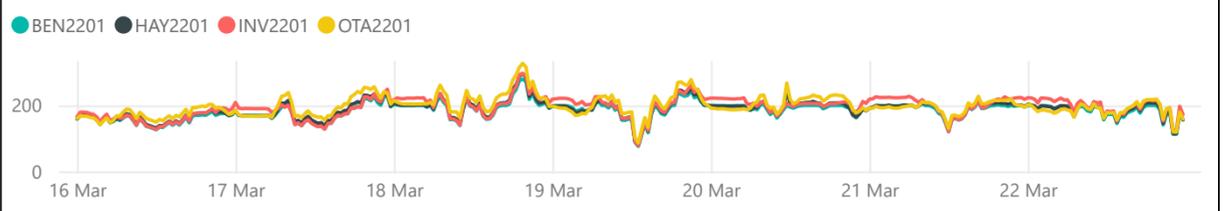
NZGB Look-Ahead (excluding next 7 days)



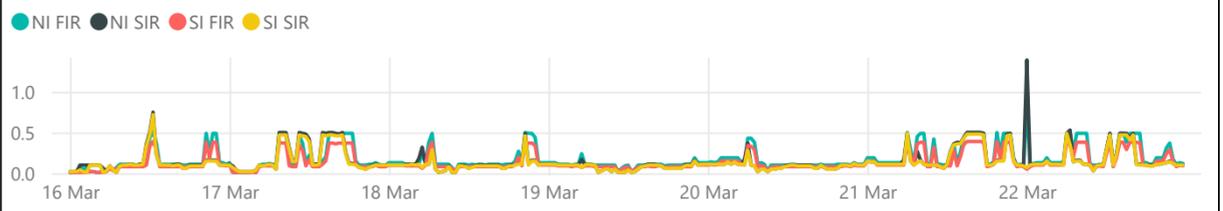
National Demand by Trading period - MW



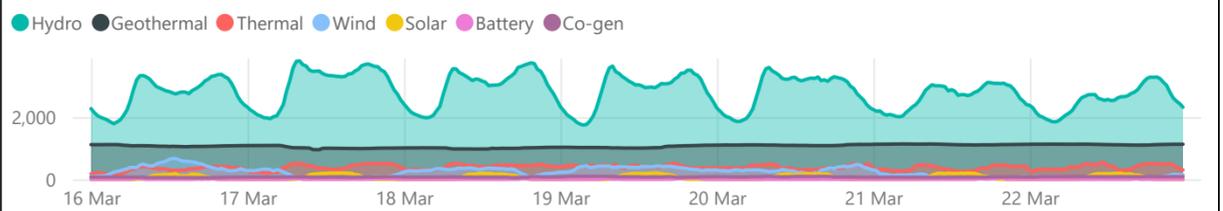
Energy Prices - \$/MWh



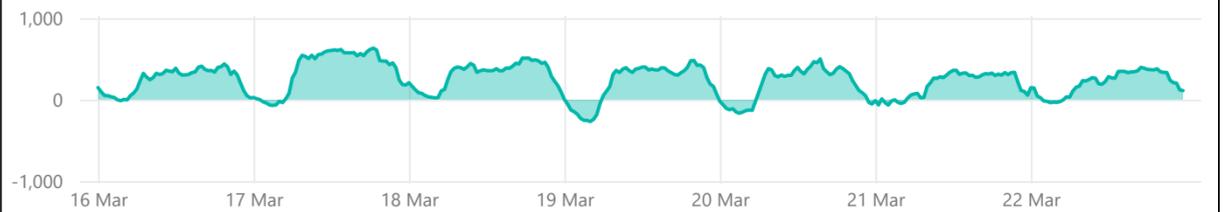
Reserve Prices - \$/MWh



Generation - MW



Net HVDC Transfer - MW (Northward positive)

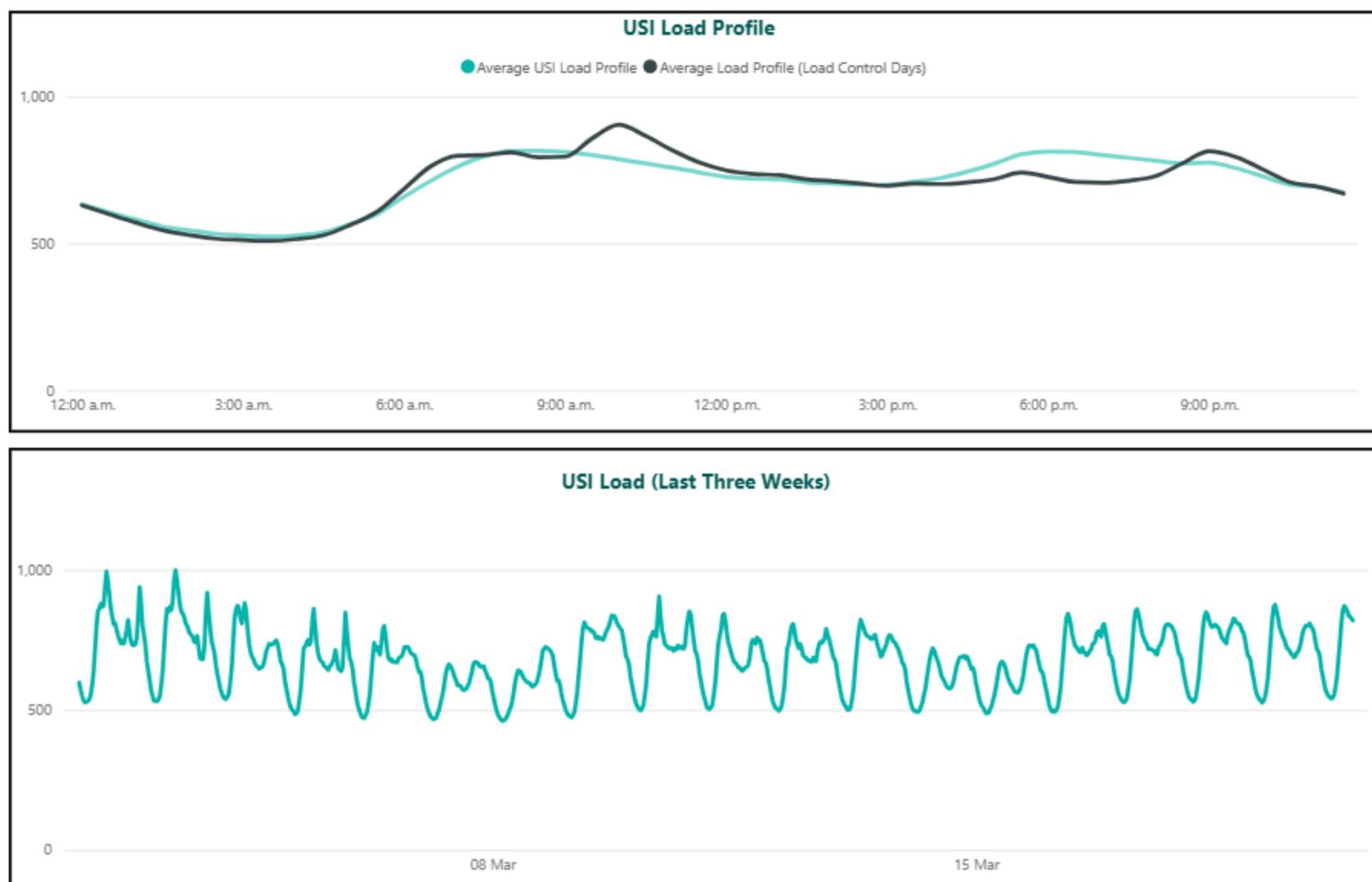


## Weekly Insight - Recent Load Control Testing

In recent weeks, [Orion](#) has begun testing its load control systems, and the impact is already visible in grid demand profiles, prompting a closer look at how load control is influencing system behaviour.

