Market Operations Weekly Report - Week Ended 1 February 2026

Overview

New Zealand hydro storage has started to decline but remains above the 90th percentile at 117% of the historic mean. This is contributing to the consistent high levels of renewable generation in the mix since October.

This week's insight takes a closer look at renewable generation performance in recent months and its influence on carbon emissions.

Security of Supply

Energy

National hydro storage decreased from 122% to 117% of the historic mean. South Island hydro storage decreased from 119% to 113% of the historic mean, and North Island storage increased from 154% to 157%.

Capacity

Residuals were healthy with over 1000 MW of residual over all peaks last week. The lowest residual of 1343 MW occurred during the morning peak on Wednesday 28 January.

The N-1-G margins in the NZGB forecast are healthy through to the end of March. 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 decreased to 700 GWh from 712 GWh the week before and was the lowest for this time of year since 2023. The highest demand peak of 4,945 MW occurred at 5:30 pm on Thursday 29 January.

Weekly Prices

The average wholesale electricity spot price at Ōtāhuhu last week was $2/MWh, slightly decreasing from $3/MWh the week prior. Wholesale prices peaked at $12/MWh at Ōtāhuhu at 9 pm on Thursday 29 January. There were several instances of price separation between the North and South islands throughout the week, when HVDC northward flow reached its maximum capacity.

Generation Mix

Total renewable contribution to the mix was 98% last week, the 17th consecutive week above 96%. This consisted of hydro generation which remained above its average at 61% of the generation mix. Wind generation was close to average at 8% of the mix, solar generation was 2% of the mix and the geothermal share was 27% of the mix, above its average contribution of 23%. Thermal generation was below 1% of the mix.

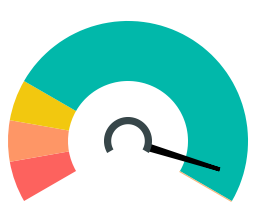
HVDC

HVDC flow was entirely northward last week with high hydro generation and higher demand in the North Island. In total, 70 GWh was transferred north.

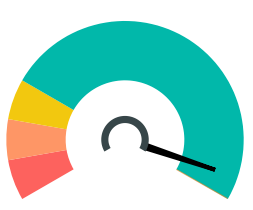
Consultations

We have released our initial engagement paper as part of the development of a System Operator strategy. This outlines why a refreshed strategy is needed now and describes our approach to shaping the future of system operations. Responses are due by Friday 27 February.

New Zealand Energy Risk

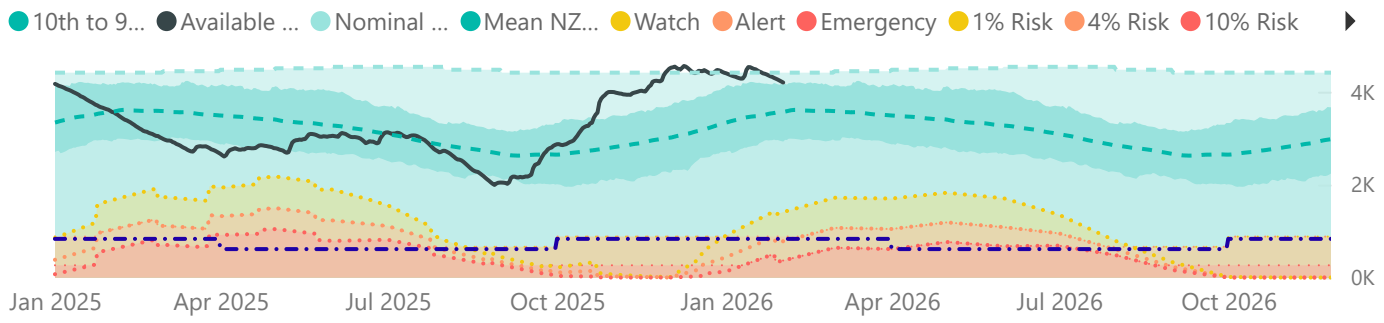


South Island Energy Risk

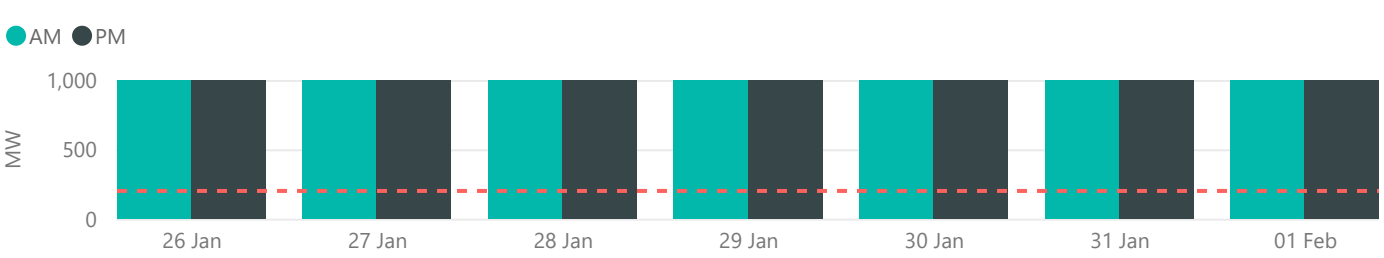


Normal Watch Alert Emergency

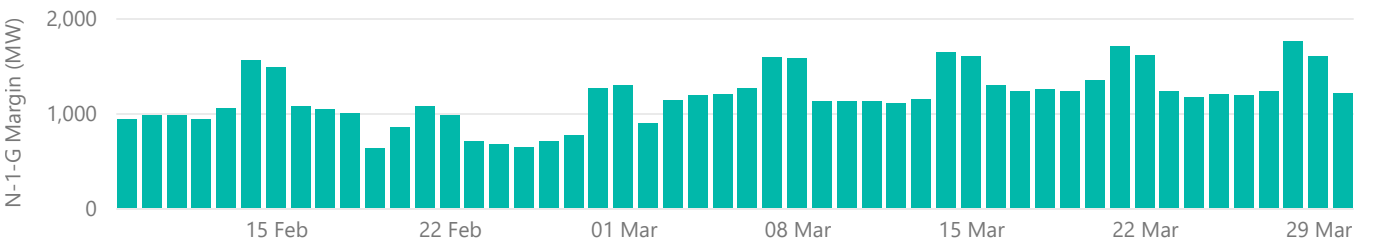
New Zealand Electricity Risk Status Curves (Available GWh)



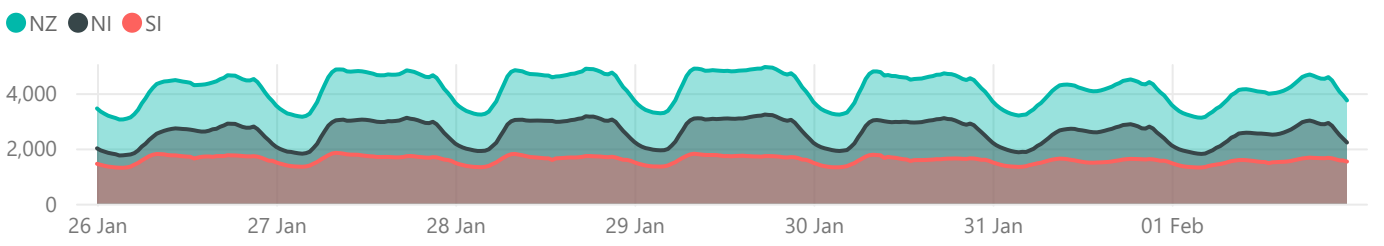
Lowest Residual Points - MW



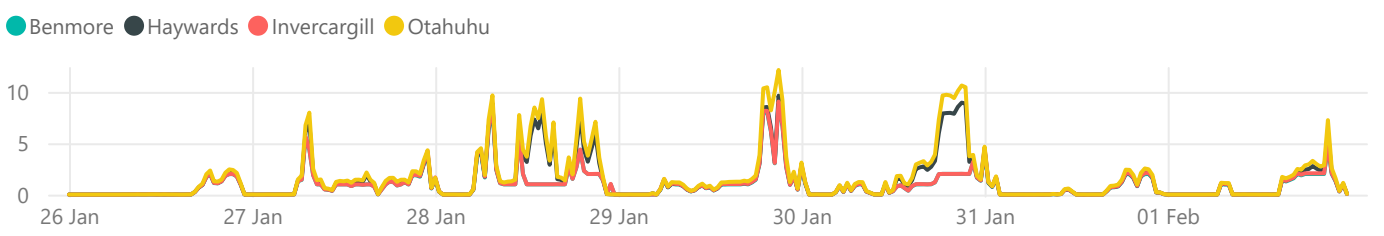
NZGB Look-Ahead (excluding next 7 days)



