Market Operations Weekly Report - Week Ended 2 November 2025

Overview

New Zealand hydro storage decreased by only 1% to 140% of the historic mean last week and continues to sit above the 90th percentile.

This week's insight revisits the effects that hydro storage and wind generation can have on wholesale prices.

Security of Supply

Energy

National hydro storage remained steady and dropped by only 1% to 140% of the historic mean. South Island hydro storage remained at 142% of historic mean while North Island storage decreased from 134% to 132%.

Capacity

There was a significant loss of supply in the Hawke's Bay region in the early morning of Tuesday 28 October due to transmission outages resulting from lightning strikes. At 6:56am that same morning, a Low Residual Customer Advice Notice (CAN) was sent out after national residual generation was forecasted to be less than 200 MW during the period of 7:30am to 9:30am due to the loss of generation in the region. The residual for this morning was the lowest for the week at 256 MW. The residuals were mostly healthy otherwise.

We continue to monitor capacity closely during the spring shoulder season despite decreasing demand. Outages, reduced thermal unit commitment, and the possibility of cold snaps or large swings in wind generation mean that capacity can be tight despite much lower peaks than in winter.

The N-1-G margins in the NZGB forecast are healthy through to the end of 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 last week decreased from 743 GWh the week prior to 741 GWh and continues to be similar to that observed at this time of year over the past three years. The highest demand peak at 5,729 MW occurred at 7:30 am on Wednesday 29 October.

Weekly Prices

The average wholesale electricity spot price was very low last week in line with continued higher-than-average hydro storage and wind generation. The average wholesale electricity spot price at Ōtāhuhu last week was $12/MWh up from $10/MWh the week prior. Wholesale prices peaked at $243/MWh at Ōtāhuhu at 10:30am on Tuesday 28 October. Wholesale prices were high on the morning of 28 October following the loss of supply event.

Generation Mix

Wind generation decreased its share of the mix from 14% to 11% of the mix, remaining above its average contribution of 9%. Hydro generation was above average and increased to 65% of the mix, from 62% the week prior. Thermal generation remained low at just 0.5% of the mix reflecting high hydro and wind generation and thermal outages including Huntly unit 5. The geothermal share remained at 21% of the mix, and solar contributed to 1% of the generation mix.

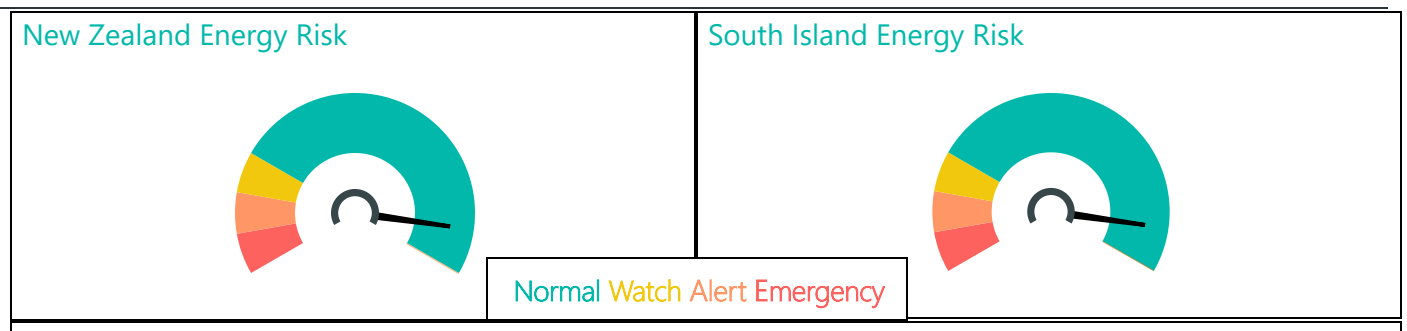
HVDC

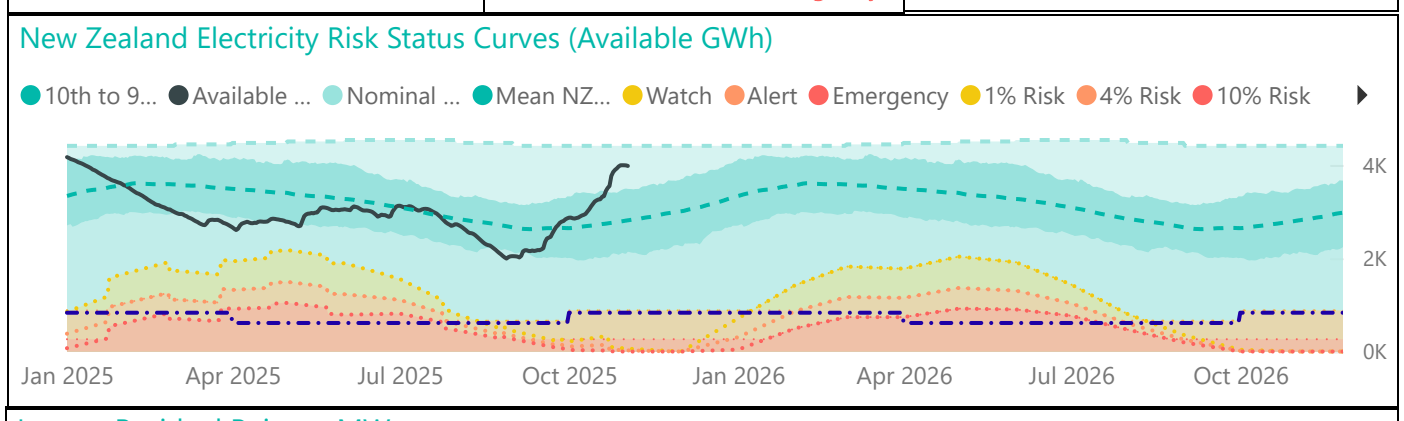
HVDC flow last week was predominantly northward with the exception of some brief periods of overnight low southward flow. These periods coincided with periods of high wind generation and lower North Island demand. In total, 53 GWh was transferred north and just 1 GWh was transferred south.

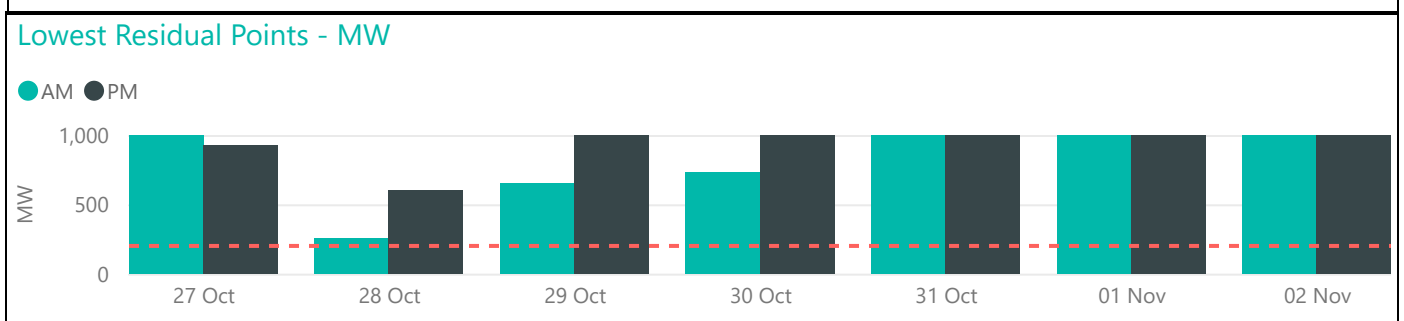
Consultations

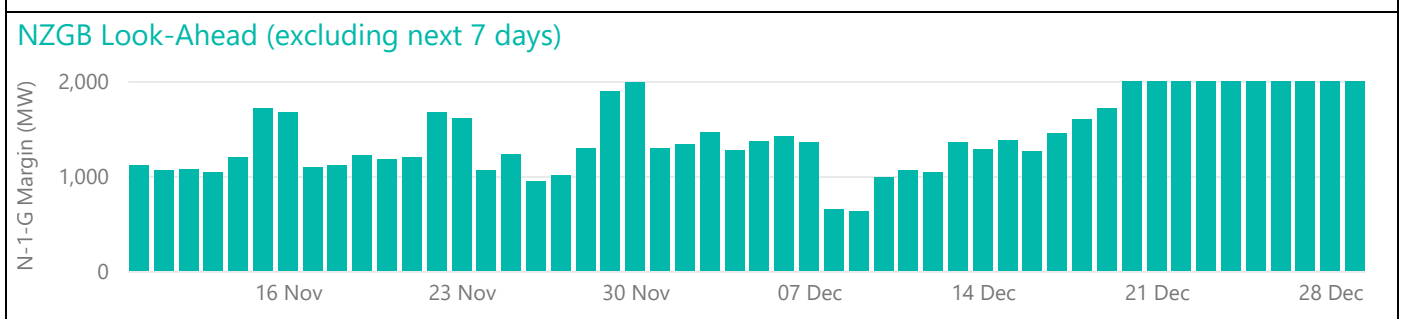
Consultation on a draft amendment to the System Operator Forecasting and Information Policy (SOSFIP) is now in its cross-submissions stage. The cross-submissions are due by 5pm on Tuesday 11 November 2025.

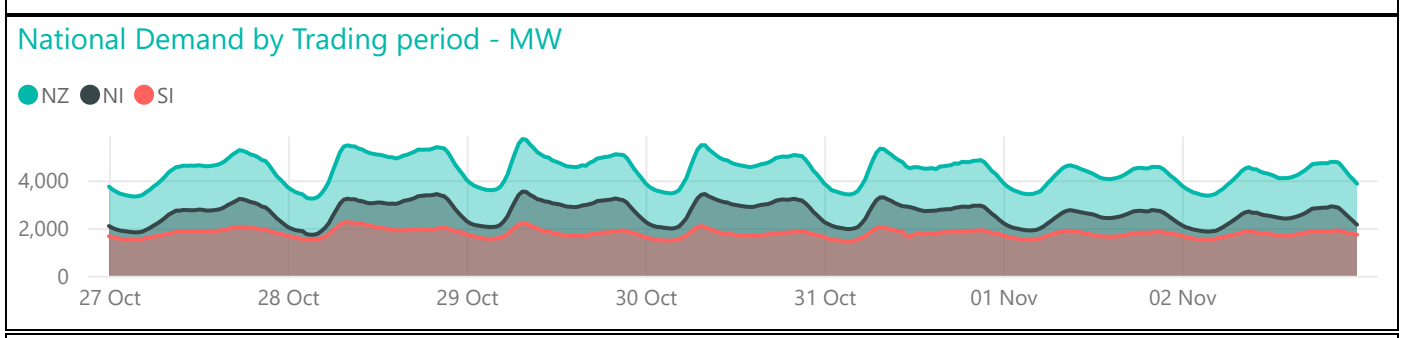
Consultation on the Security of Supply Assessment (SOSA) reference case assumptions and sensitivities is now open. Submissions are due by Monday 24 November. We have also opened our survey of planned generation investment for the SOSA. If this applies to you then you should have received an email. If you have not, please contact market.operations@transpower.co.nz.