Load control refers to the management of electricity demand to reduce stress on the power system during peak usage periods. There are different types of load control, one being load reduction where electricity demand is temporarily reduced during peak periods. Another form of load control is load shifting, which refers to moving non-essential electricity use during peak periods to off-peak periods.

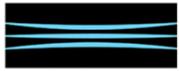
Hot water ripple control is a common form of load control. EDBs own and operate ripple control plants which send signals through the electricity network. These signals are detected by ripple relays at the consumer end and respond by switching off and delaying the re-heating of electric hot water cylinders during peak demand periods. By reducing or shifting load away from peak periods, EDBs can also dampen price spikes in the wholesale market, lowering costs for consumers and improving overall system efficiency.



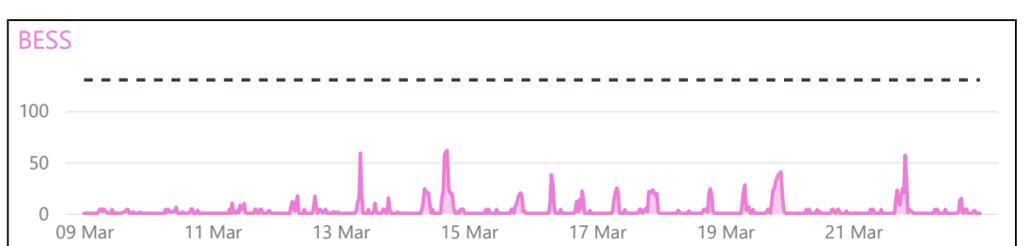
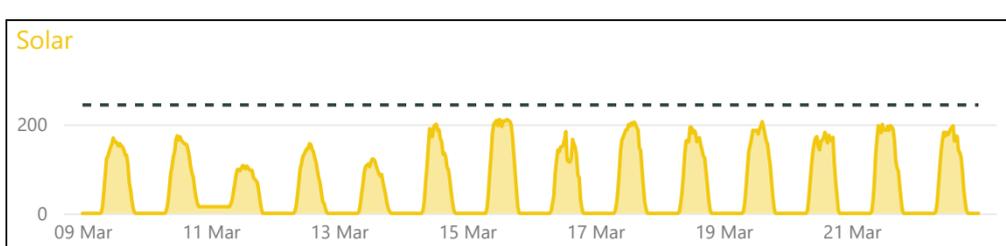
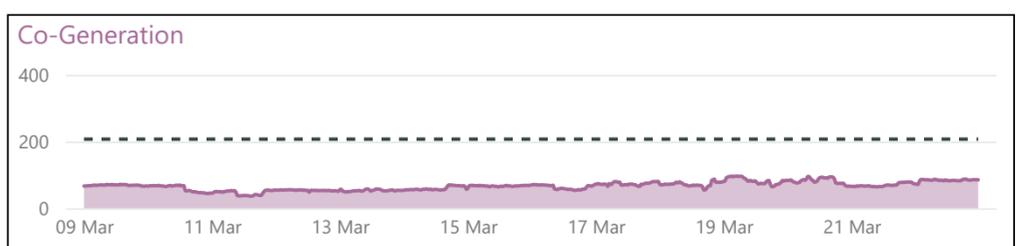
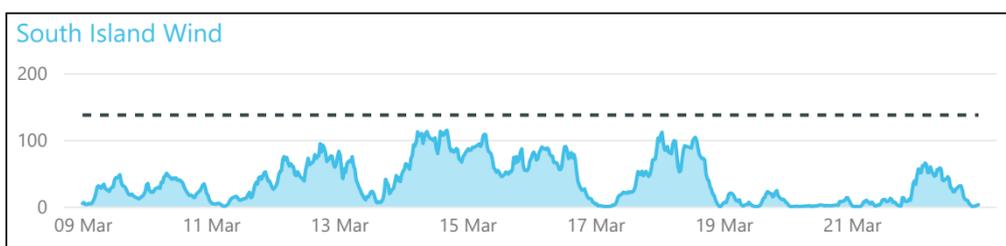
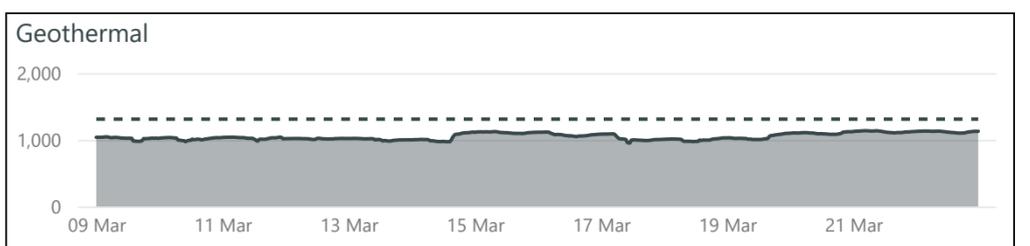
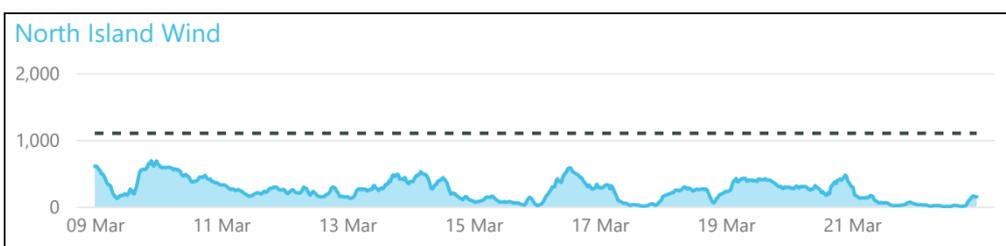
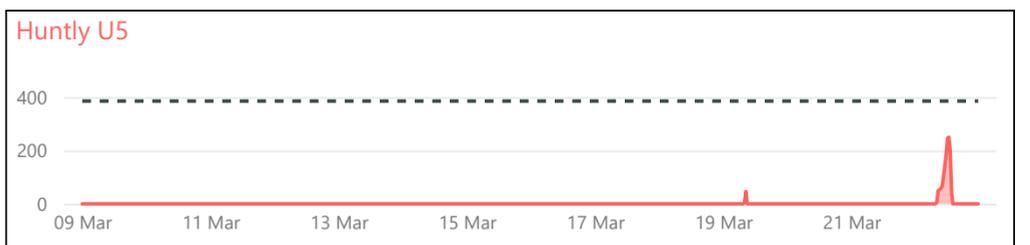