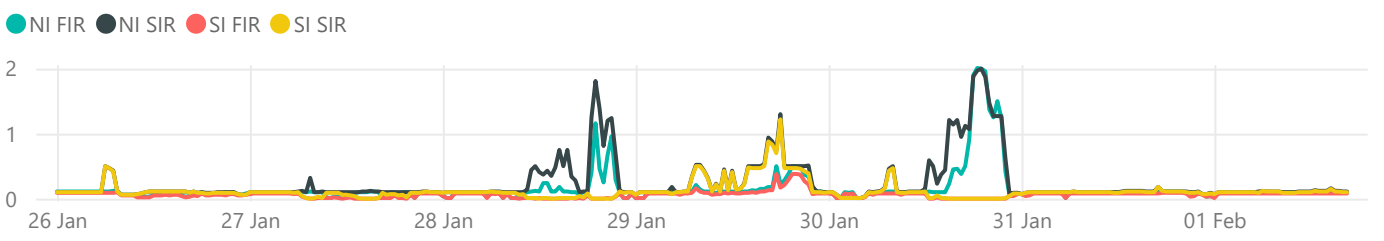
National Demand by Trading period - MW



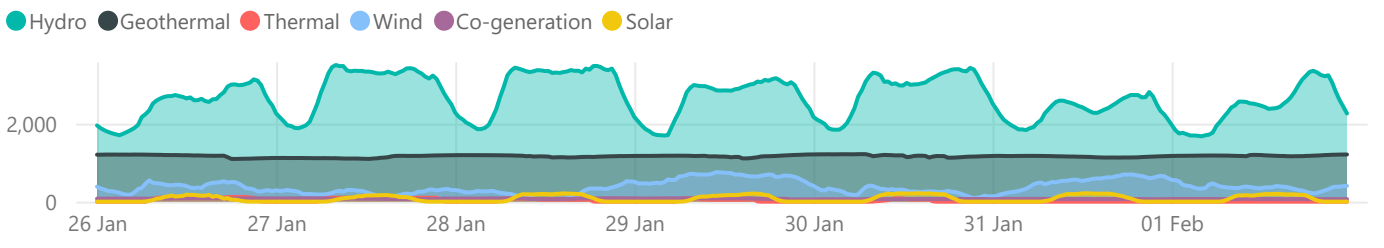
Energy Prices - $/MWh



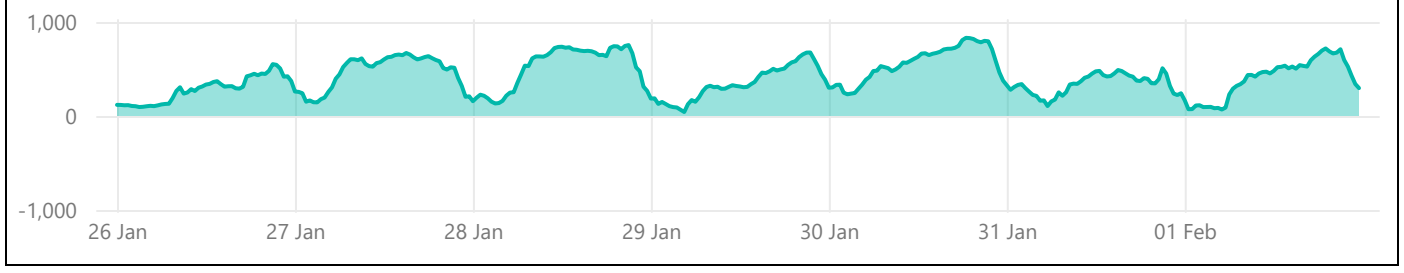
Reserve Prices - $/MW



Generation - MW



Net HVDC Transfer - MW (Northward positive)



Weekly Insight - Strong Renewable Performance and Low Carbon Emissions

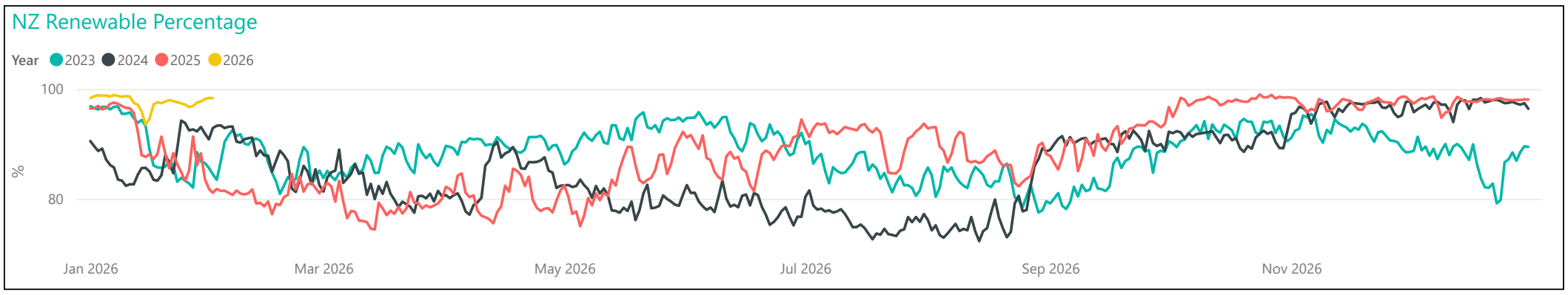
Market insight – Strong renewable performance and lower carbon emissions

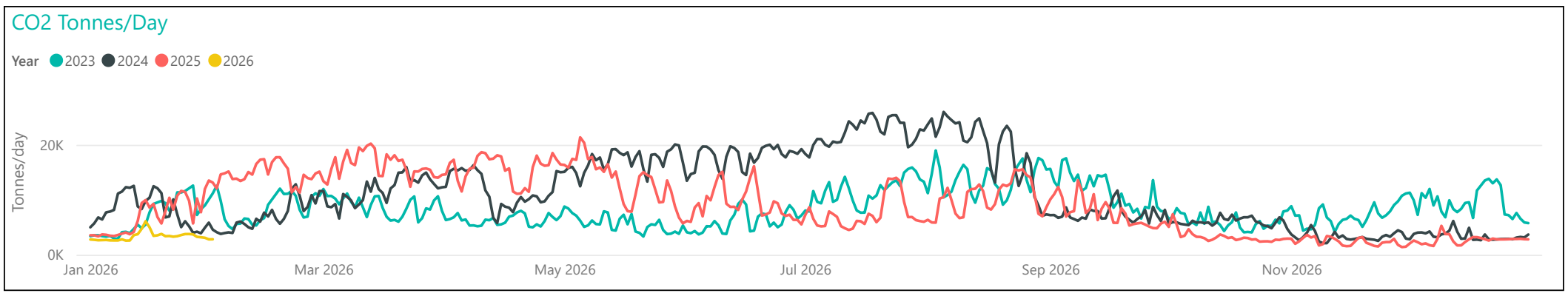
As we enter 2026, the power system is operating with a consistently high renewable contribution, supported by healthy hydro storage levels across the main catchments. Elevated storage through January reduced the appetite for sustained thermal dispatch, meaning New Zealand had little reliance on gas and coal during peak demand periods. This translated into a materially lower emissions profile, with an average emission rate of 31.7 gCO_2/kWh for the grid in January 2026.

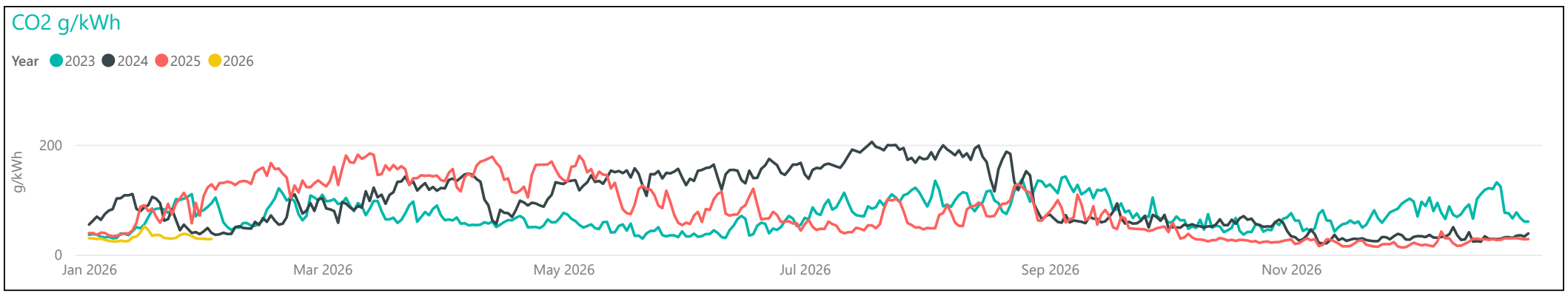
In January 2025, total system emissions were 218,896 tonnes, with an average emissions intensity of 67 gCO_2/kWh. By contrast, January 2026 recorded less than half of that, coming in at 103,506 tonnes at 31.7 gCO_2/kWh — a reduction of approximately 115,000 tonnes (-53%) in total emissions and a similar ~53% decrease in emissions intensity. This reflects materially lower thermal generation requirements, consistent with stronger hydro conditions and sustained renewable output at the start of 2026.

To contextualise the scale of the improvement, this year-on-year reduction of approximately 115,000 tonnes of CO_2 in January alone is equivalent to removing around 528,000 average passenger vehicles from New Zealand roads (assuming ~2.6 tCO_2 per vehicle per year). The monthly carbon emissions from the NZ transport sector in 2023 was approximately ~1.2 million tonnes.

For the System Operator, the data reinforces how strongly hydro storage conditions influence system-wide carbon outcomes, particularly during summer months when renewable penetration can materially displace thermal generation.