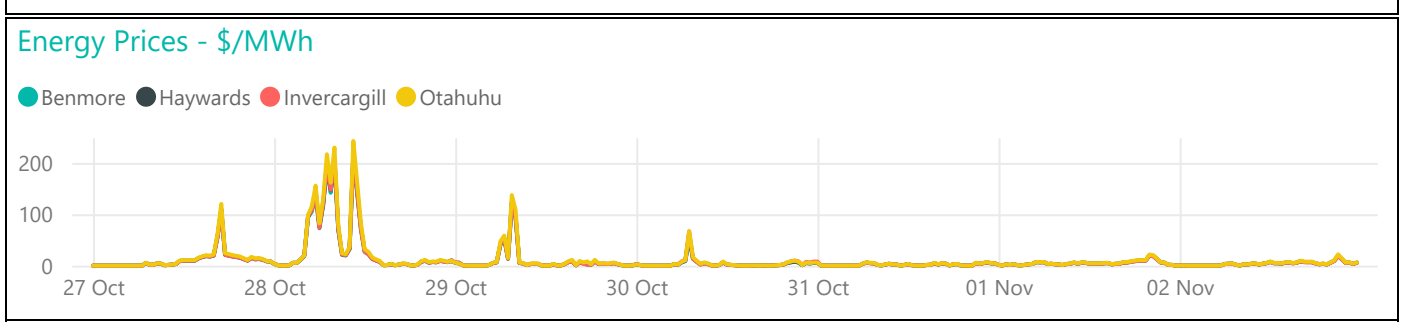


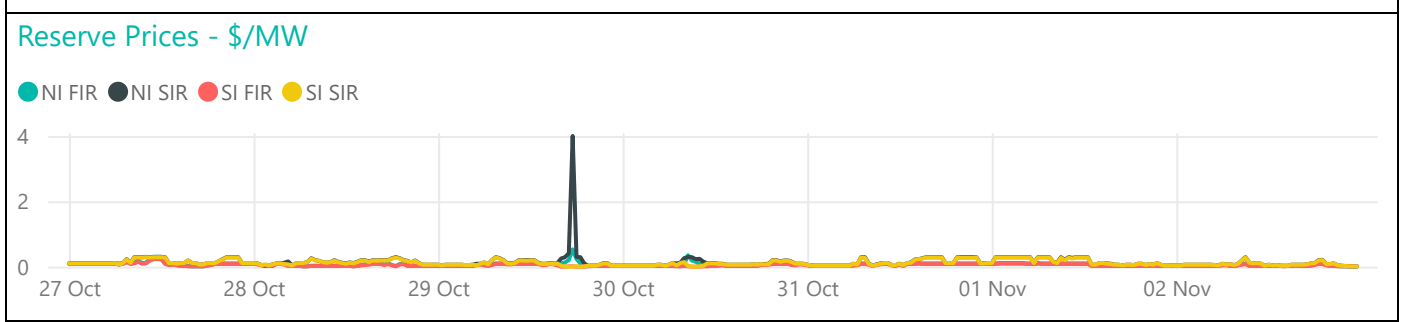


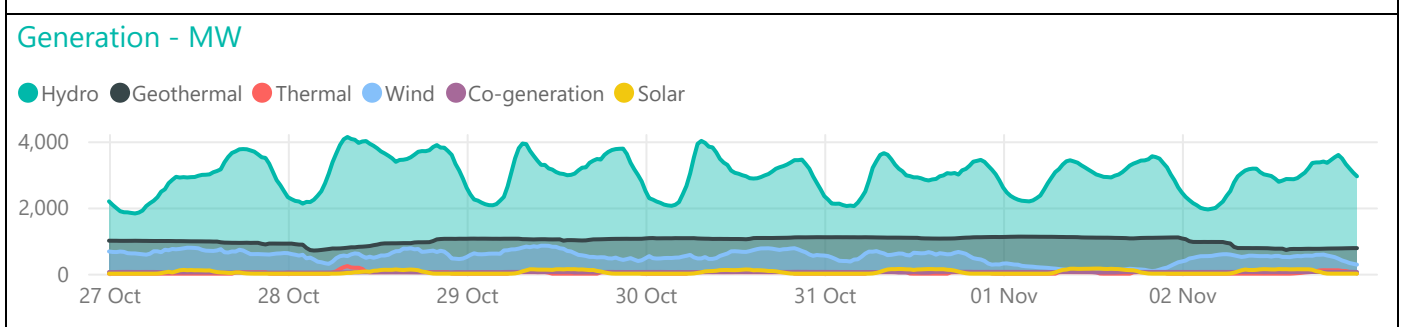


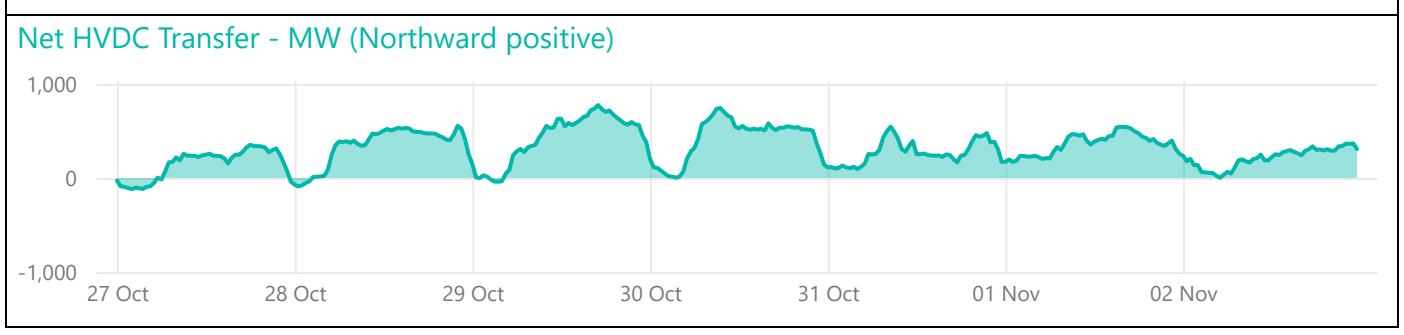












Weekly Insight - The relationship between prices, intermittent generation and hydro storage

In this week's insight, we revisit a key relationship in the electricity market: how prices are influenced by intermittent generation and hydro storage levels. With New Zealand's increasing reliance on renewables, this relationship is becoming more of a consideration for participants, especially during periods of variable weather and seasonal shifts in demand.

The price stack represents the offers made into the market by each generator. Offers come in tranches, and each tranche comes with an offered number of megawatts a generator can provide, and the minimum price ($/MWh) for which they are willing to generate that electricity.

26 Mar 7:30am RTD Price Stack

Type	PNode	Tranche	$/MWh	Cleared MW	Relative Price
Hydro	OHB2201 OHB0	4	408.00	7.22	-1.49
Hydro	OHC2201 OHC0	4	408.00	7.22	-0.58
Hydro	AVI2201 AVI0	4	408.00	9.36	-0.48
Hydro	ARI1102 ARI0	4	432.00	3.83	0.00
Hydro	OHA2201 OHA0	4	408.00	7.42	0.00
Hydro	MTI2201 MTI0	3	414.00	0.52	0.03
Hydro	ATI2201 ATI0	3	414.00	0.95	0.06

16 Oct 7:30am RTD Price Stack

Type	PNode	Tranche	$/MWh	Cleared MW	Relative Price
Hydro	WKM2201 WKM0	4	9.99	4.00	-8.04
Hydro	MTI2201 MTI0	4	9.99	28.00	-7.94
Hydro	WPA2201 WPA0	4	9.99	9.00	-7.91
Hydro	ATI2201 ATI0	4	9.99	6.00	-7.88
Hydro	ARA2201 ARA0	4	9.99	11.00	-7.75
Hydro	ARI1101 ARI0	4	9.99	16.00	-6.94
Hydro	ROX2201 ROX0	2	18.00	22.64	0.01

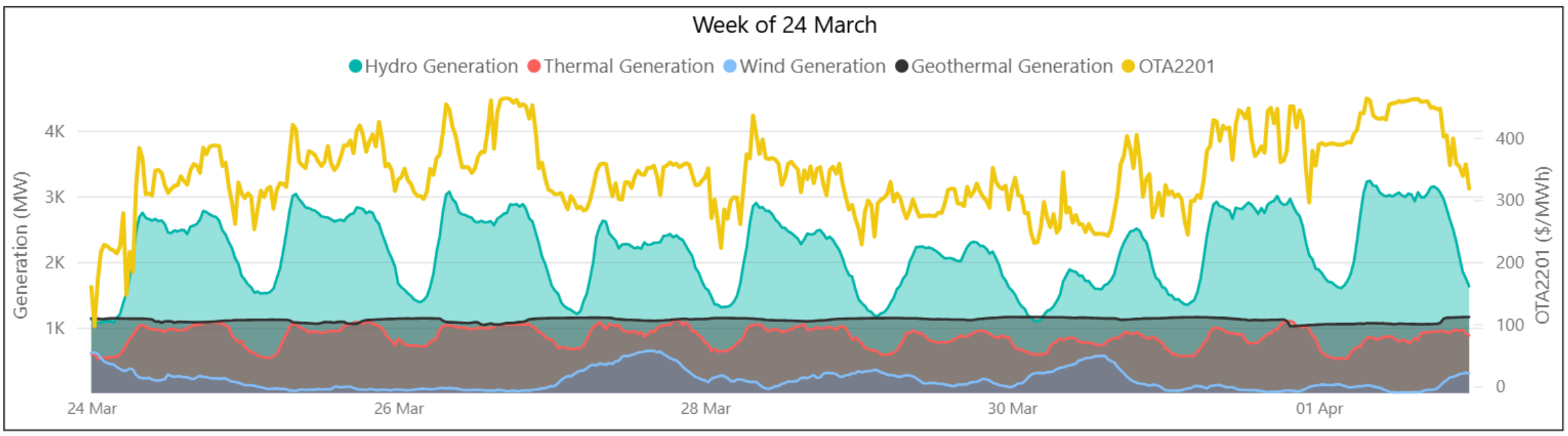
In New Zealand's highly renewable power system, weather has significant effects on the price stack. Because costs for intermittent generators to run their plants are low, they offer their generation for $0.01/MWh most of the time. The trade-off for lower-priced wind generation is that it is mostly dependent on what the weather is doing. If there is a lot of wind or rain, the majority of the price stack can be dominated by lower priced electricity, decreasing the need to procure electricity at a higher price. On the other hand, if there is a lack of wind and rain, the price stack will not have as much lower-priced electricity and it will be necessary to procure electricity at a higher cost.