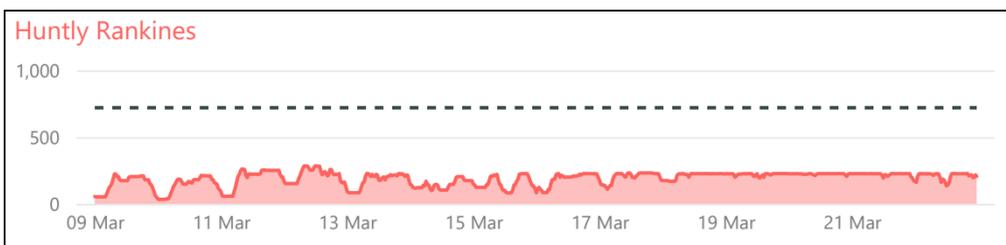
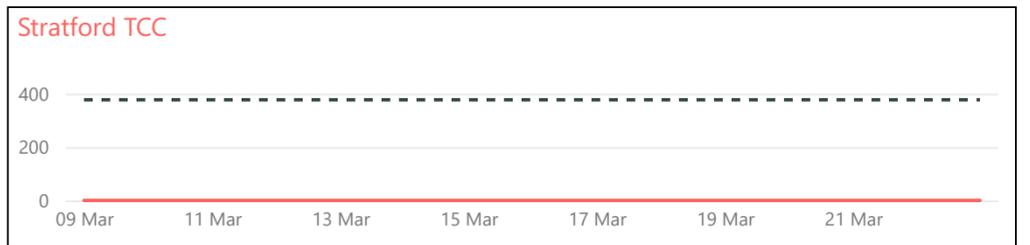
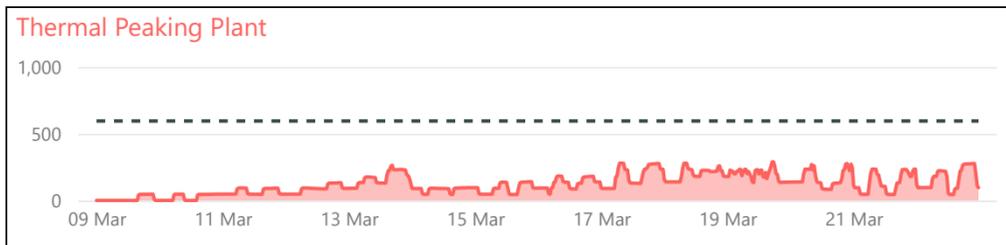
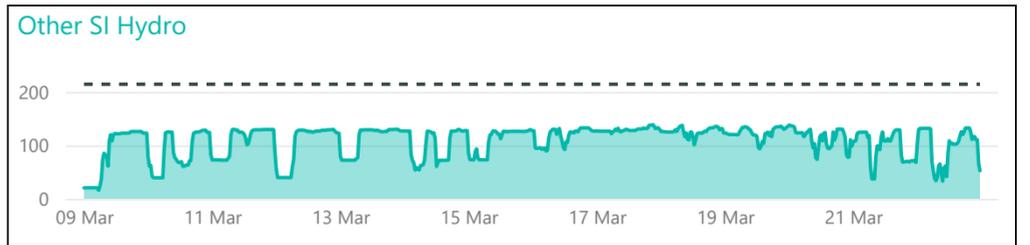
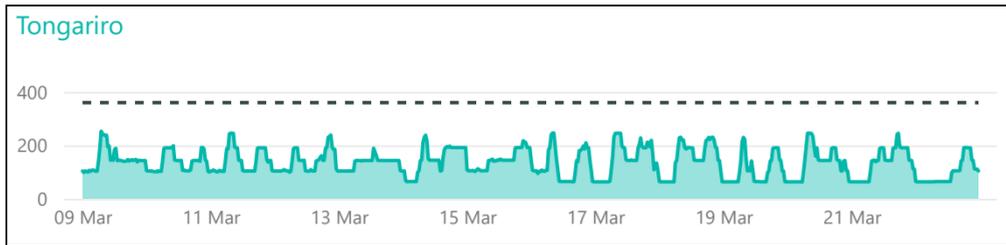
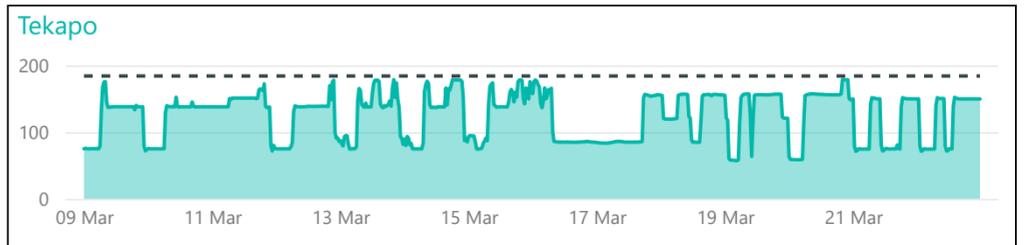
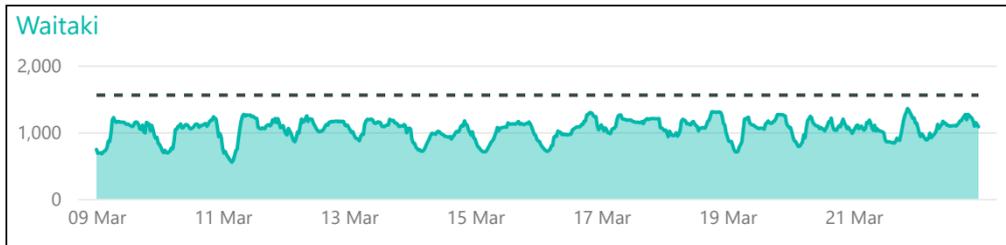
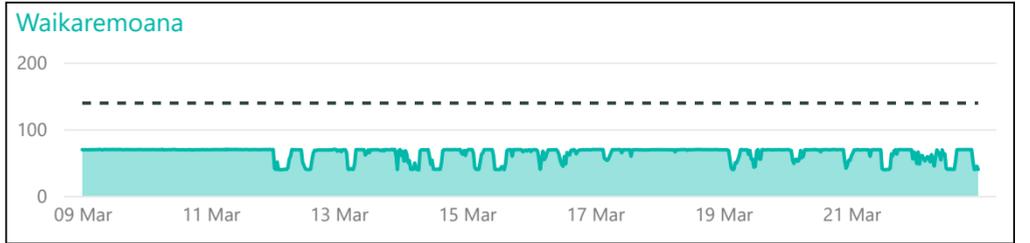
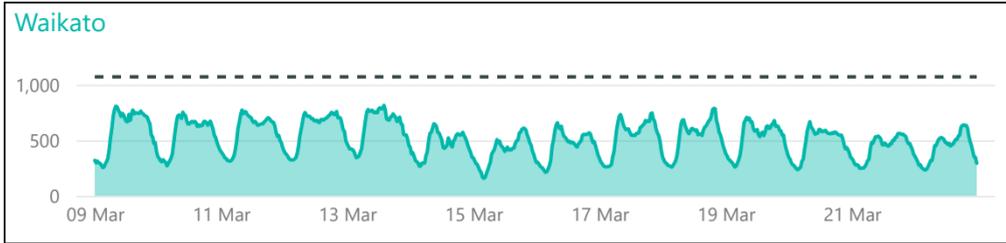
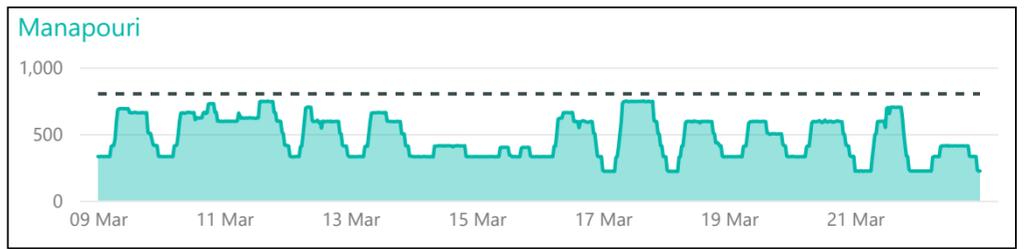
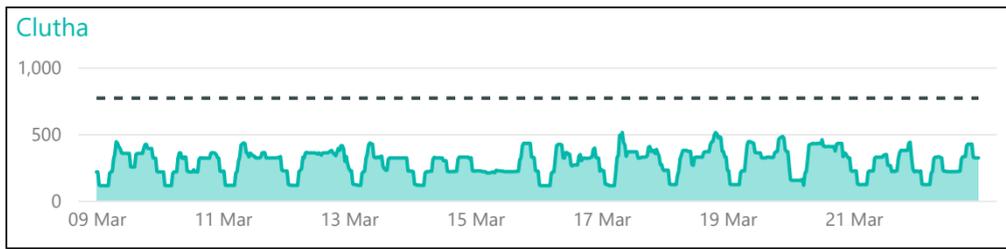
The comparison between the standard Upper South Island (USI) daily load profile and the recent profile during load control testing highlights a clear shift in demand behaviour. Under testing conditions, the load shape becomes noticeably less familiar, with morning and evening peaks flattened and occurring outside their more typical periods. This clearly demonstrates active intervention by the load manager to suppress and shift demand. This effect is further reinforced in the three-week load trace, where increased irregularity and more frequent step changes in demand are evident, reflecting the dynamic switching of controlled load in response to system conditions. Together, these charts illustrate how even short-term testing of load control can materially alter aggregate demand patterns on the grid.