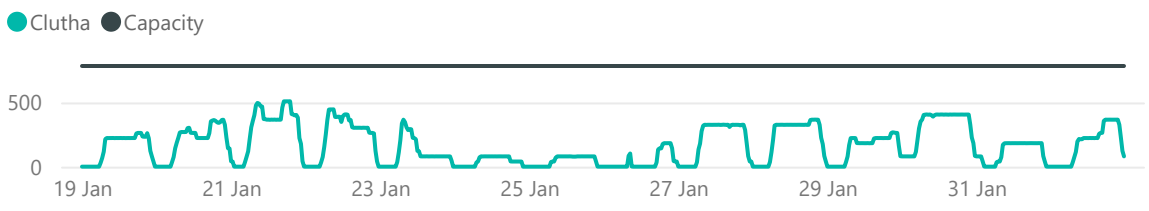


Data source: NZX Hydro

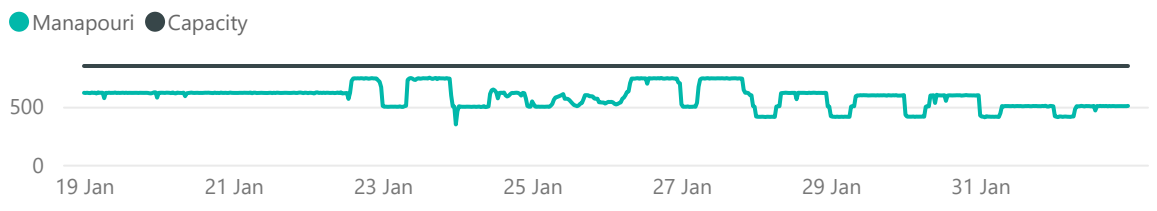
Generation Breakdown - Last Two Weeks

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

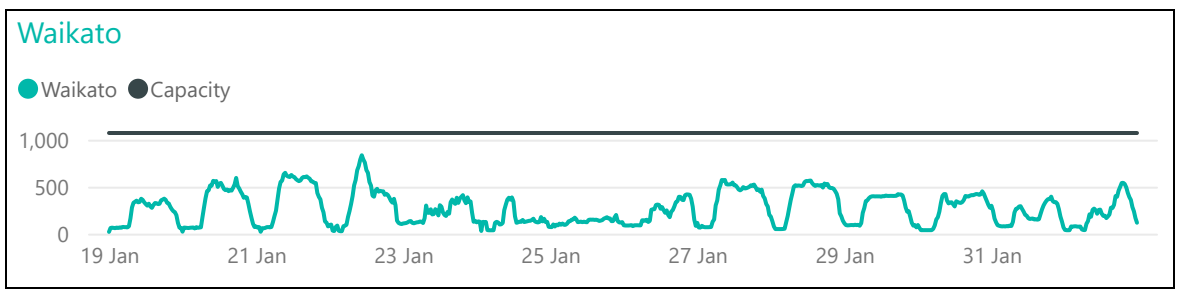
Clutha



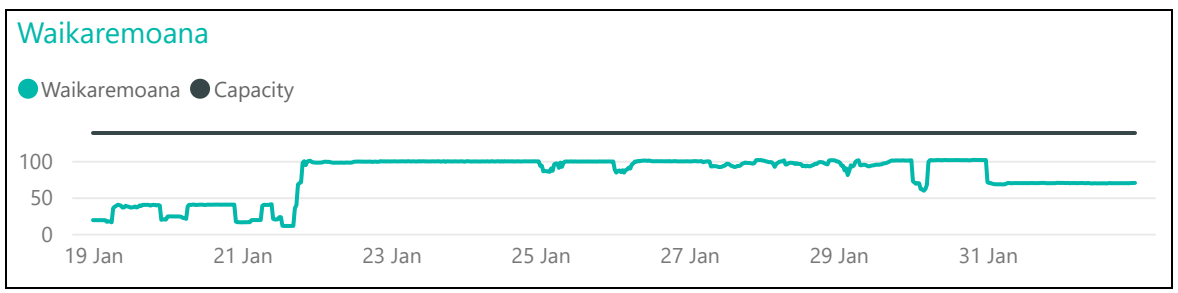
Manapouri



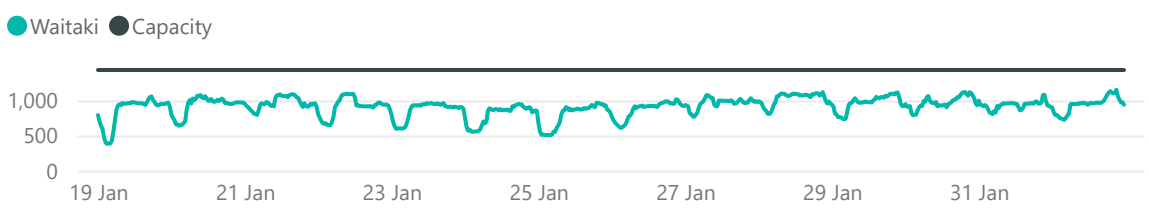
Waikato



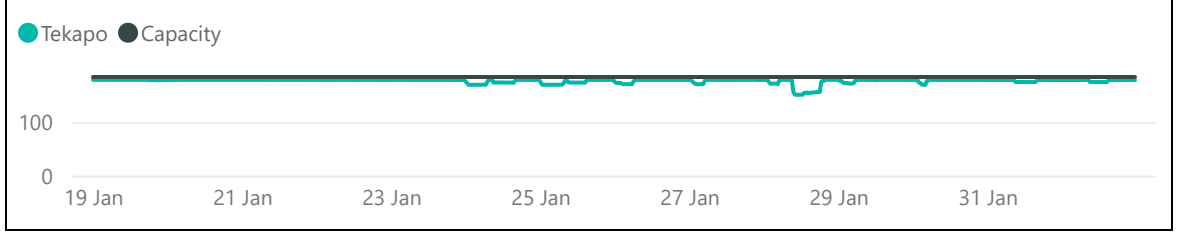
Waikaremoana



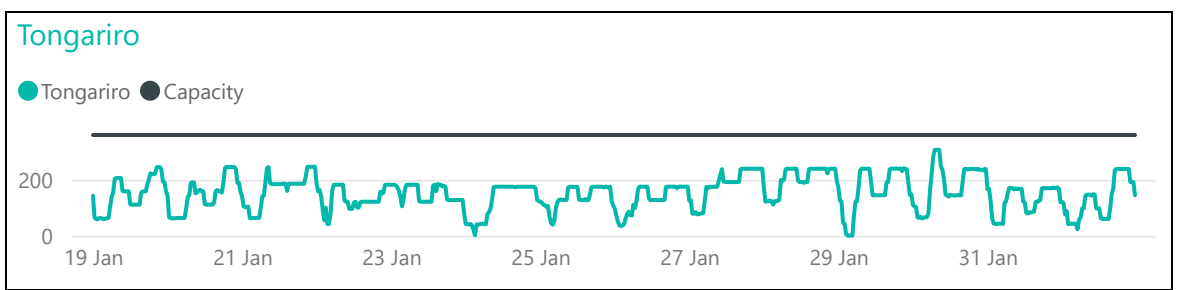
Waitaki



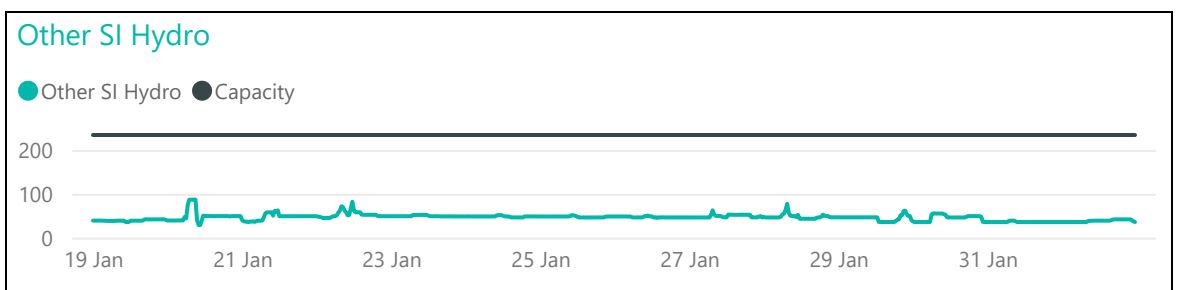
Tekapo



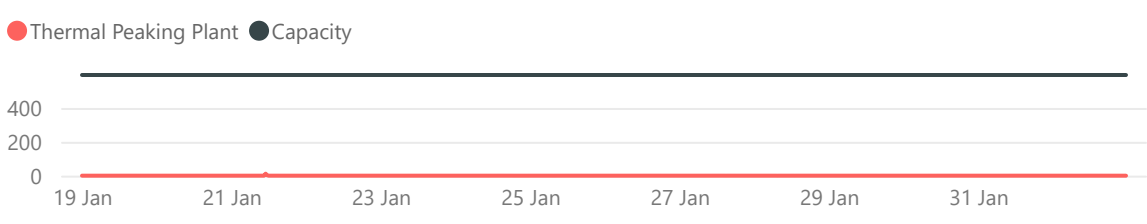
Tongariro



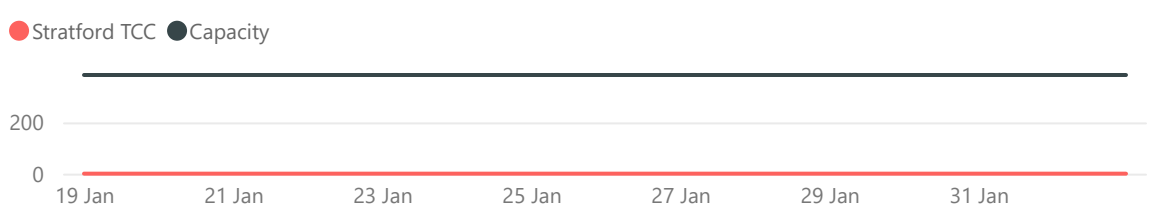
Other SI Hydro



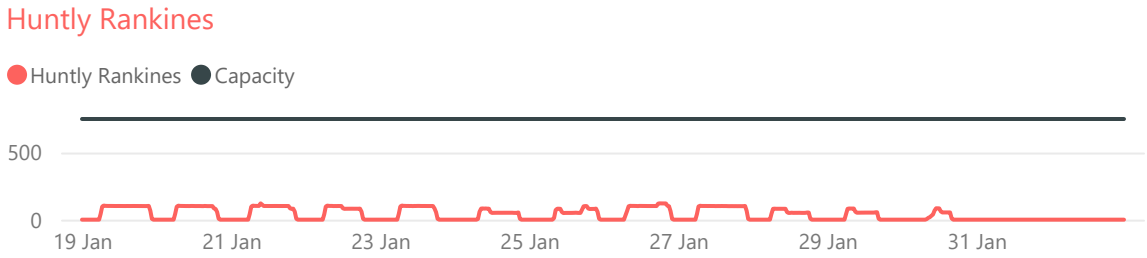
Thermal Peaking Plant