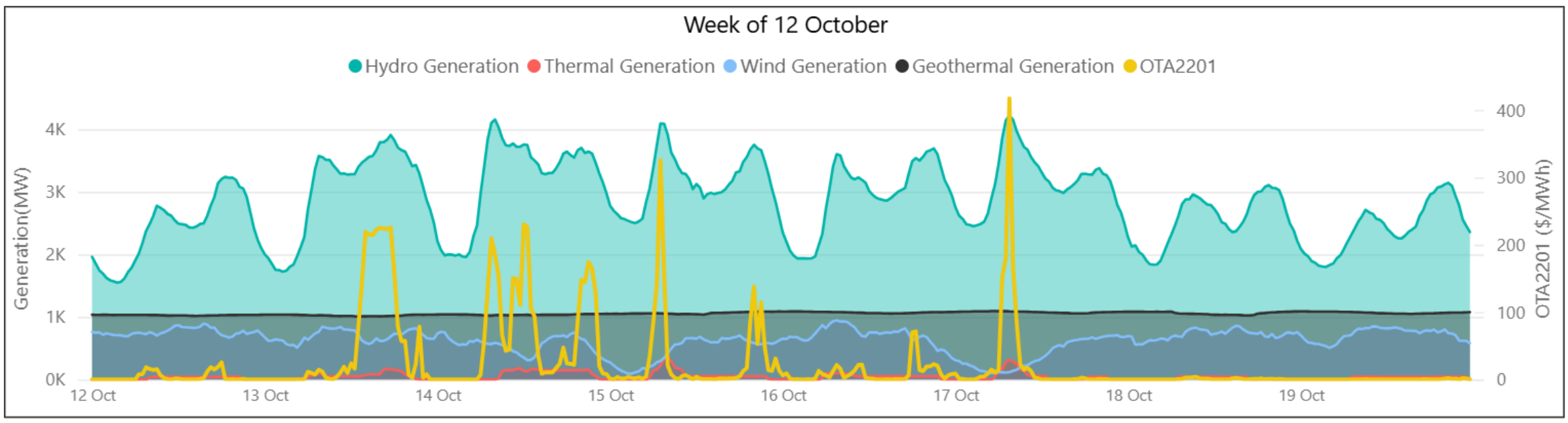
Intermittent generators are not the only source of electricity that is usually offered at low prices. An abundance of fuel means that hydro generators can freely offer their generation with lower opportunity cost. These low prices can be seen when hydro storage levels are high. Conversely, hydro prices are high when hydro storage is low - similar to what we saw in winter this year when hydro storage in the South Island was very low. This is a problem since demand increases during the winter and we require greater amounts of electricity to meet this demand. Generators offered their hydro generation at higher prices to reflect the higher value of water in their storage lakes, and this increased average spot prices.

An example of the effects of low hydro storage can be seen in the chart below which shows the week of 24 March 2025. Prices were consistently high at approximately $300/MWh to account for hydro generators wanting to conserve their water for the coming winter. We can compare this with the recent increase in wind generation and hydro storage. The latter has benefitted from timely inflows during winter and recent spring inflows lifting hydro storage levels to 140% of the historic mean (as of 2 November).

The abundance of fuel and wind generation has allowed hydro generators to offer their electricity at a much lower price. This does not mean that the cost of procuring the next MW will always be low. A greater amount of generation on outage and little or no slow-start thermal generation running means that prices can be volatile, with high-priced thermal peaking generation needed at times when demand is high and wind generation is low. This was observed on 17 October when prices peaked to $419/MWh at OTA2201, as high demand coincided with low wind generation.

This underscores the critical role of firm, flexible generation, energy storage and demand response which are essential for meeting peak loads.