For the System Operator, load control introduces additional complexity. Because controlled load can be rapidly added or removed, it affects the accuracy of the load forecasting model which feeds market solves in SPD (Scheduling, Pricing & Dispatch model). The System Operator security assessments in preparation for real-time and market price signals to participants for the near future can be negatively impacted if the timing and magnitude of control is not well understood or signalled.

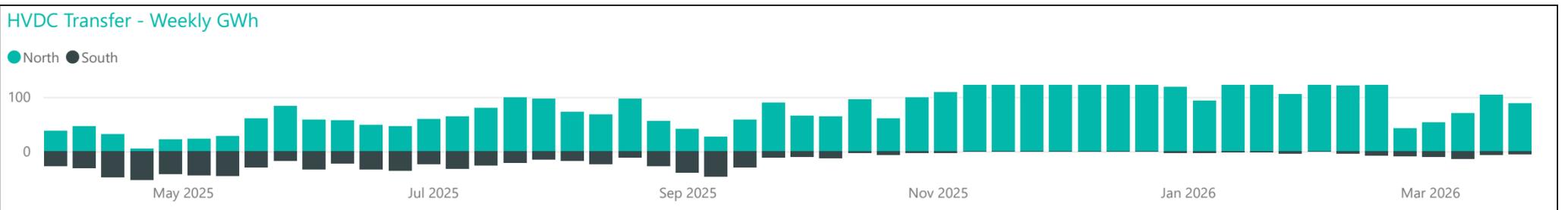
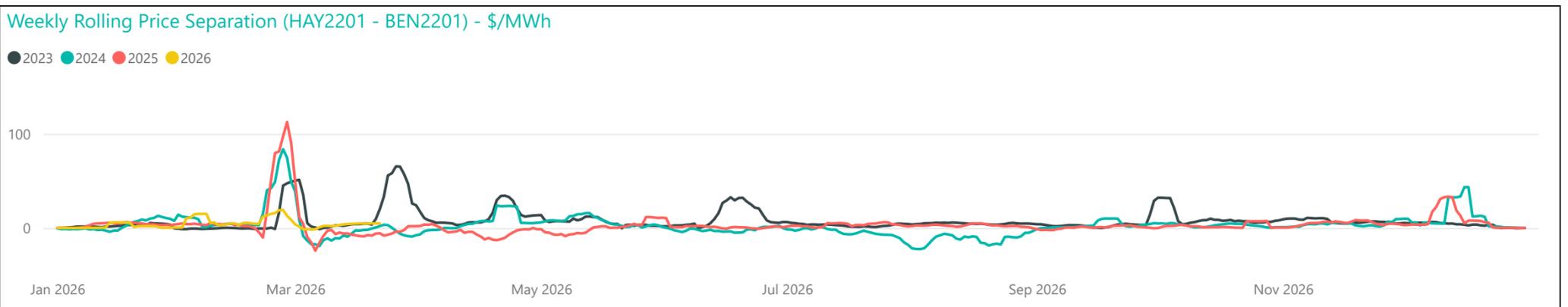
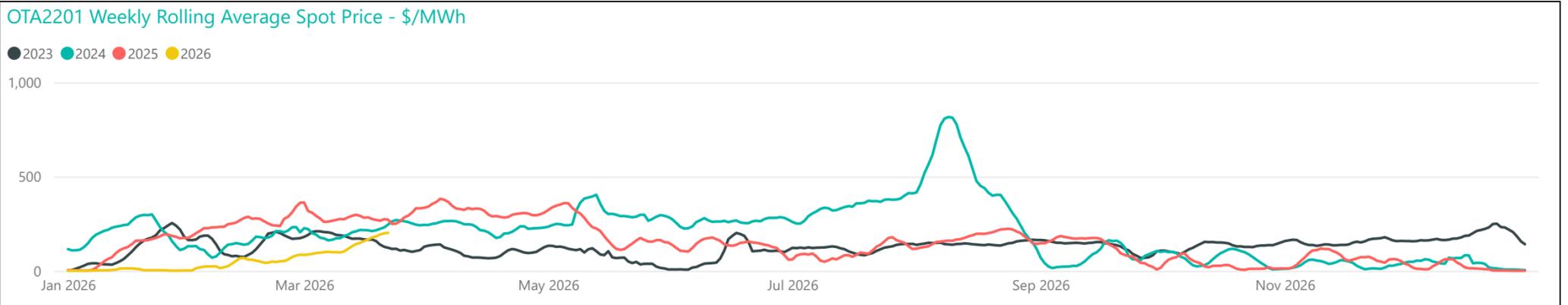
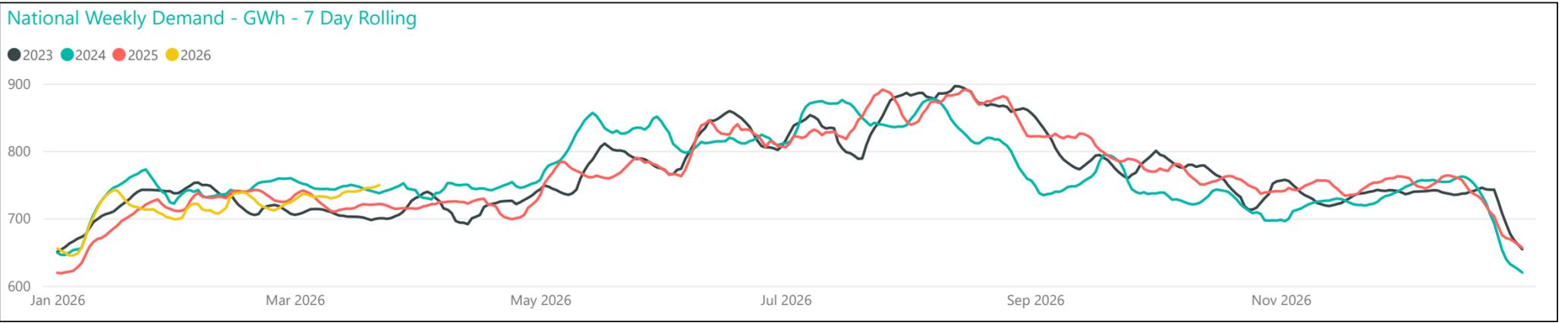
This makes visibility of load control activity critical. Improved transparency allows the System Operator to better anticipate demand patterns, produce more accurate forecasts for its security assessments, and ensure that market information reflects true system conditions.