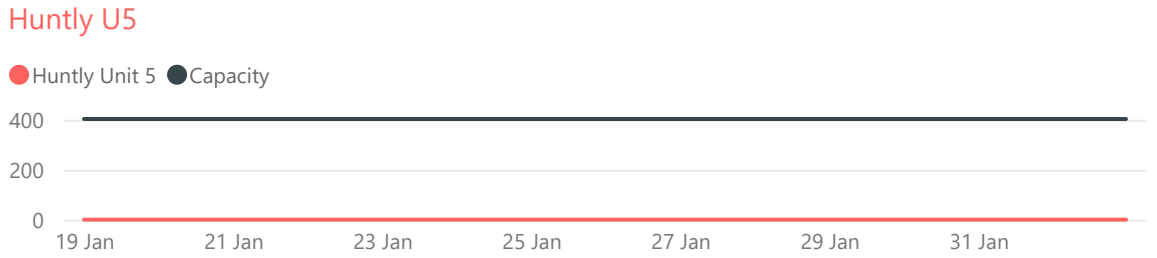
Stratford TCC



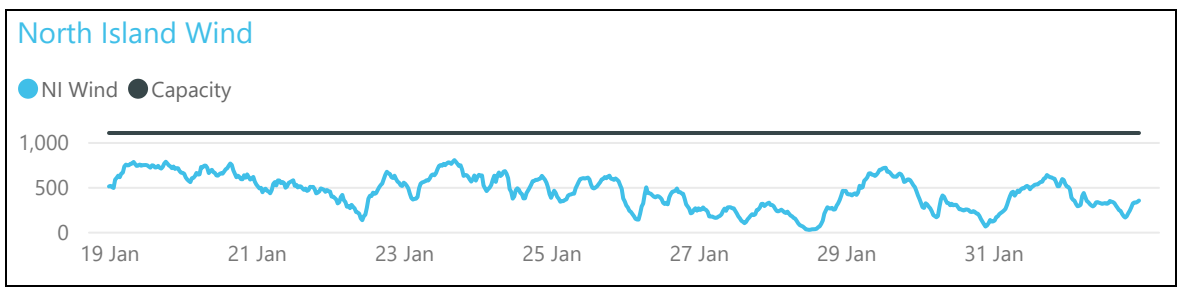
Huntly Rankines



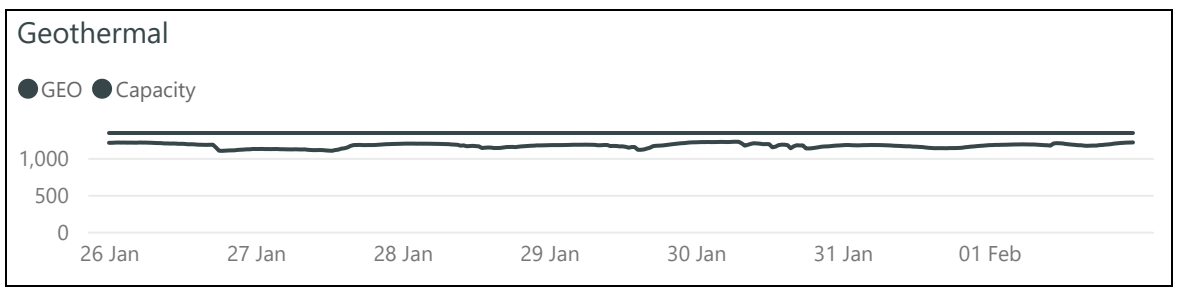
Huntly U5



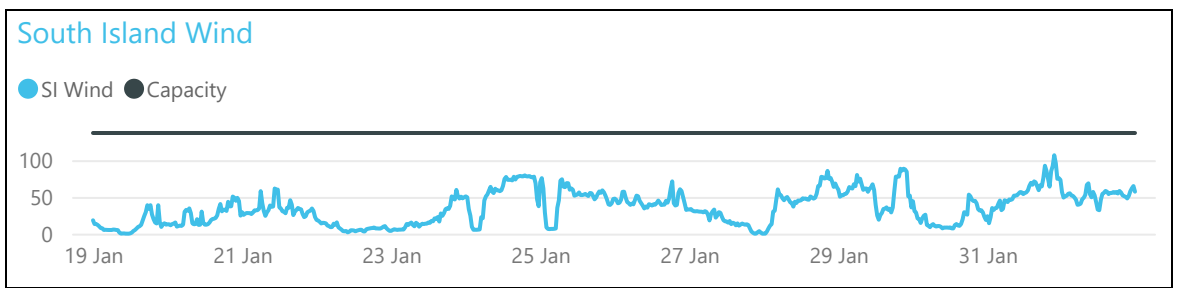
North Island Wind



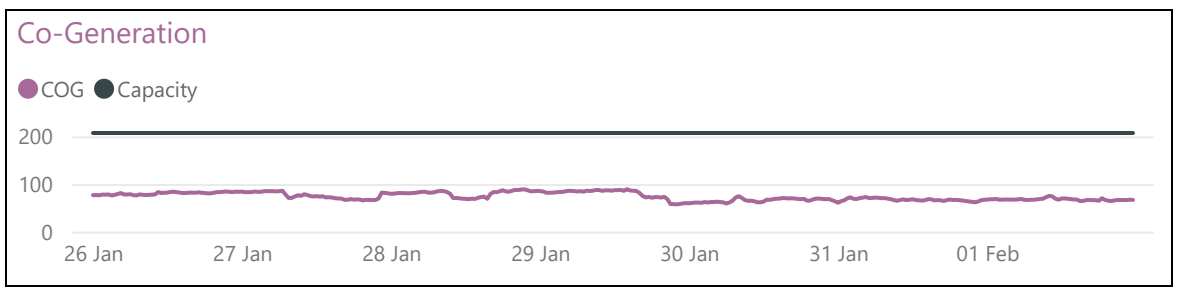
Geothermal



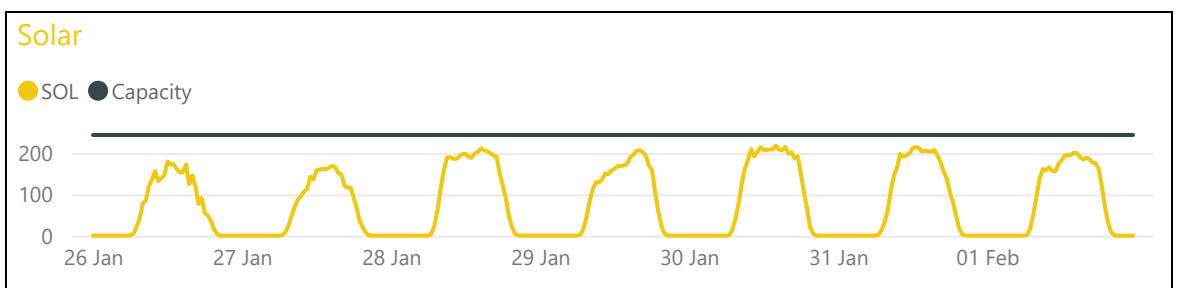
South Island Wind



Co-Generation

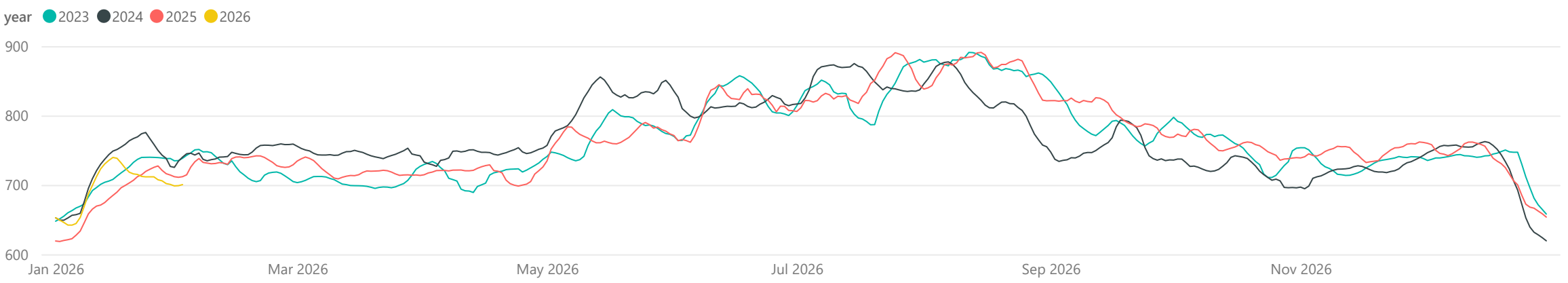


Solar

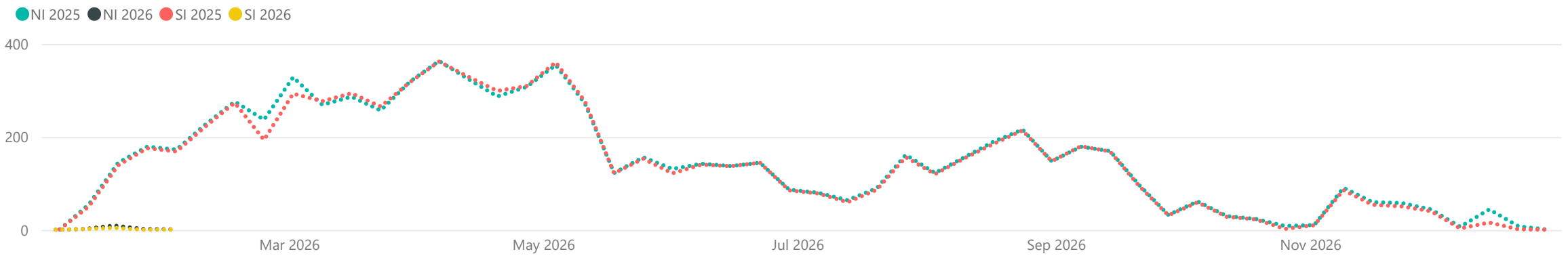


Weekly Profiles

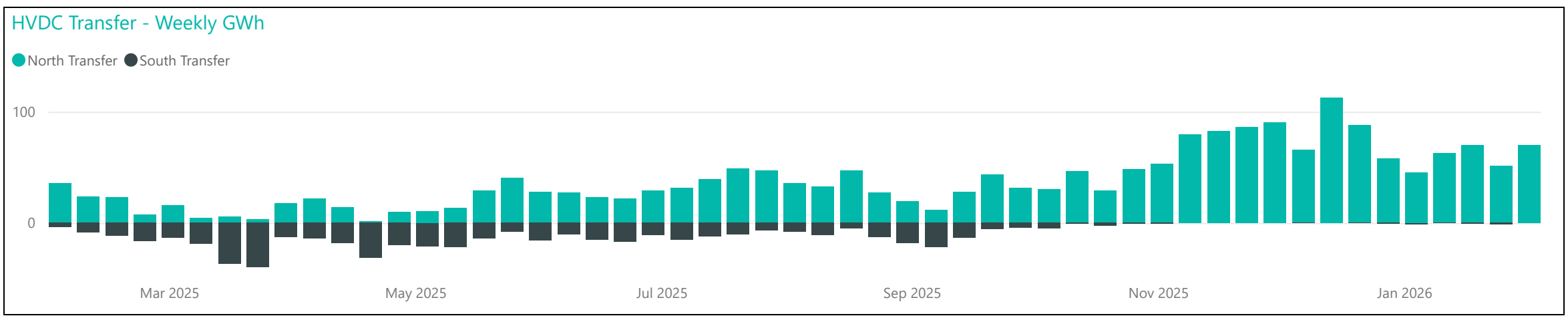
National Weekly Demand - GWh - 7 Day Rolling



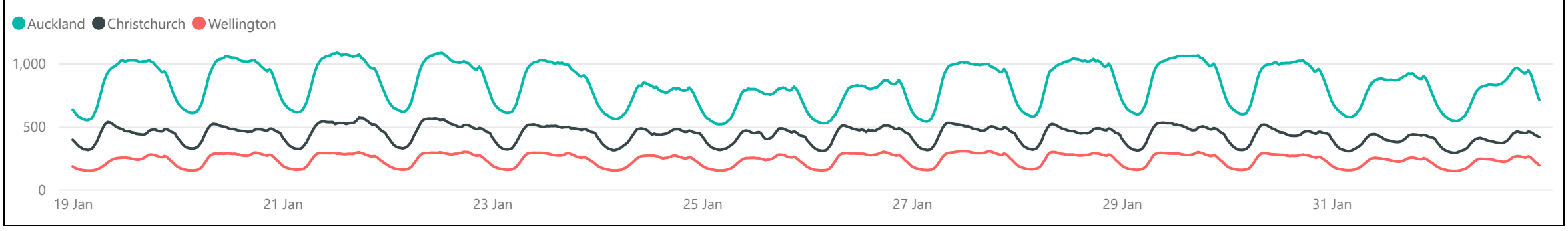
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

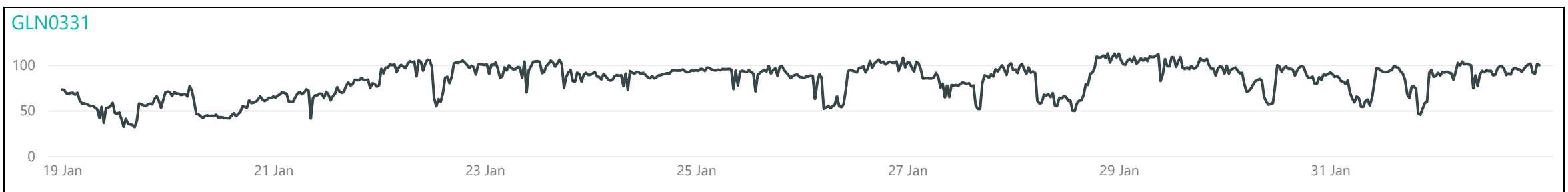