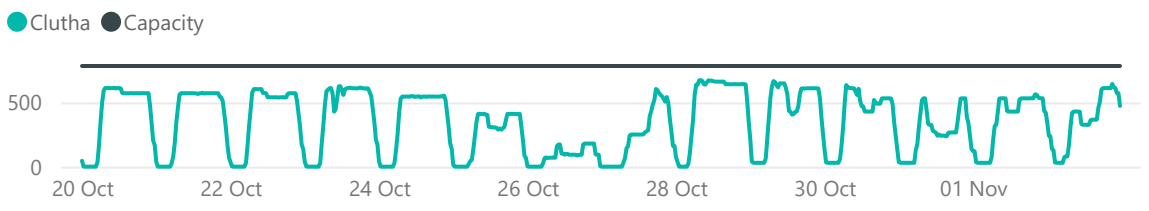




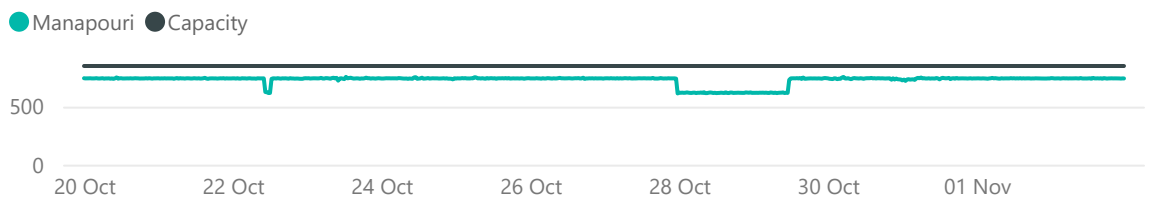
Generation Breakdown - Last Two Weeks

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

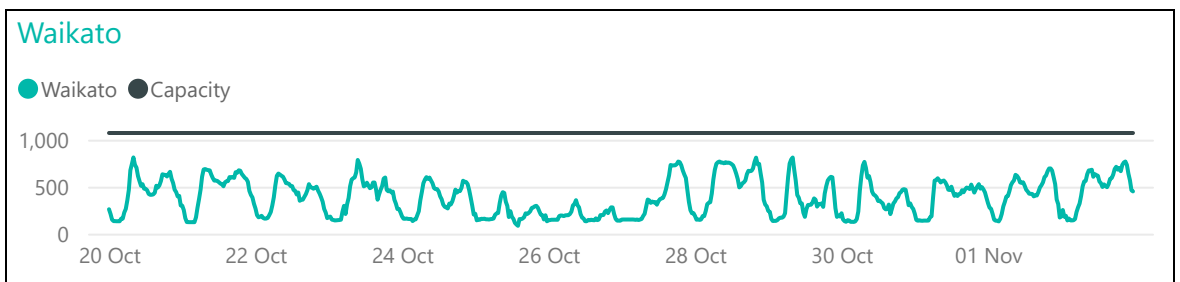
Clutha



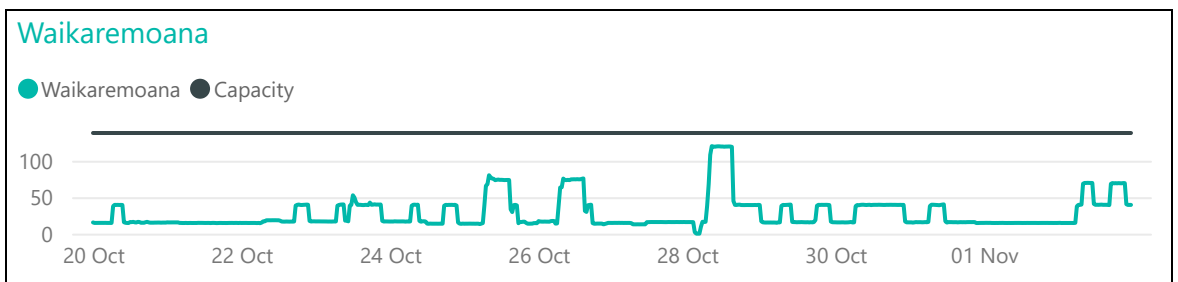
Manapouri



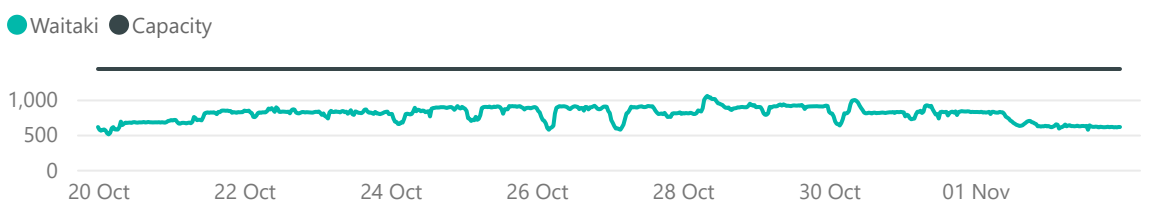
Waikato



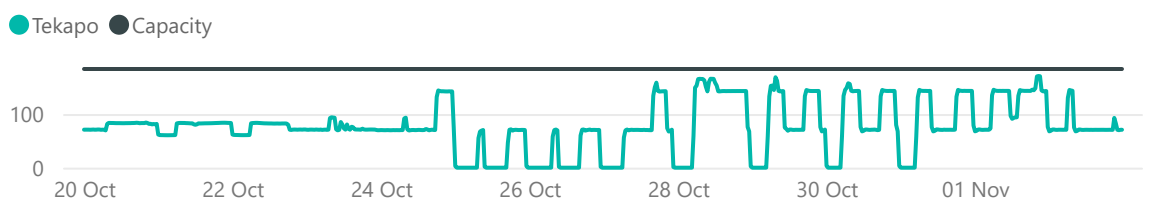
Waikaremoana



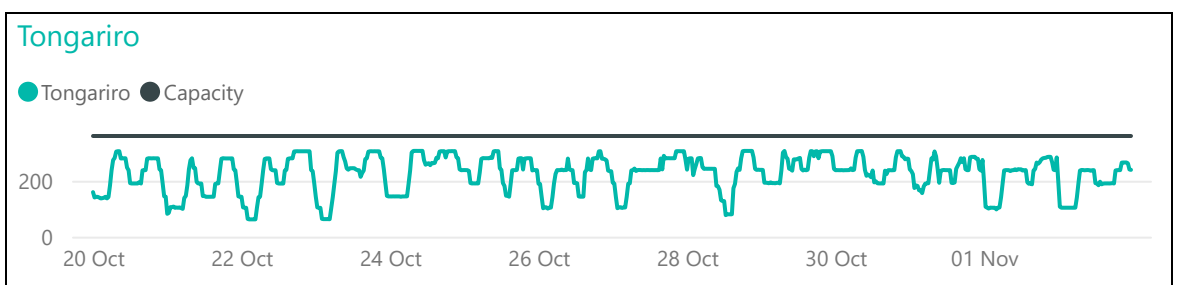
Waitaki



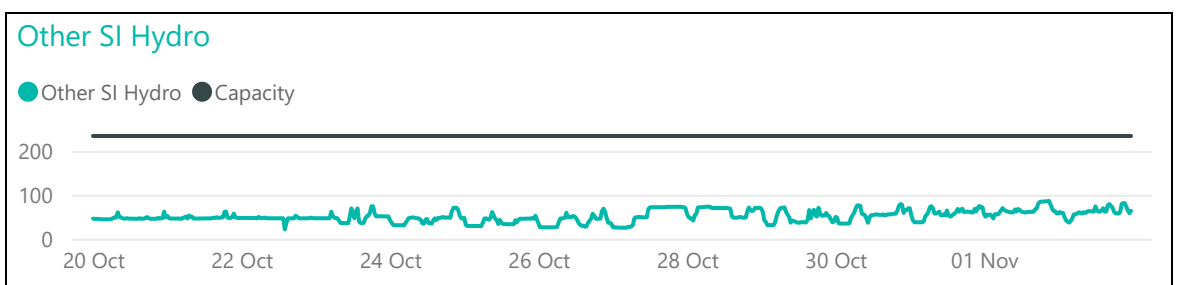
Tekapo



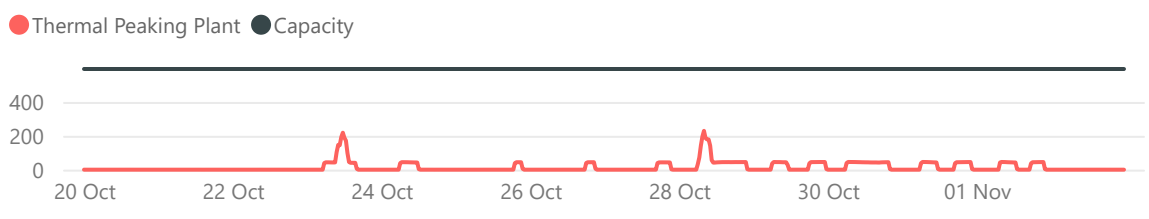
Tongariro



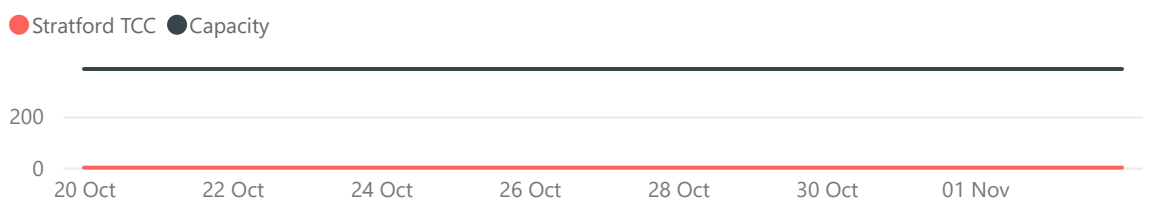
Other SI Hydro



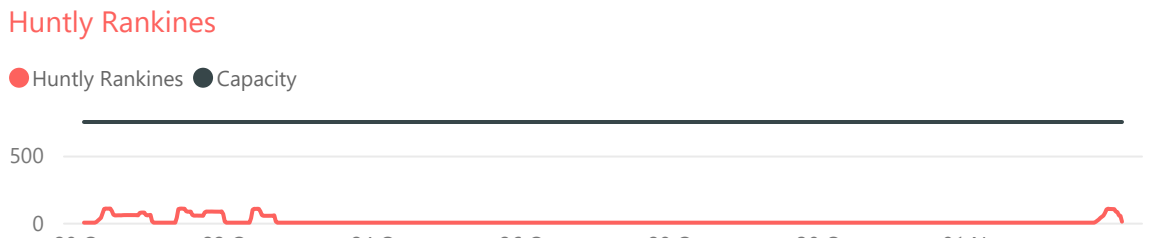
Thermal Peaking Plant



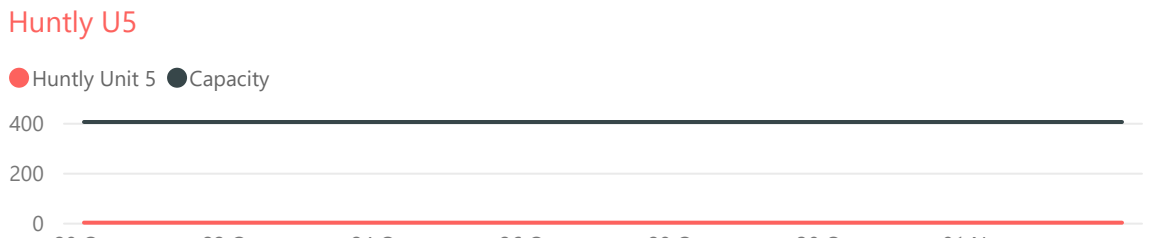
Stratford TCC



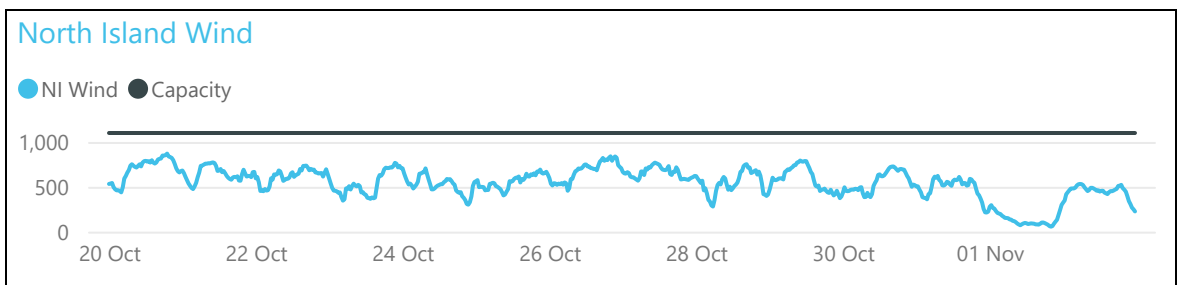
Huntly Rankines



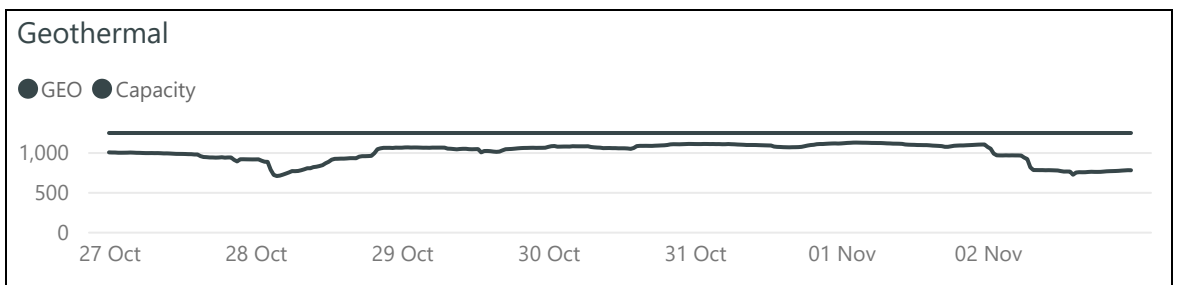
Huntly U5



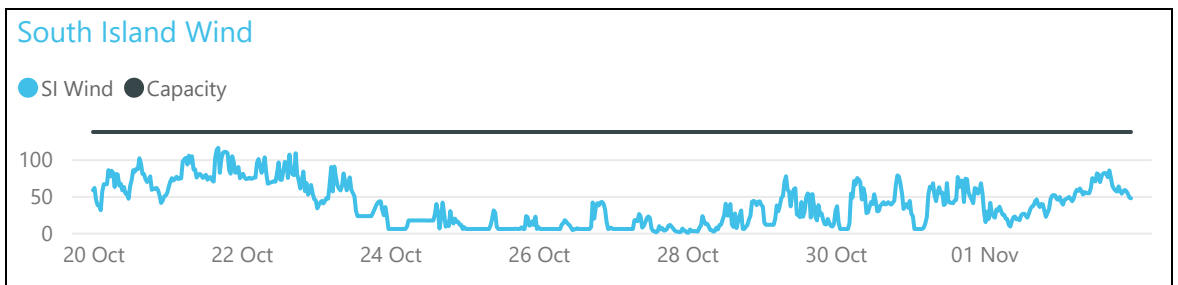