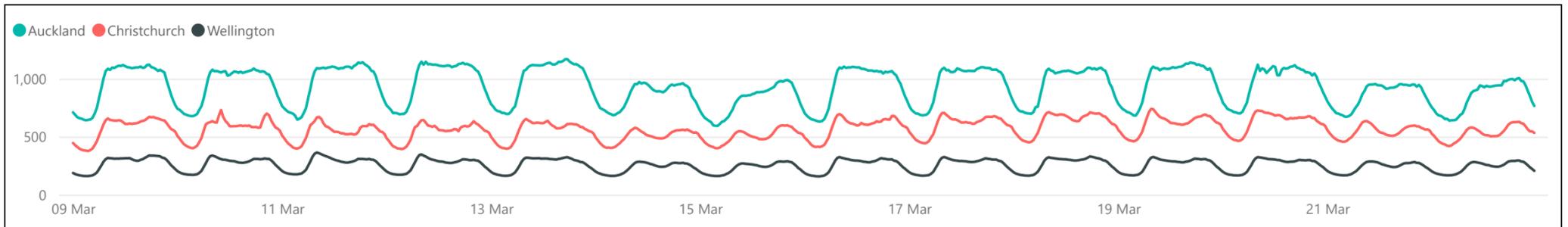
Generation Breakdown - Last Two Weeks *Measured in MW and displayed at trading period level for last 14 days*



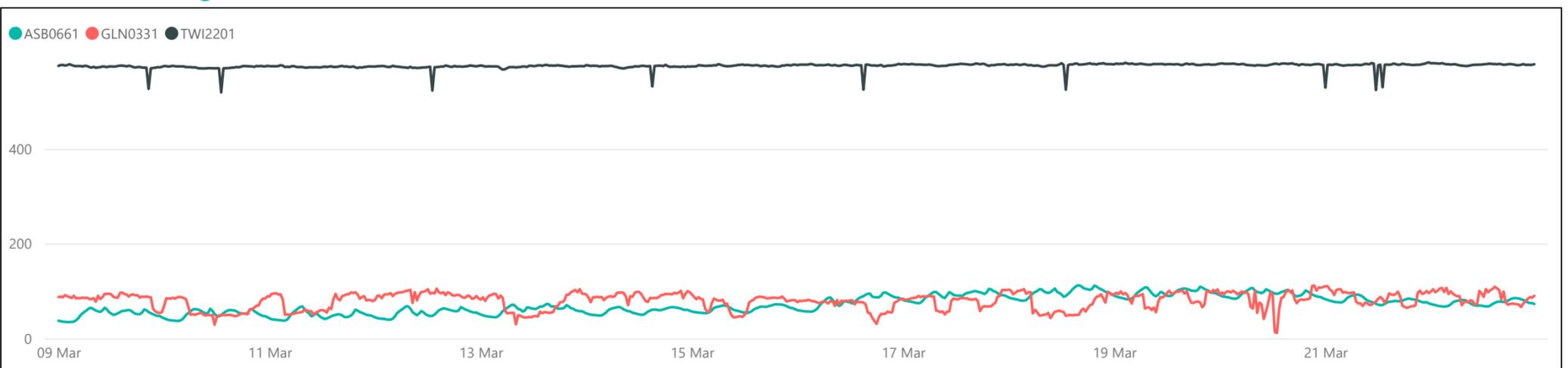
Weekly Profiles



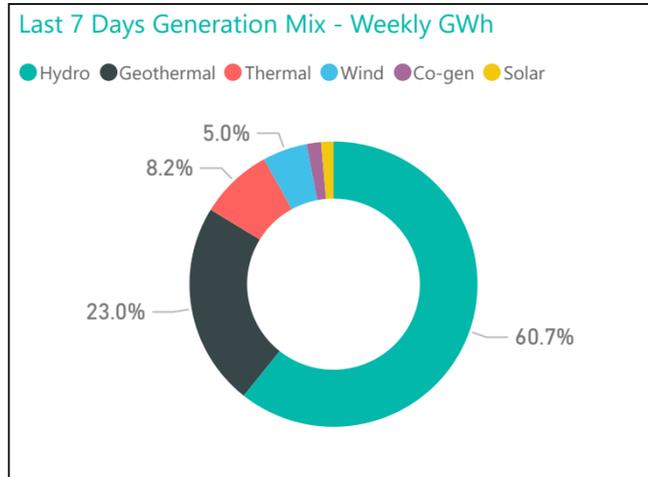
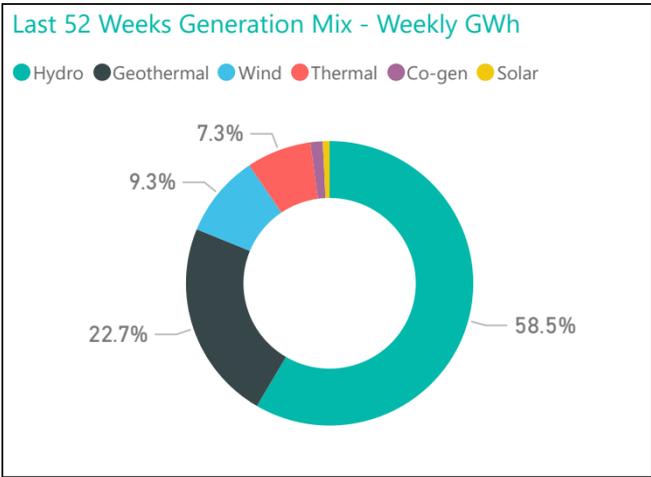
Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