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



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

GLN0331



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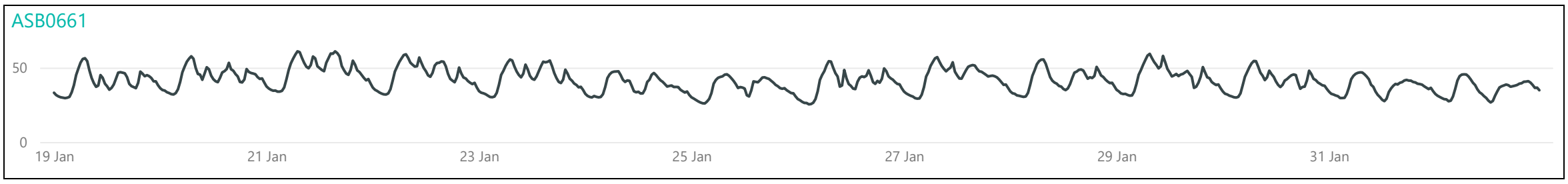

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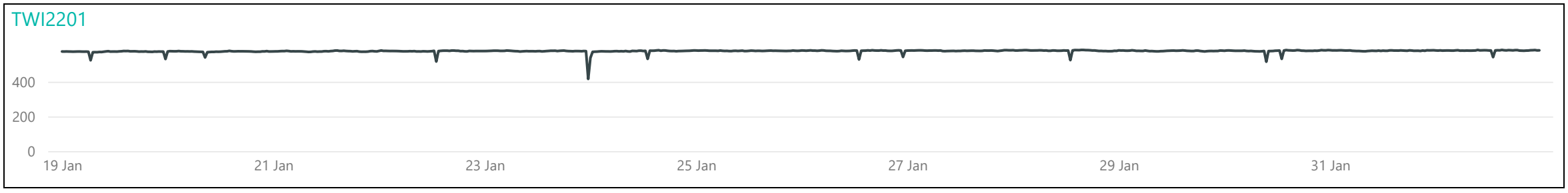
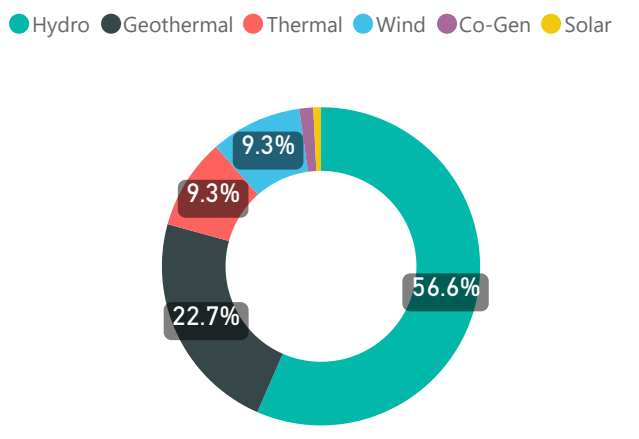


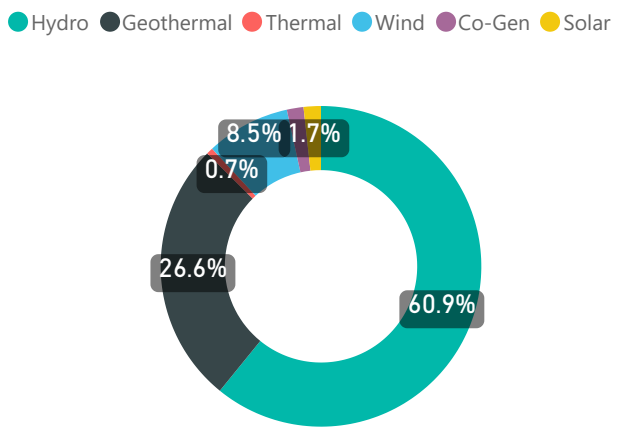
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



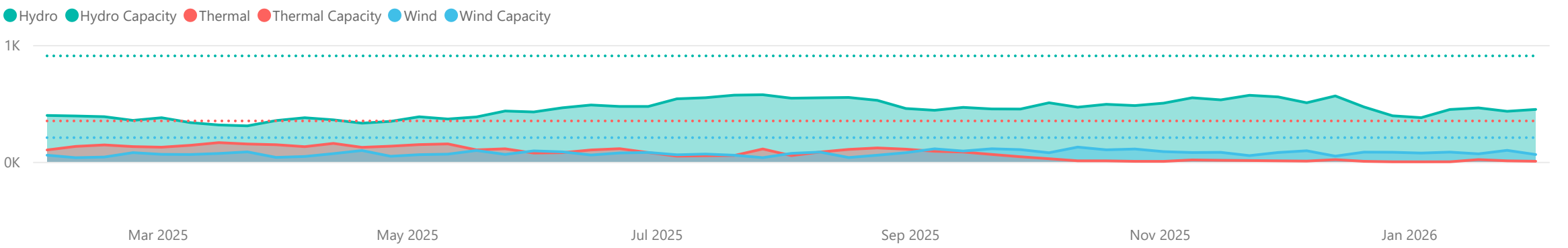
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
98%	22,572	30.8

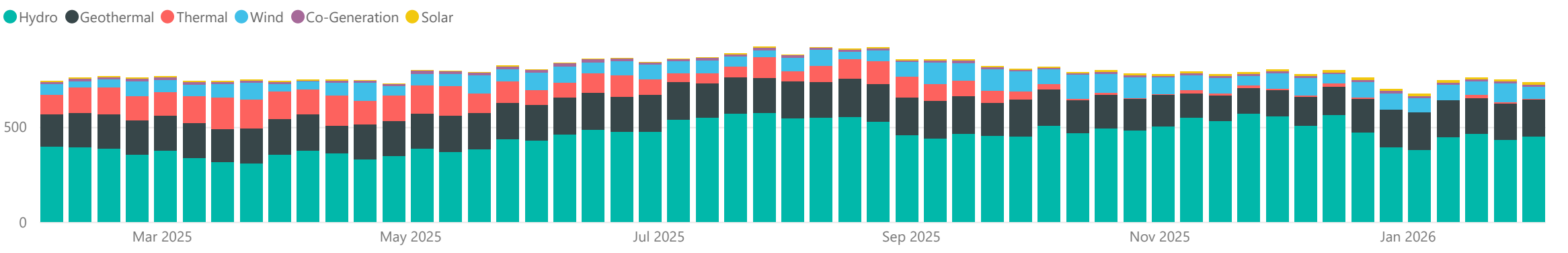
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
89%	62,017	77.7