North Island Wind



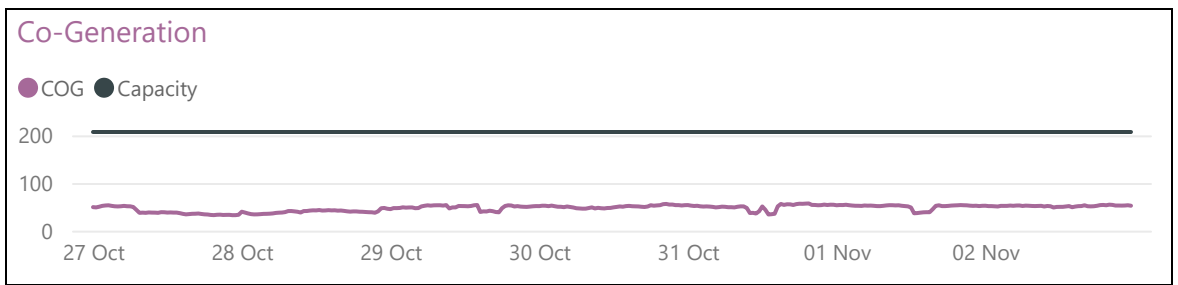
Geothermal



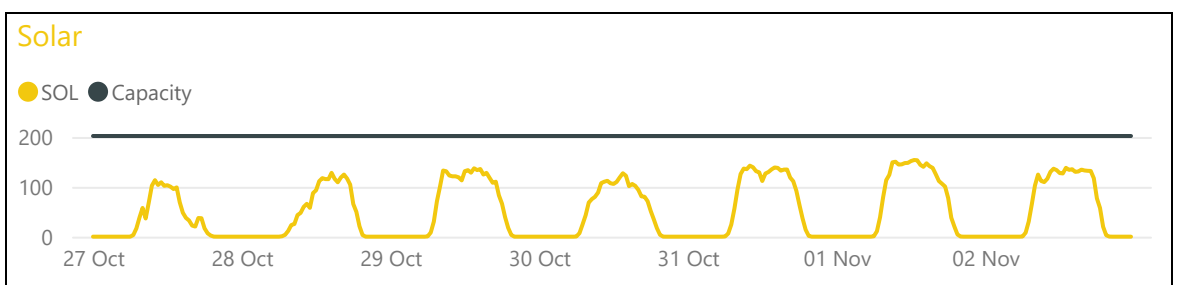
South Island Wind



Co-Generation

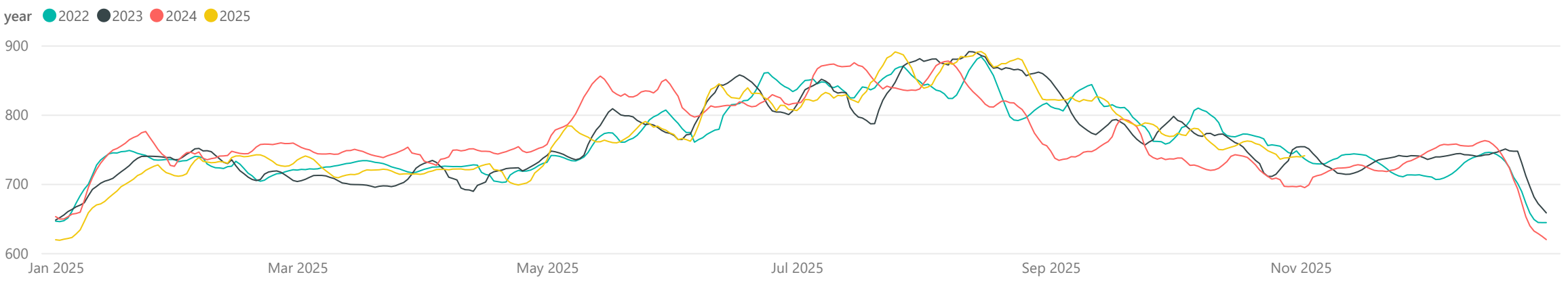


Solar

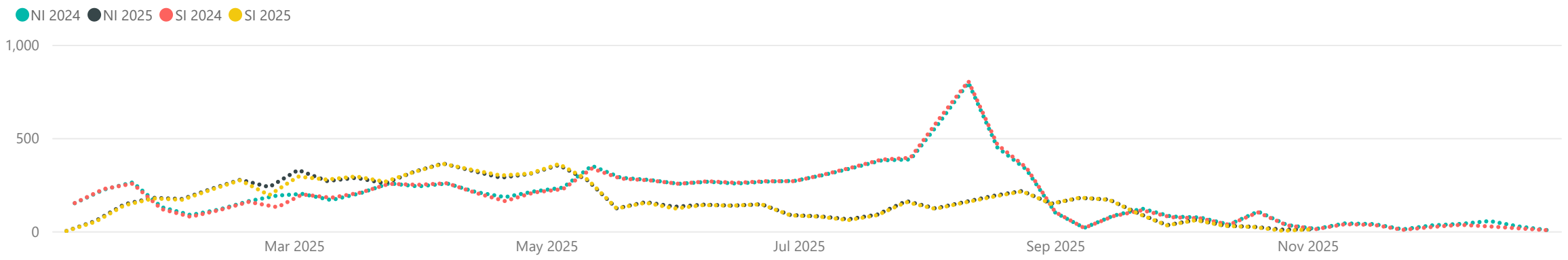


Weekly Profiles

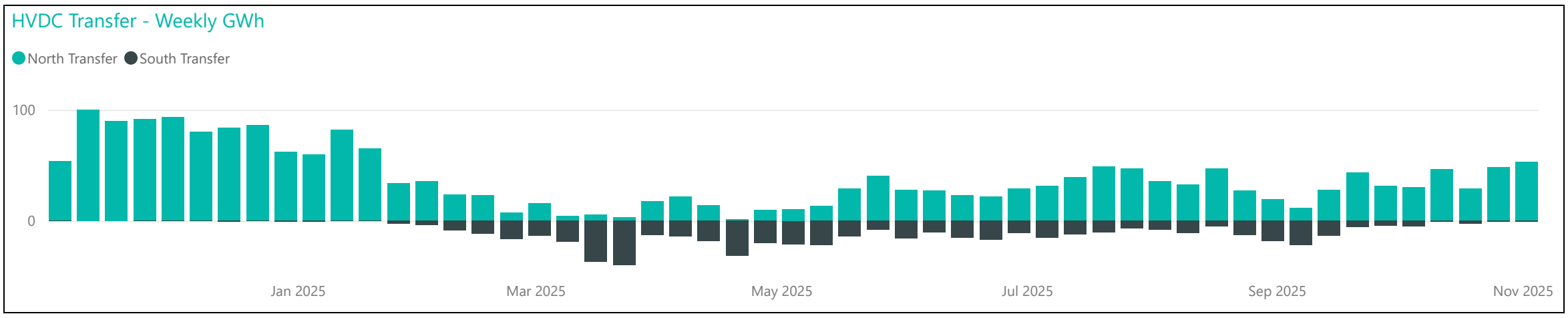
National Weekly Demand - GWh - 7 Day Rolling



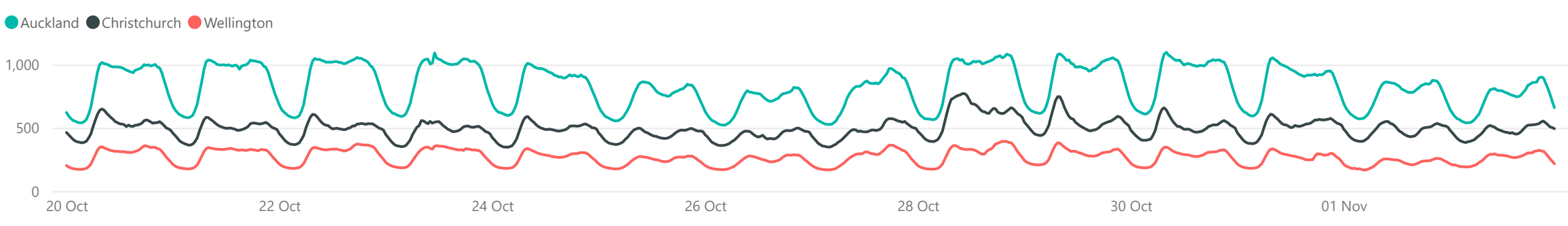
Weekly Spot Price - $/MWh



HVDC Transfer - Weekly GWh

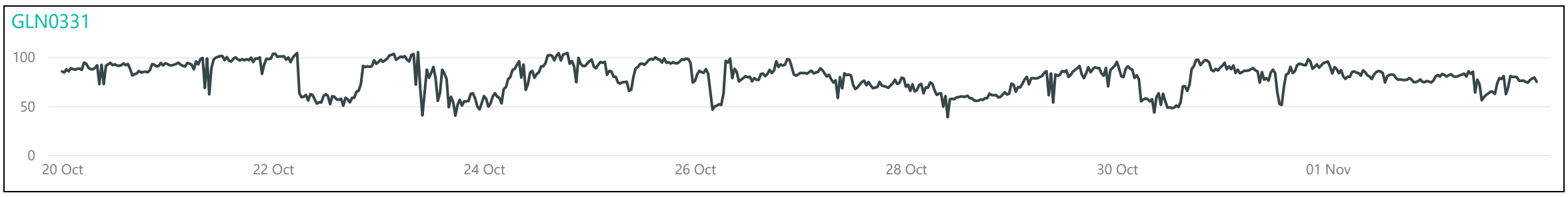


Conforming Load Profiles - Last Two Weeks *Measured in MW shown by region*



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

GLN0331



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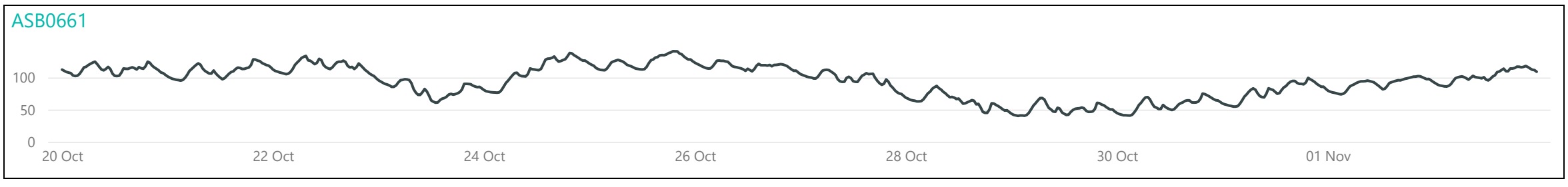

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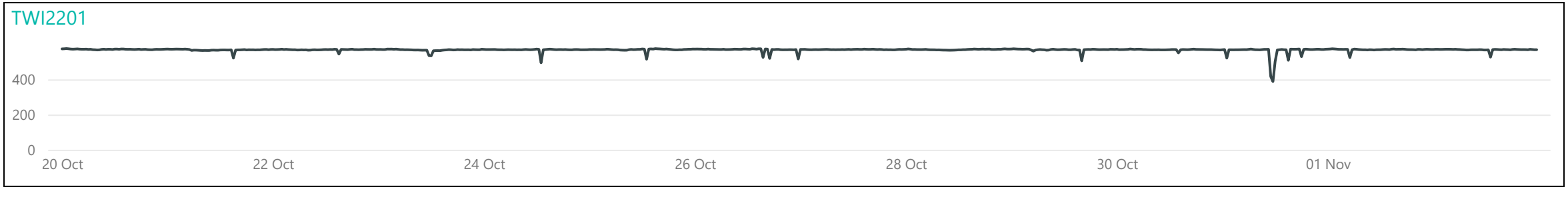
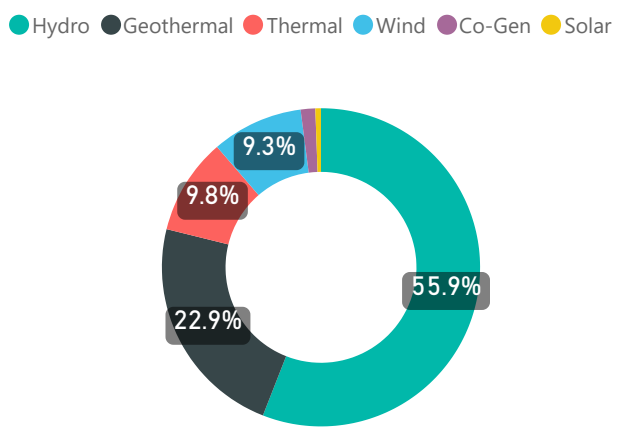