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



### Generation Mix



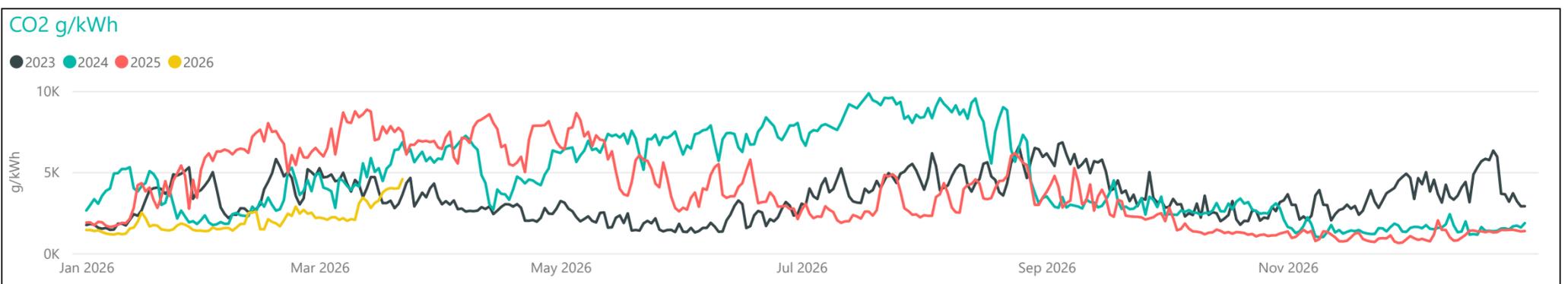
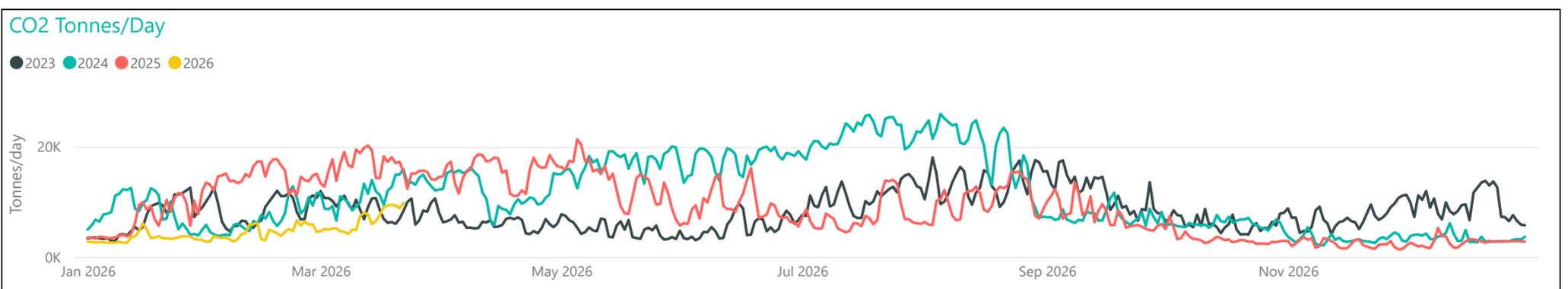
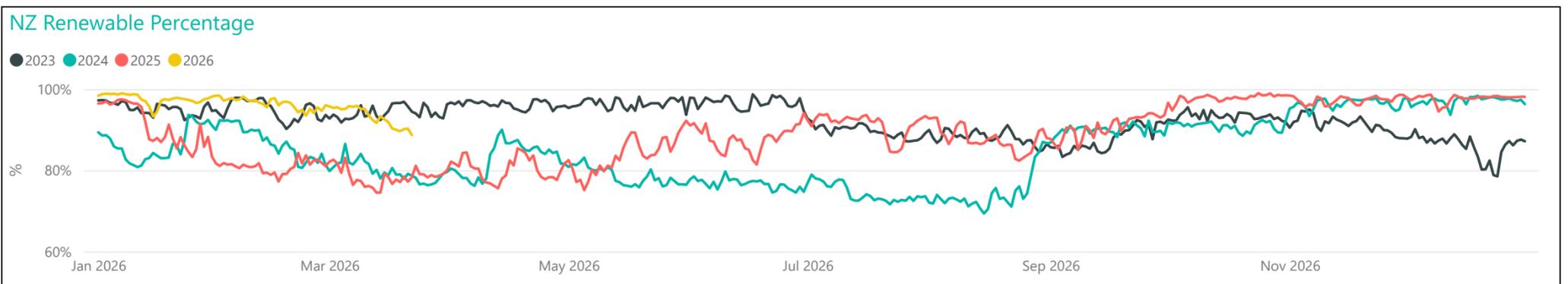
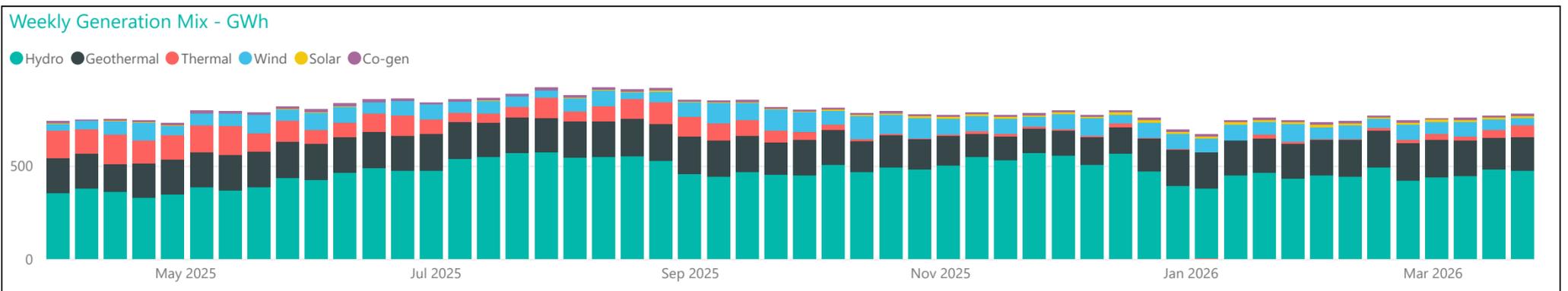
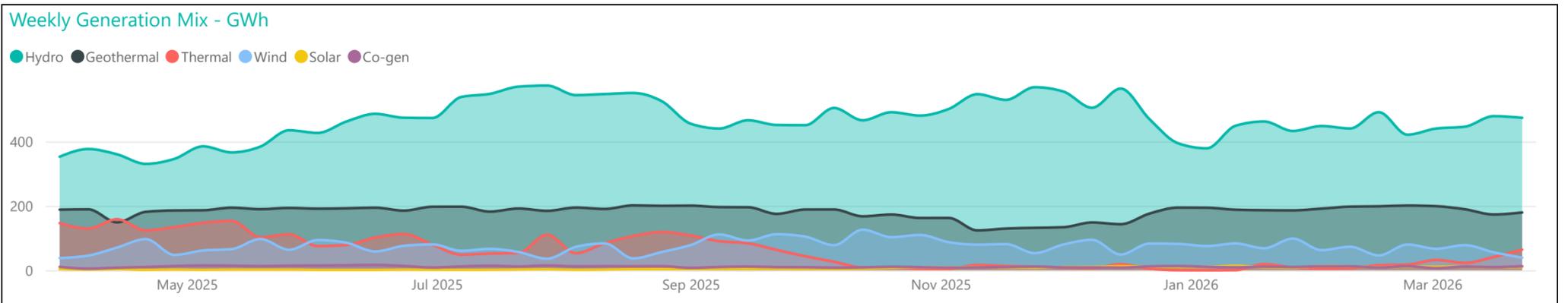
#### Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
<b>90%</b>	<b>63,489</b>	<b>81.8</b>