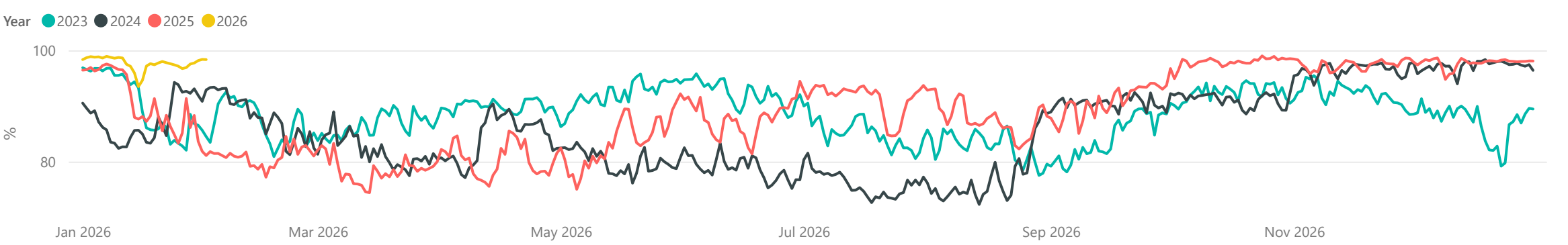
Weekly Generation Mix vs Capacity - GWh



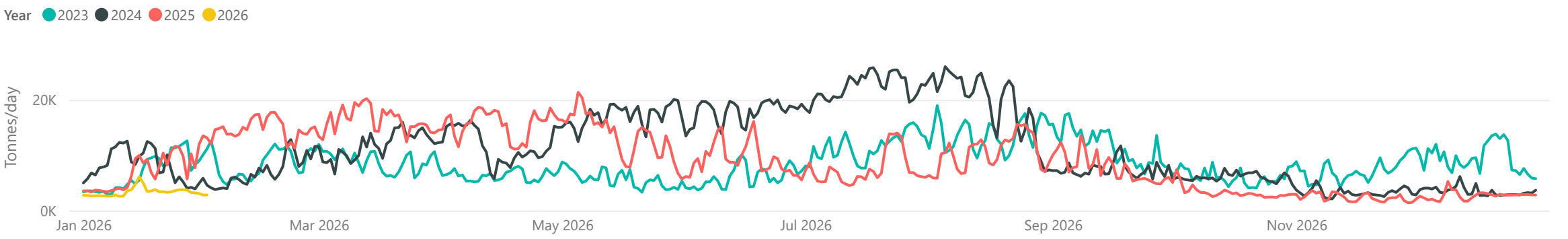
Weekly Generation Mix - GWh



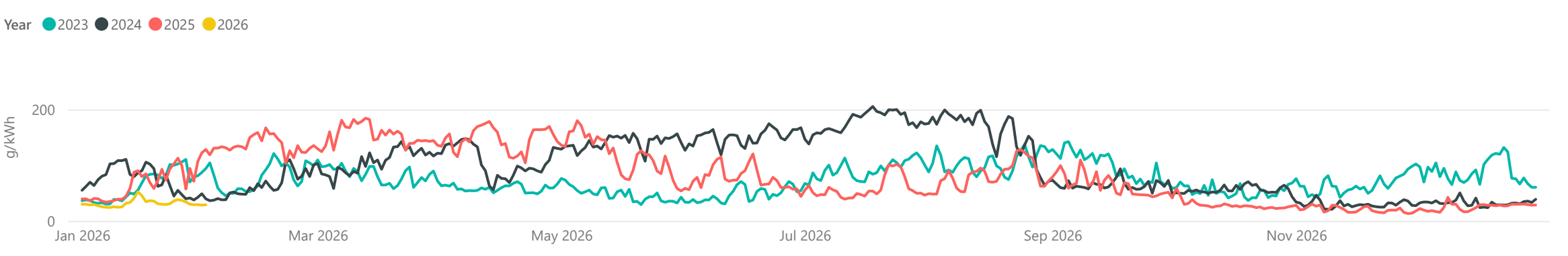
NZ Renewable Percentage



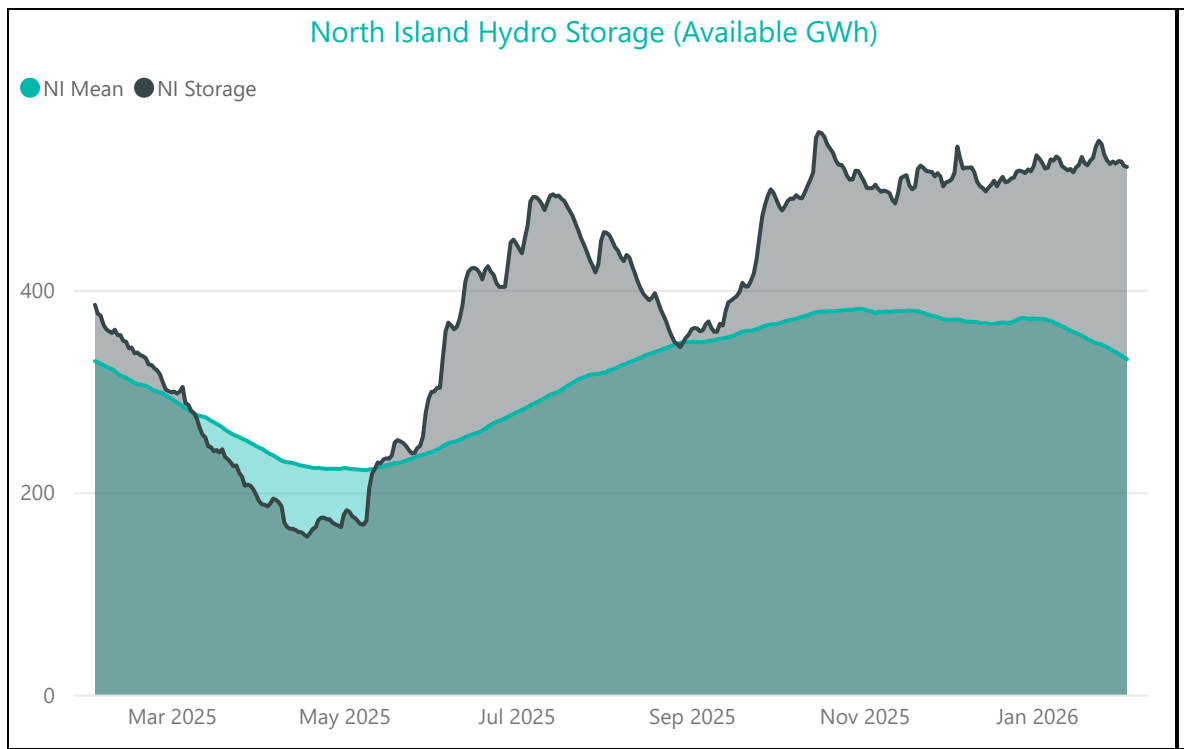
CO2 Tonnes/Day