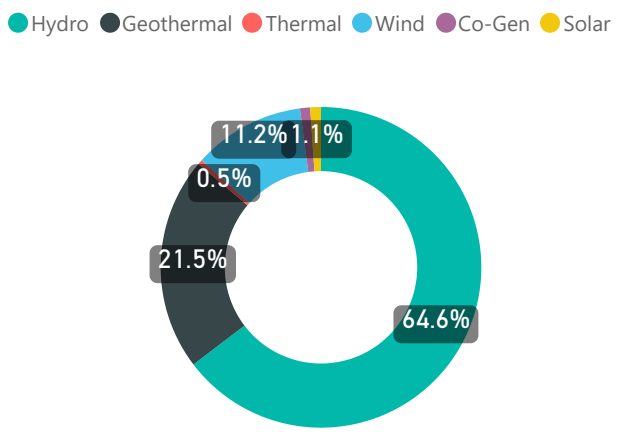
TRANSPOWER

Generation Mix

Last 52 Weeks Generation Mix - Weekly GWh



Last 7 Days Generation Mix - Weekly GWh



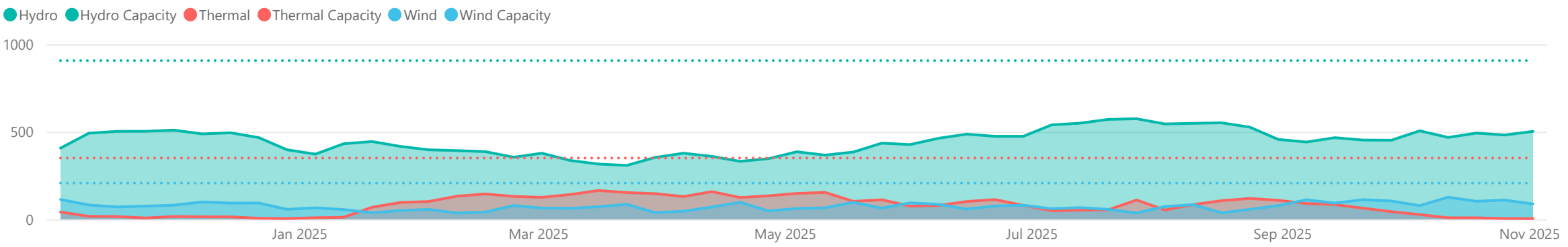
Average Metrics Last 7 Days

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
98%	18,465	23.9

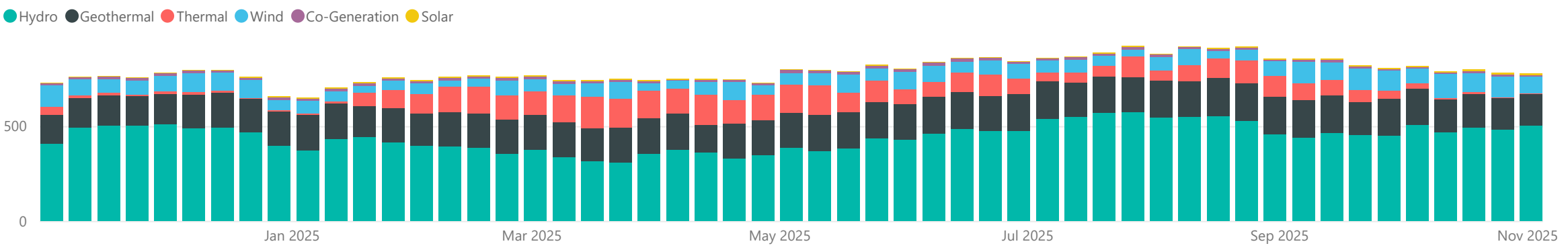
Average Metrics Last 52 Weeks

Renewable Percentage	CO2e Tonnes/Week	CO2e g/kWh
89%	65,358	82.3

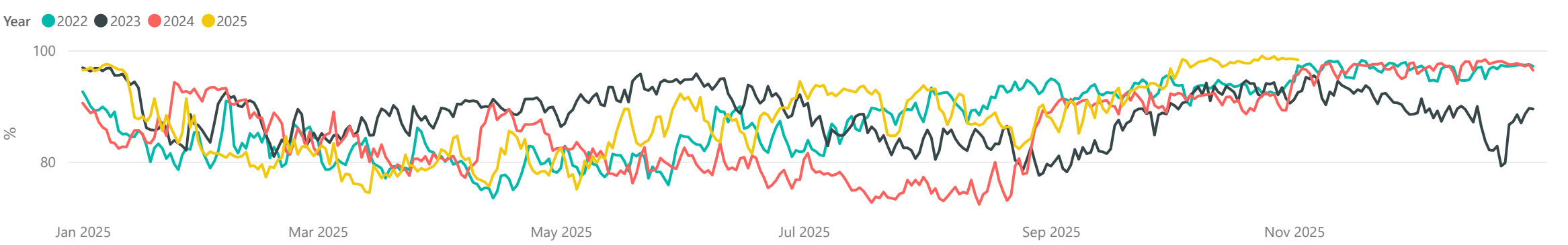