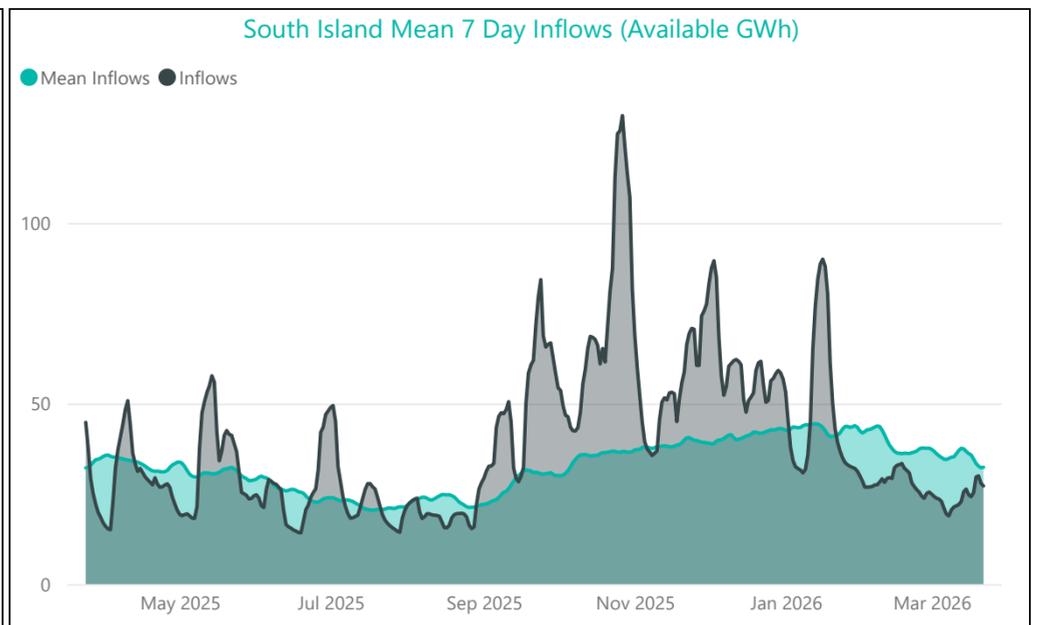
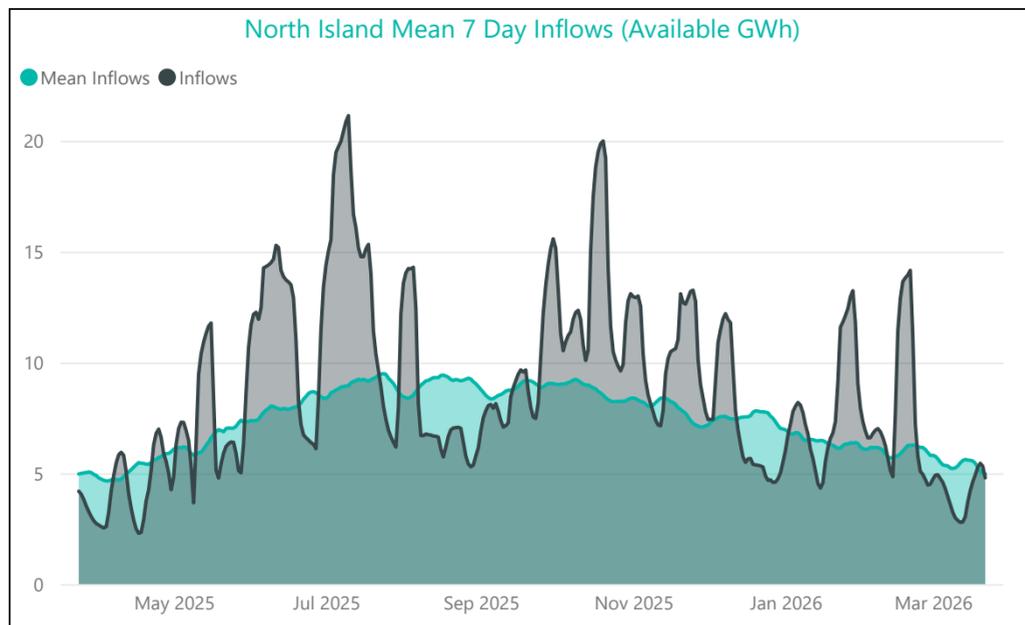
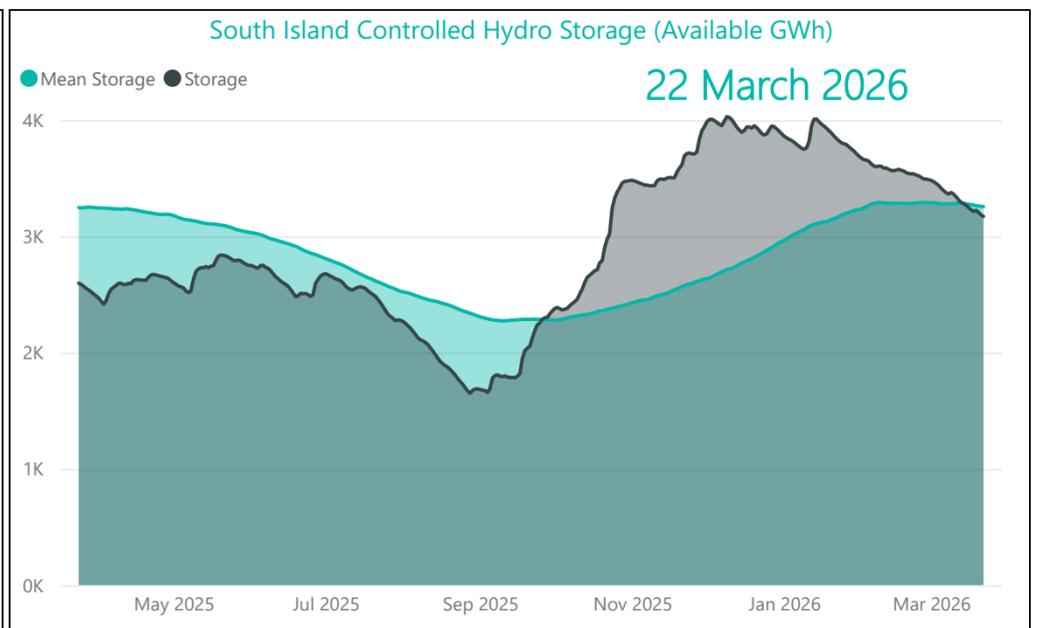
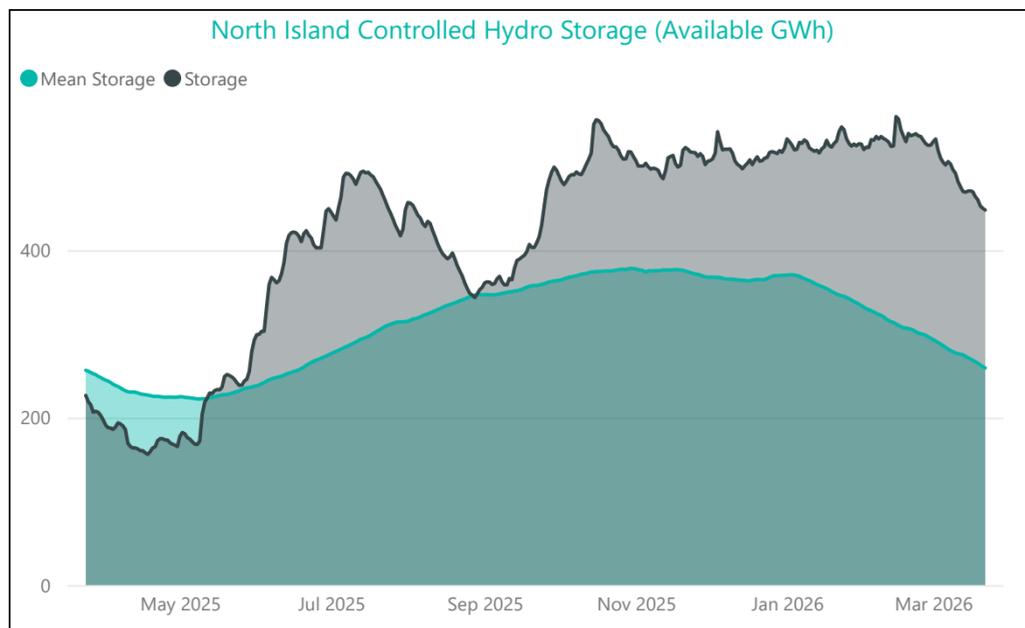
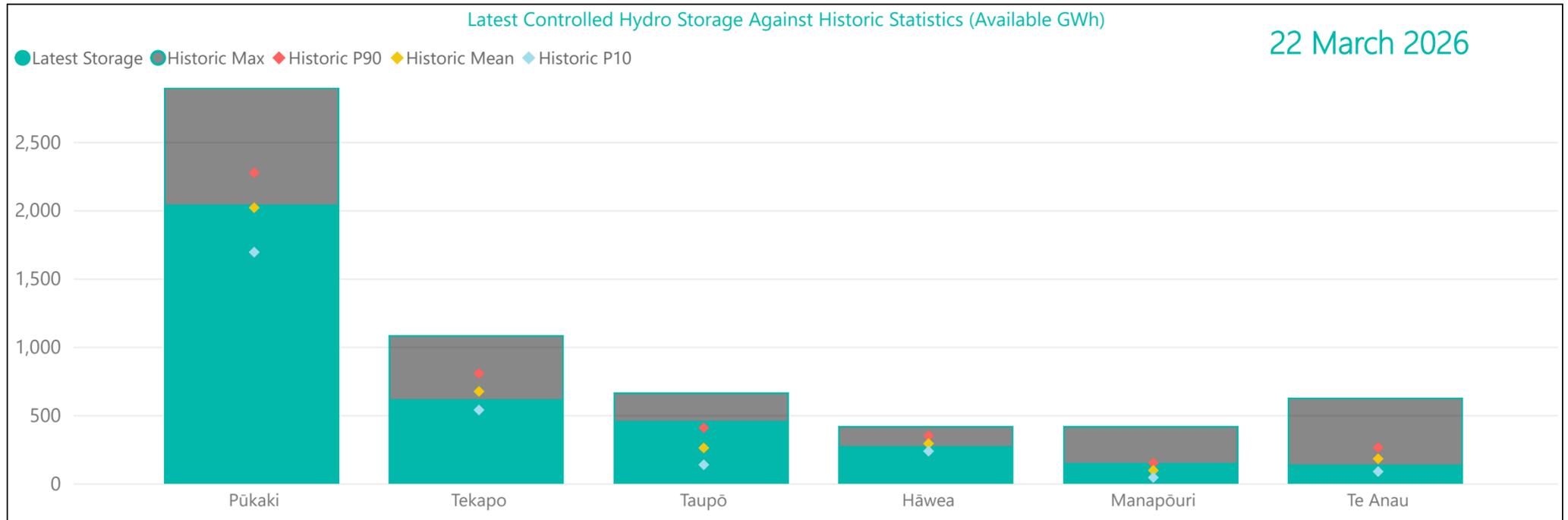
  

#### Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
<b>91%</b>	<b>52,170</b>	<b>64.7</b>



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>.