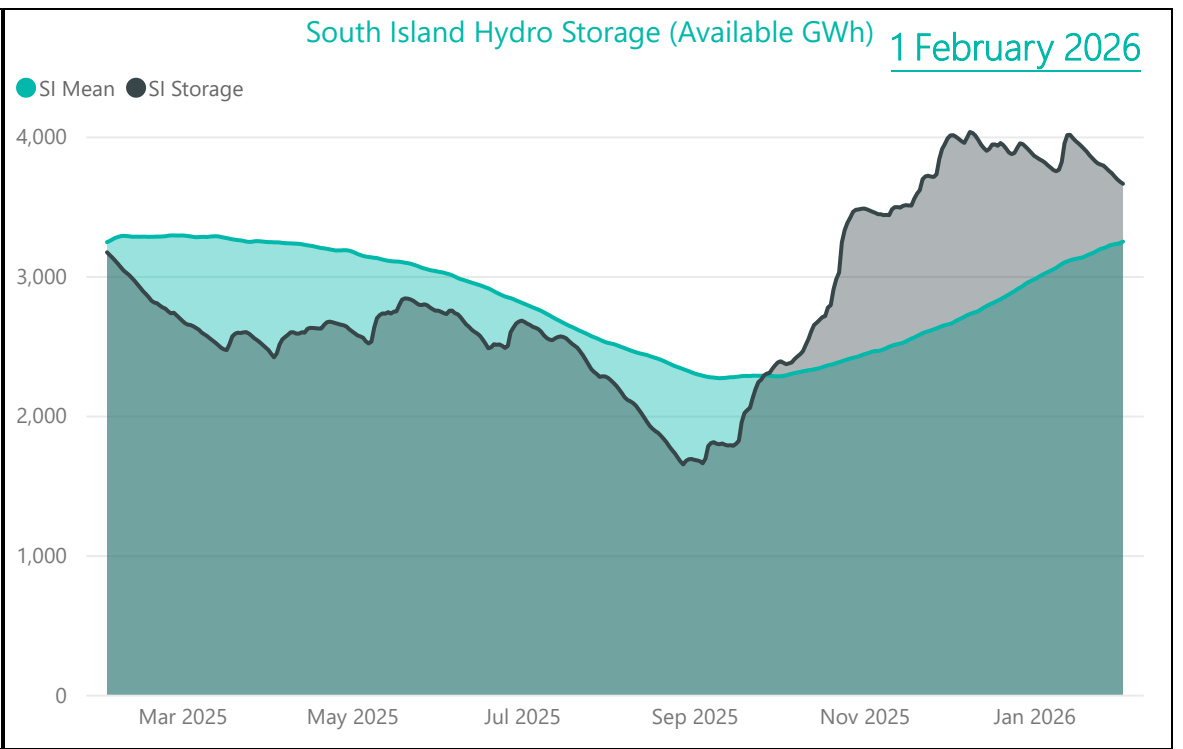


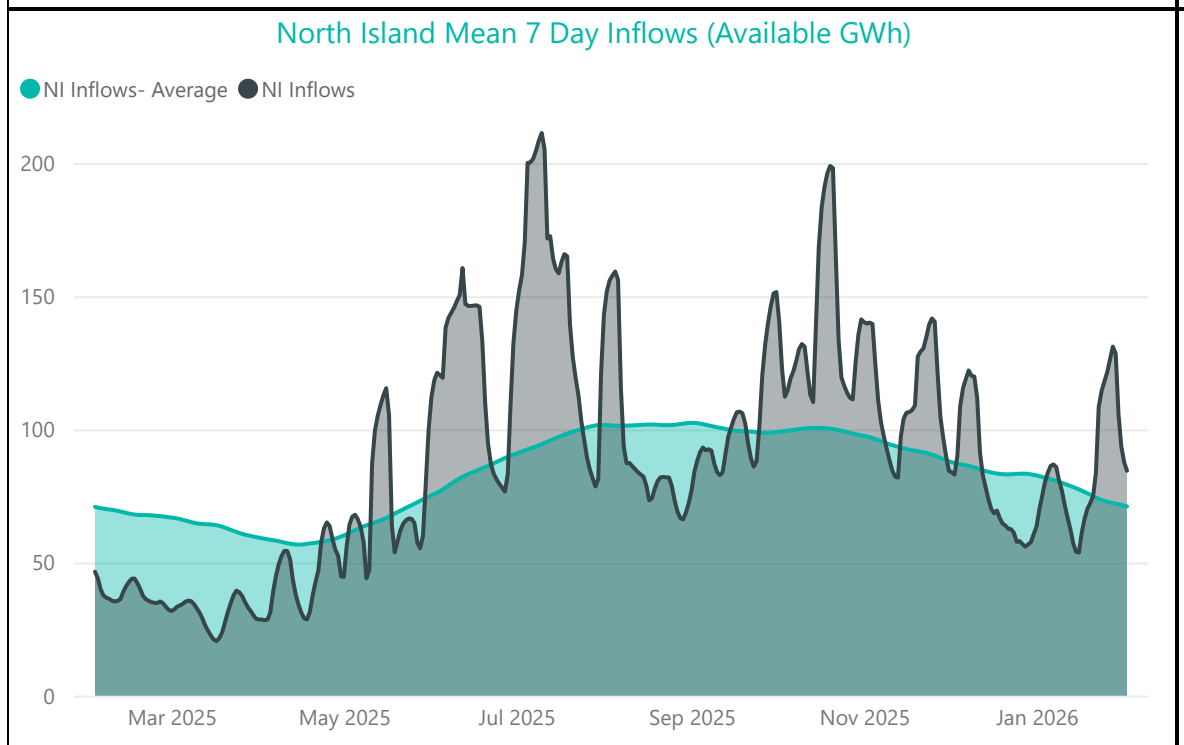
CO2 g/kWh

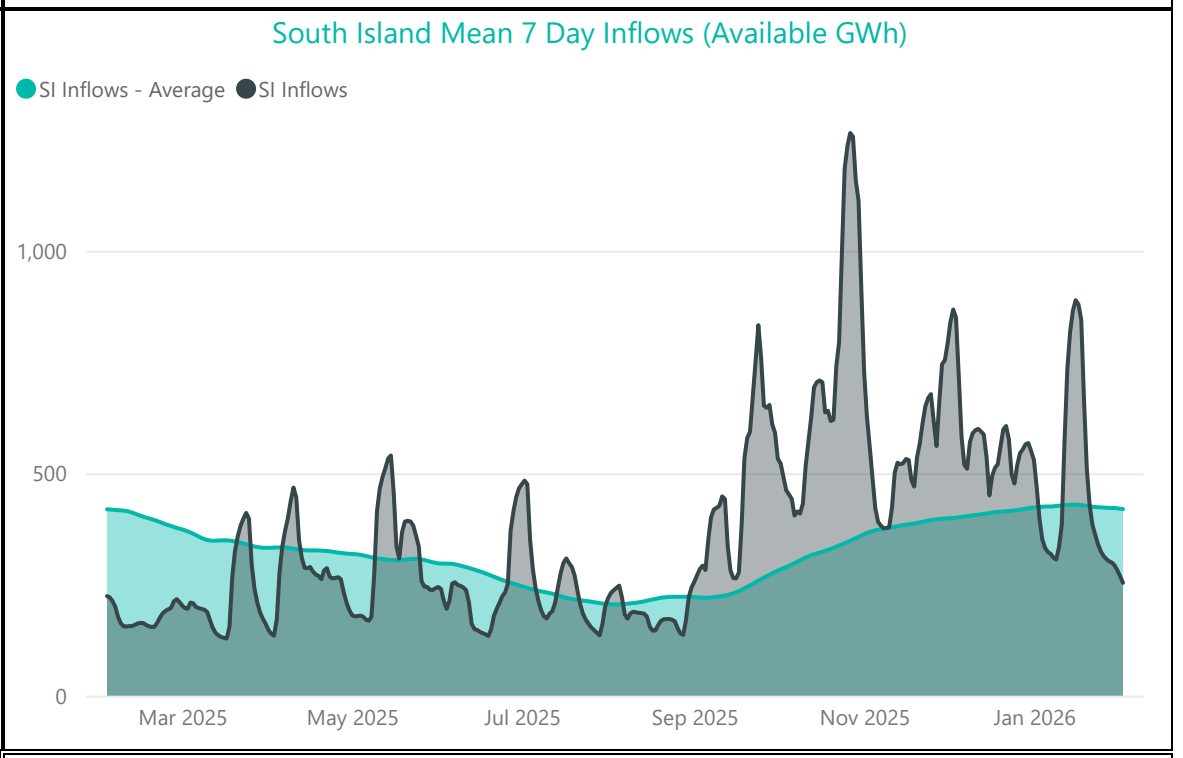


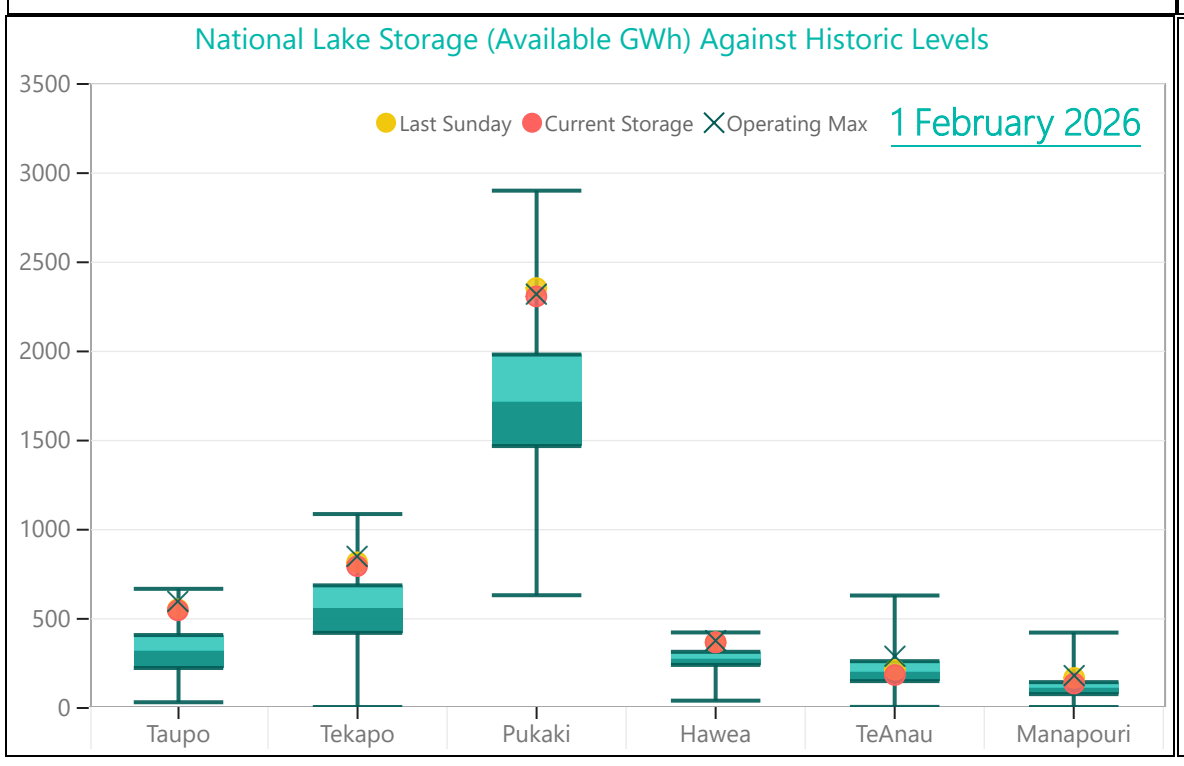
Hydro Storage

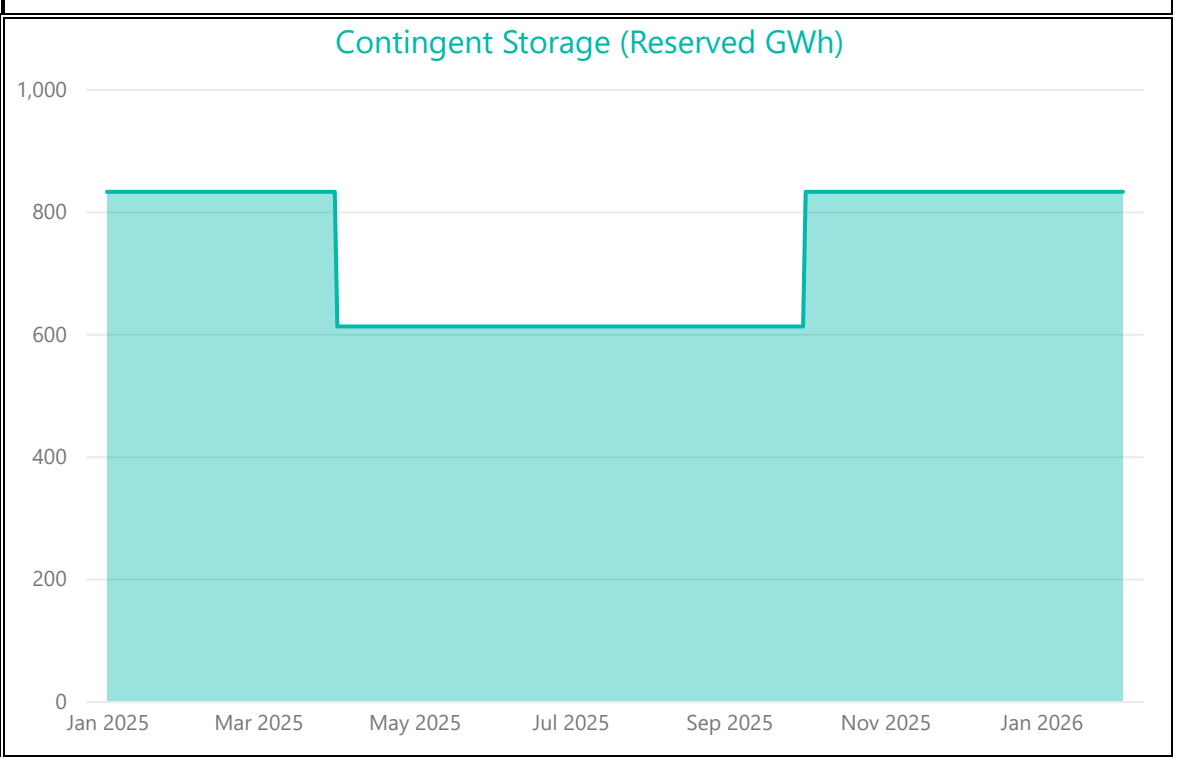












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