Weekly Generation Mix vs Capacity - GWh



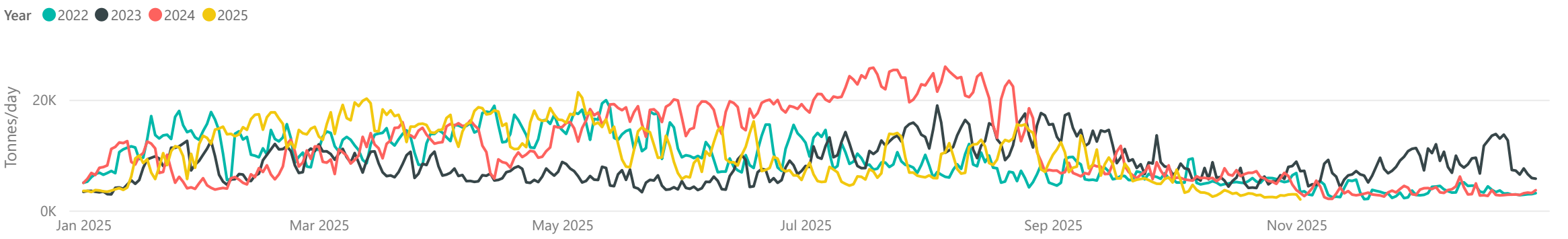
Weekly Generation Mix - GWh



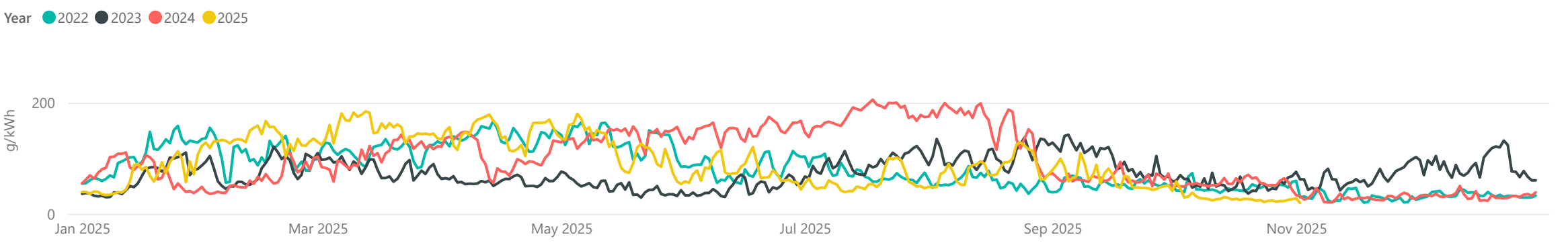
NZ Renewable Percentage



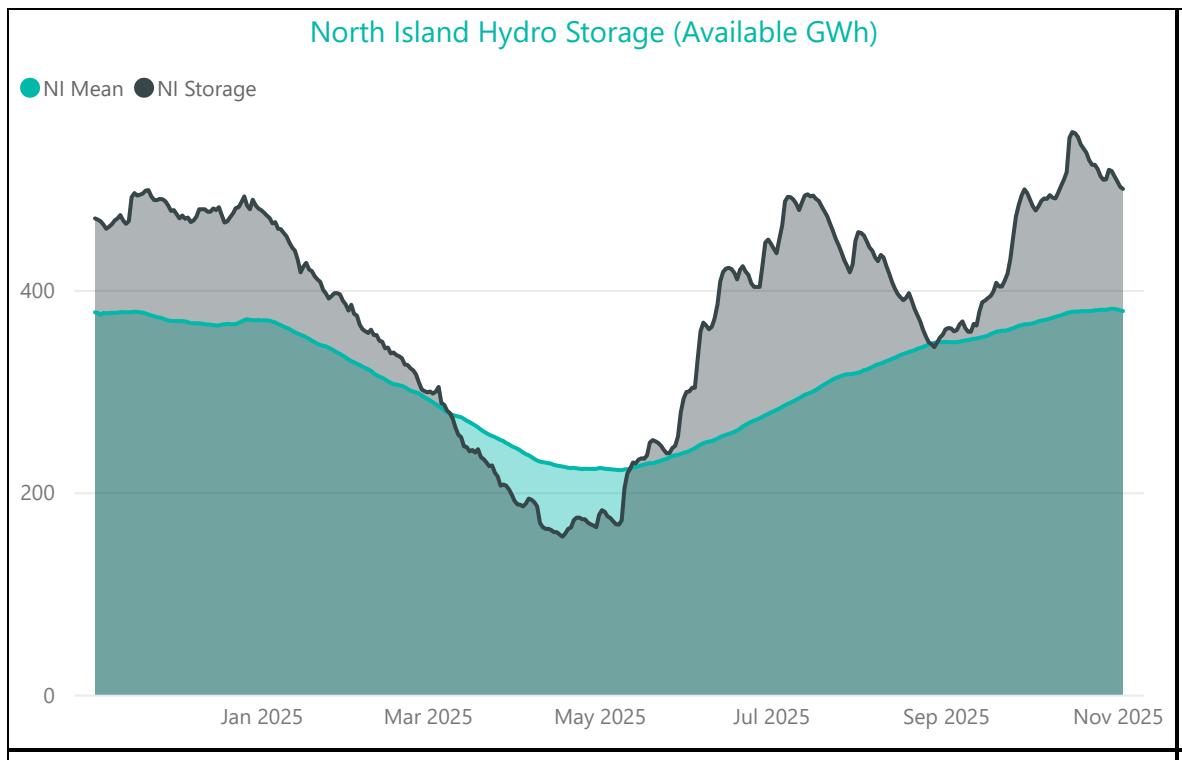
CO2 Tonnes/Day

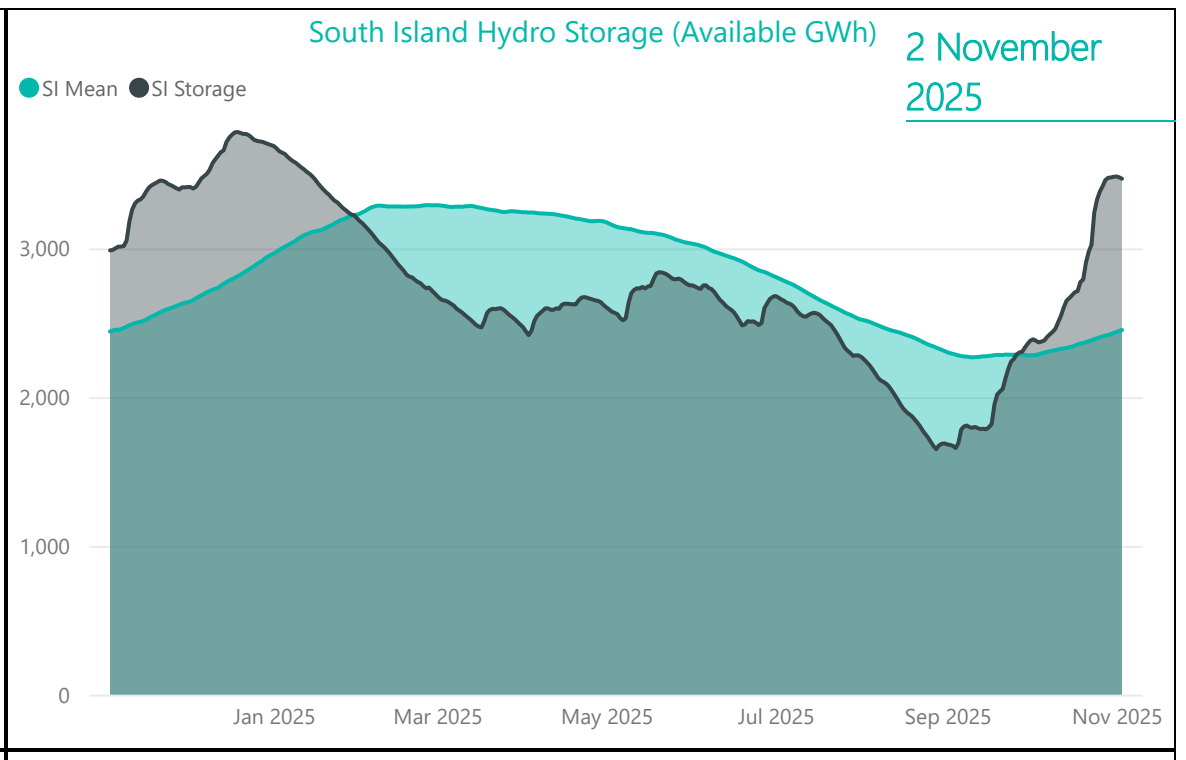


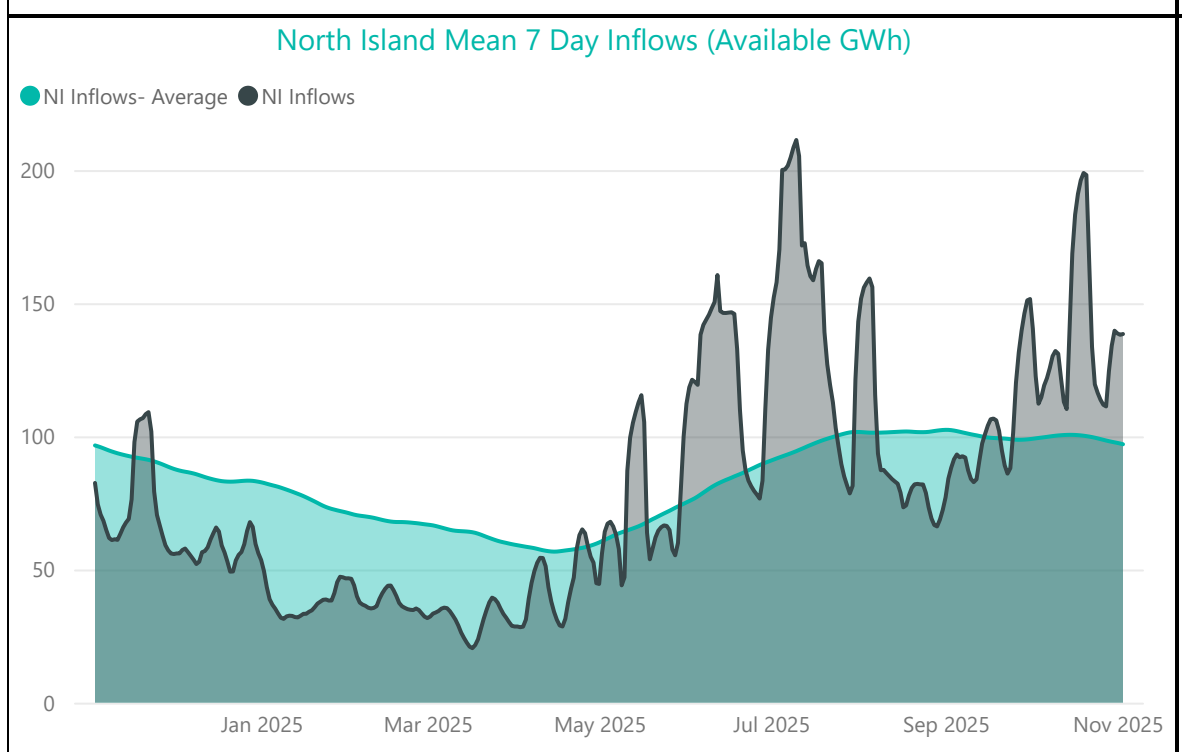
CO2 g/kWh

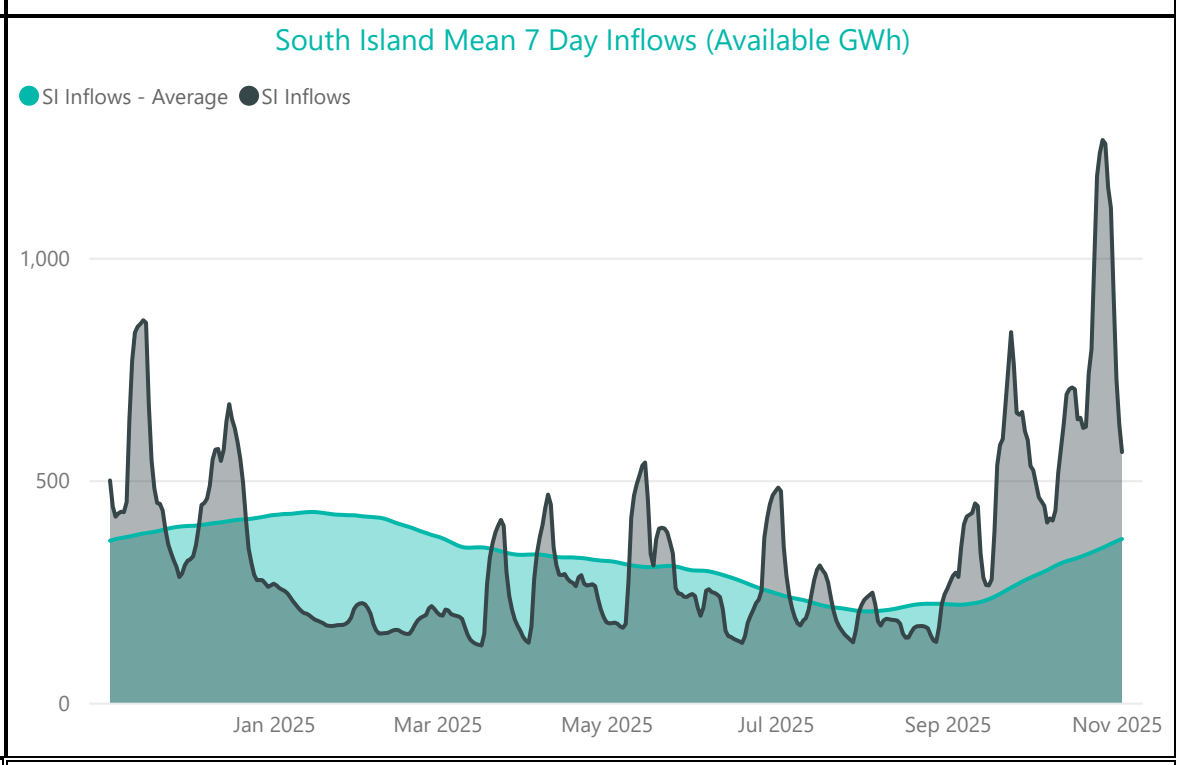


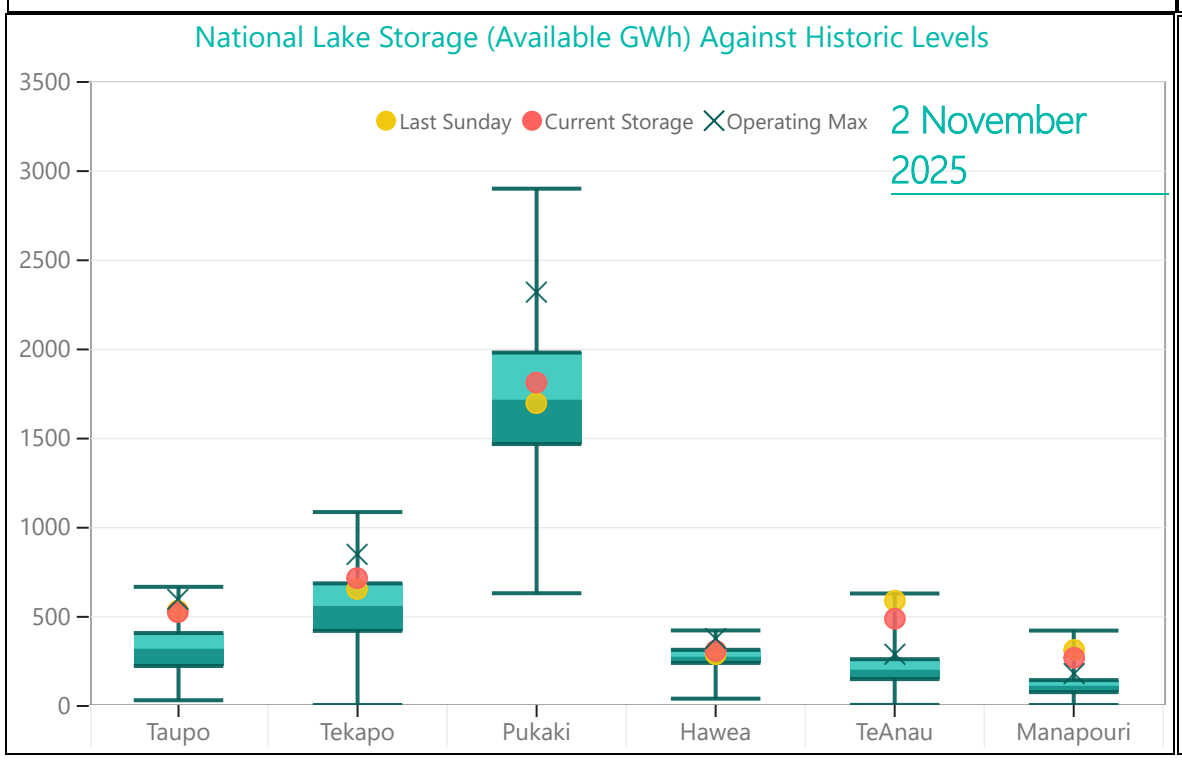
Hydro Storage

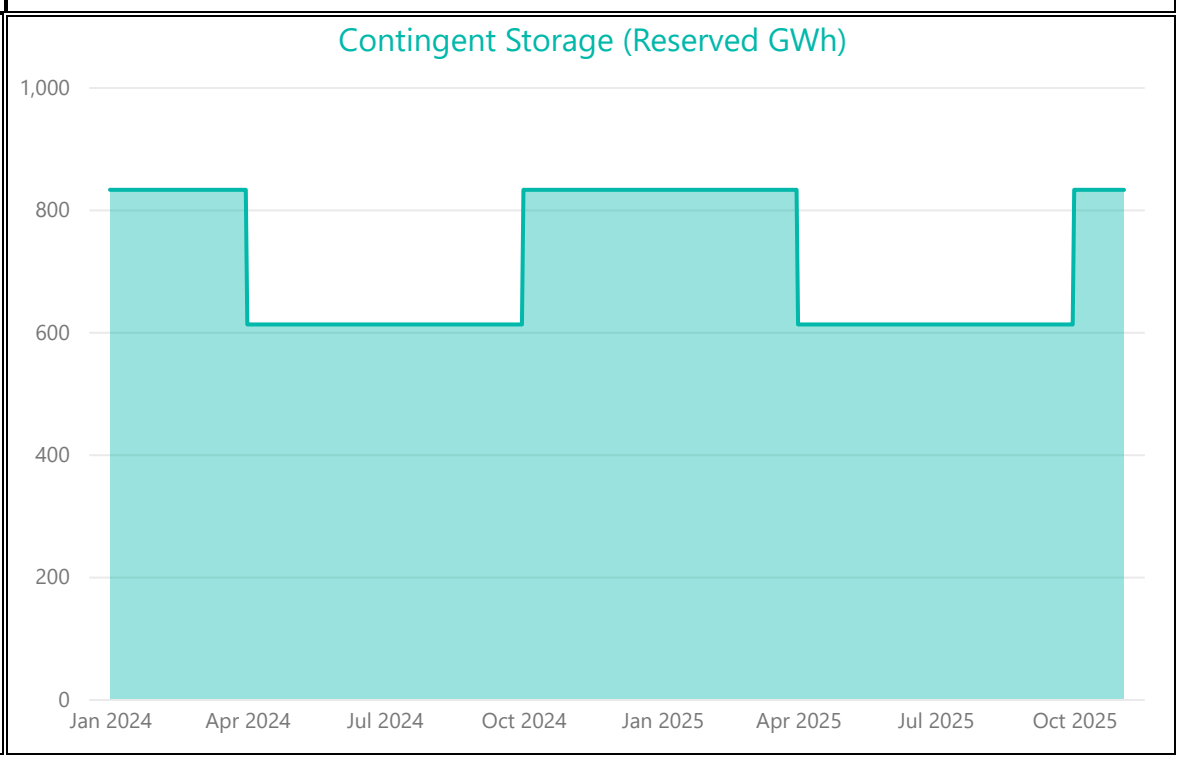