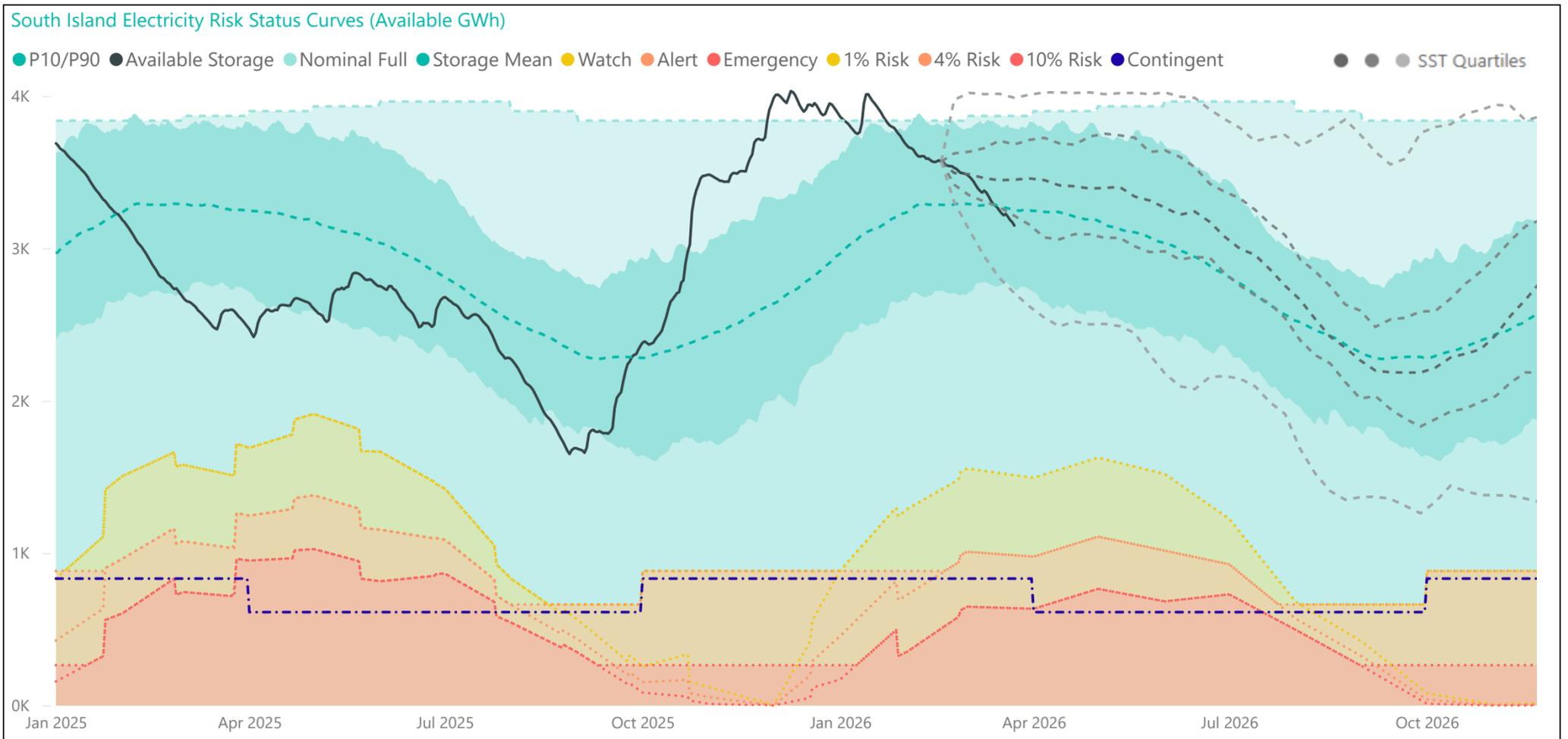
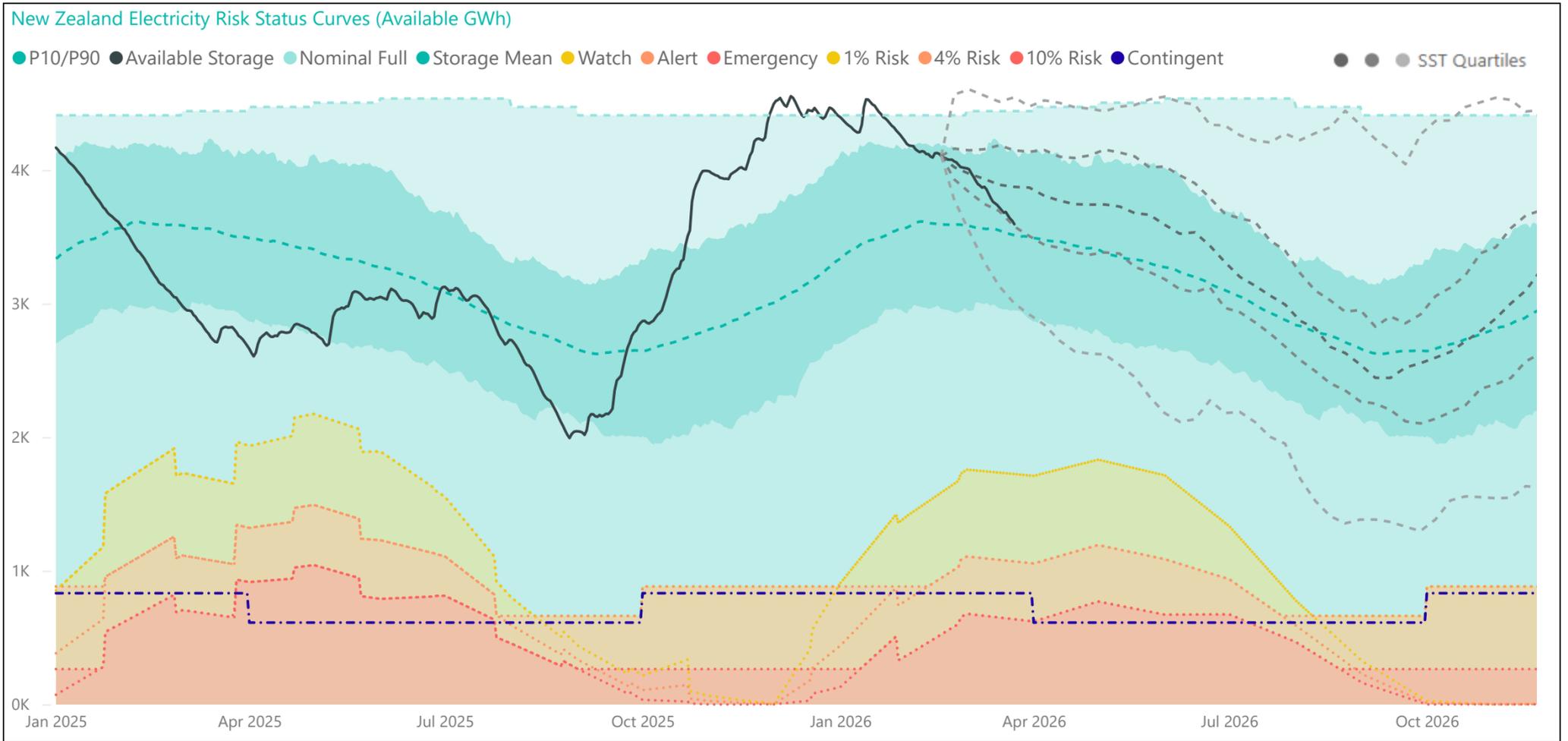
For any inquiries related to security of supply contact [market.operations@transpower.co.nz](mailto:market.operations@transpower.co.nz)

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).