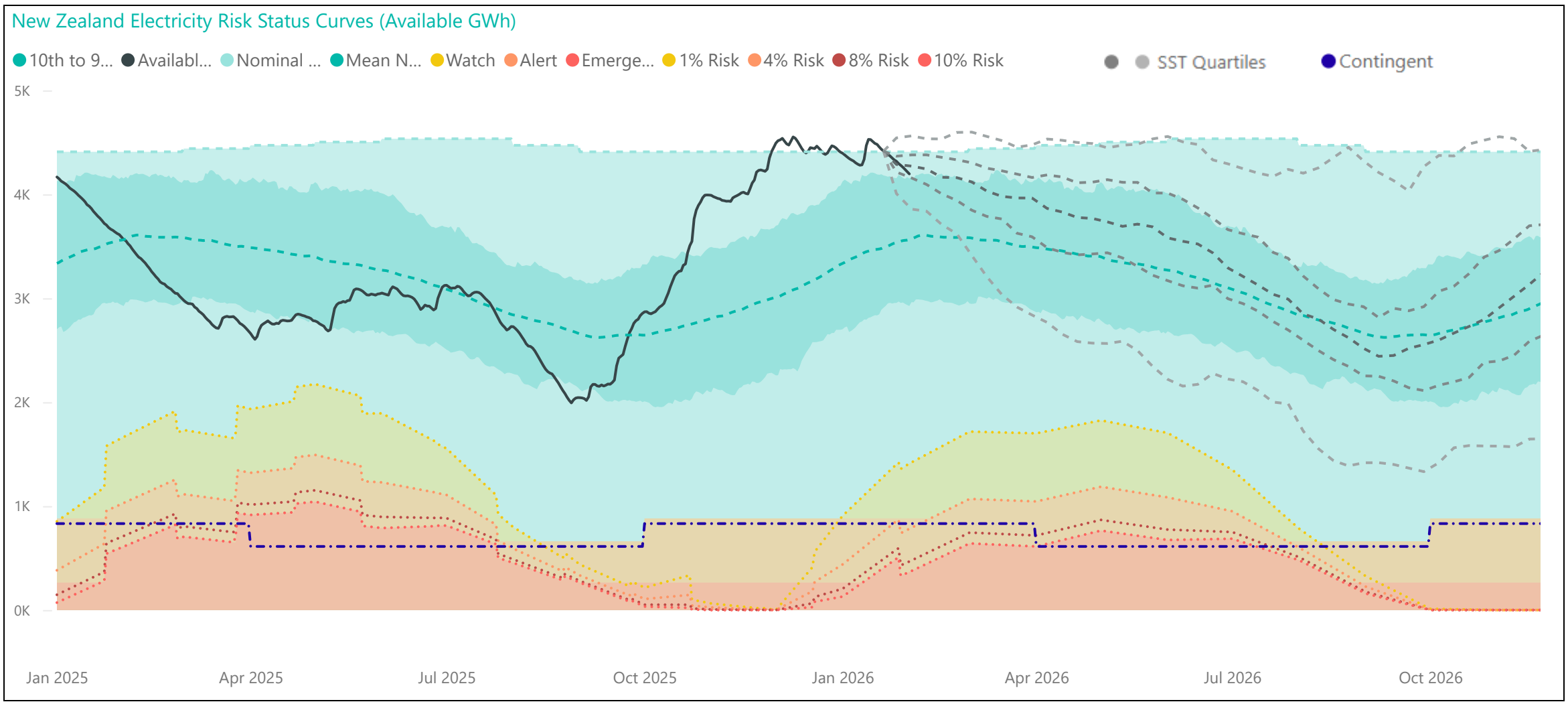
For any inquiries related to security of supply contact market.operations@transpower.co.nz

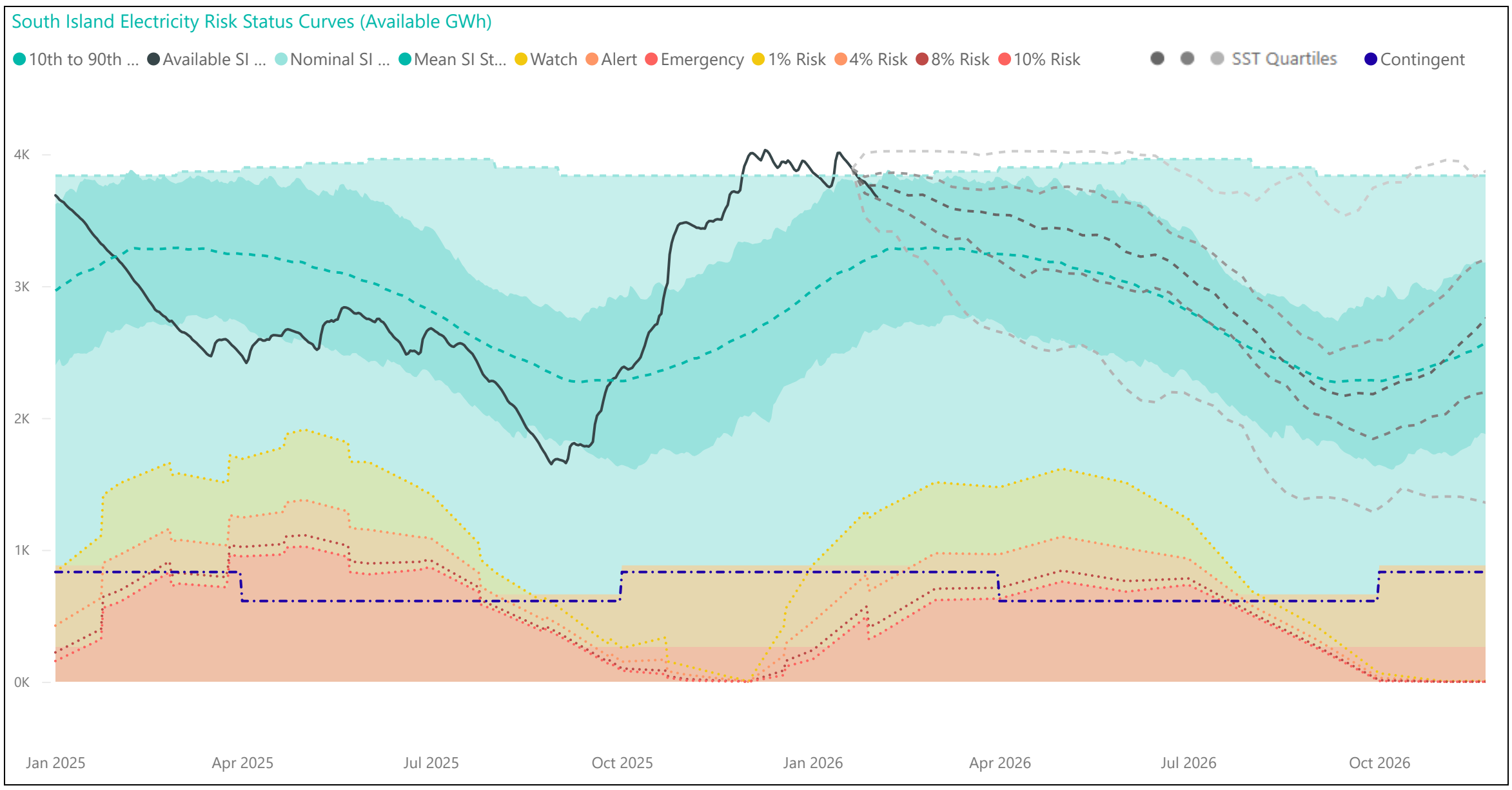
Hydro data used in this report is sourced from *NZX Hydro*.

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).