For further information on security of supply and Transpower's responsibilities as the System Operator, refer to our webpage here: https://www.transpower.co.nz/system-operator/security-supply

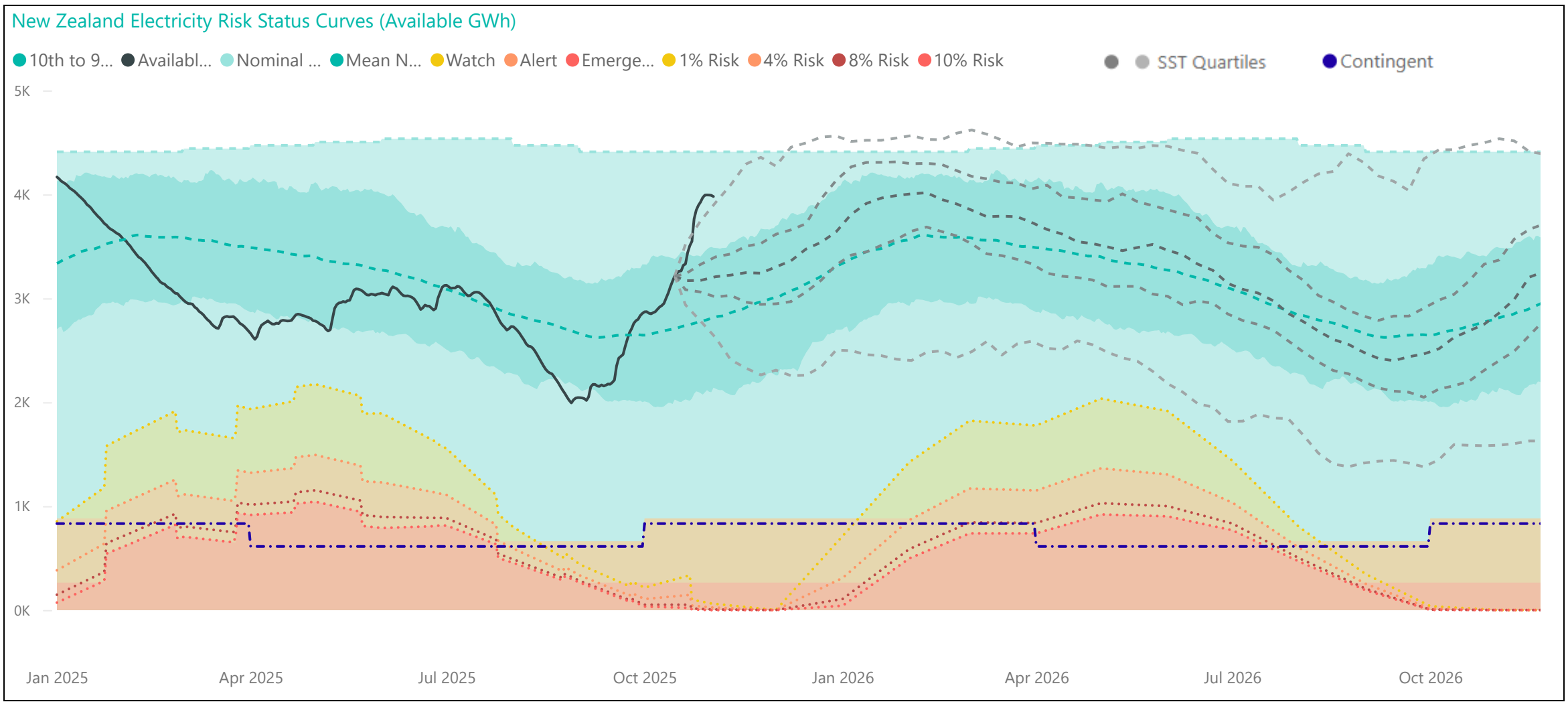
For any inquiries related to security of supply contact market.operations@transpower.co.nz

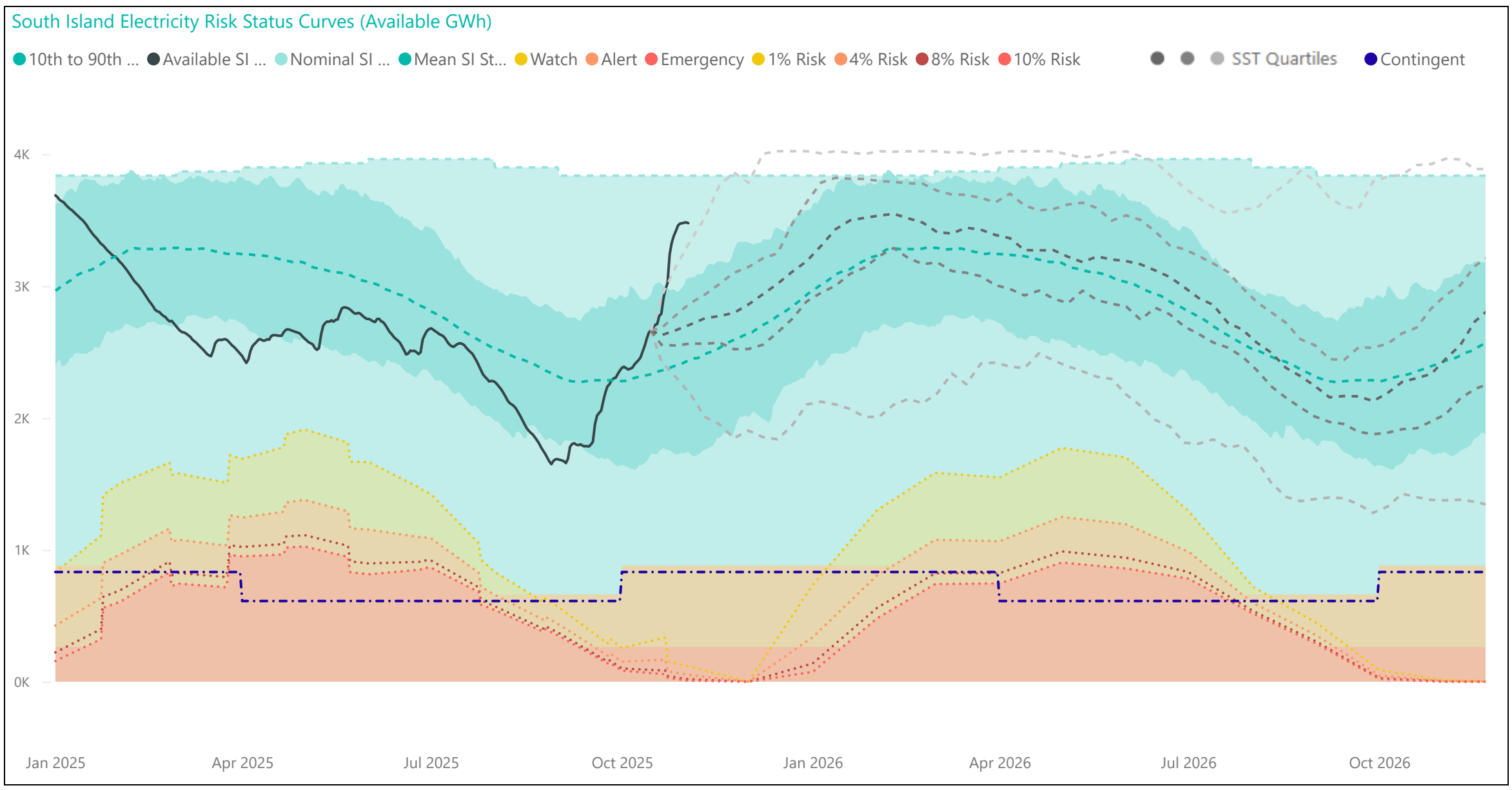
Hydro data used in this report is sourced from *NZX Hydro*.

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).