Structure Conduct Performance review

July – December 2025

27/02/2026

ELECTRICITY AUTHORITY
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1. Structure Conduct Performance Analysis

1.1 This review assesses whether observed electricity market outcomes are consistent with competitive outcomes. It uses the same approach as the post-implementation review of the trading conduct provisions, based on the structure-conduct-performance (SCP) framework. The framework assumes that market structure influences participant behaviour. More competitive market structures are expected to drive more competitive behaviour and more efficient market performance

1.2 The period considered is 1 July to 31 December 2025, ie, two quarters of data. The Authority includes six-monthly updates of these indicators in every second quarterly review

1.3 Six key indicators are used to assess the competitive outcomes:

(a) The first two of these are the frequency of both very low prices and price separation, which should reflect underlying market conditions.

(b) Offers are also tested against supply and demand conditions; prices above $300/MWh or final price may indicate economic withholding if they cannot be related to underlying conditions.

(c) Finally, investigating offers in relation to known costs, including opportunity costs, the percentage of offers above cost and the relationship of storage and offers to cost.

1.4 From the period 1 July to 31 December 2025:

- Price separation has reflected underlying conditions, consistent with competition.
- The frequency of low prices occurring during off peak has remained around 30%, which is a mostly sustained increase since the trading conduct rule was introduced in 2021. The median price also remains lower when compared to pre 2021 values.
- The high share of prices between $0-10/MWh reflected the high proportion of renewable energy from September onwards.
- Thermal offers were reflective of low operation during this period, with most peakers offering in only for security of supply needs and reduced need for thermal baseload generation.

Very low prices

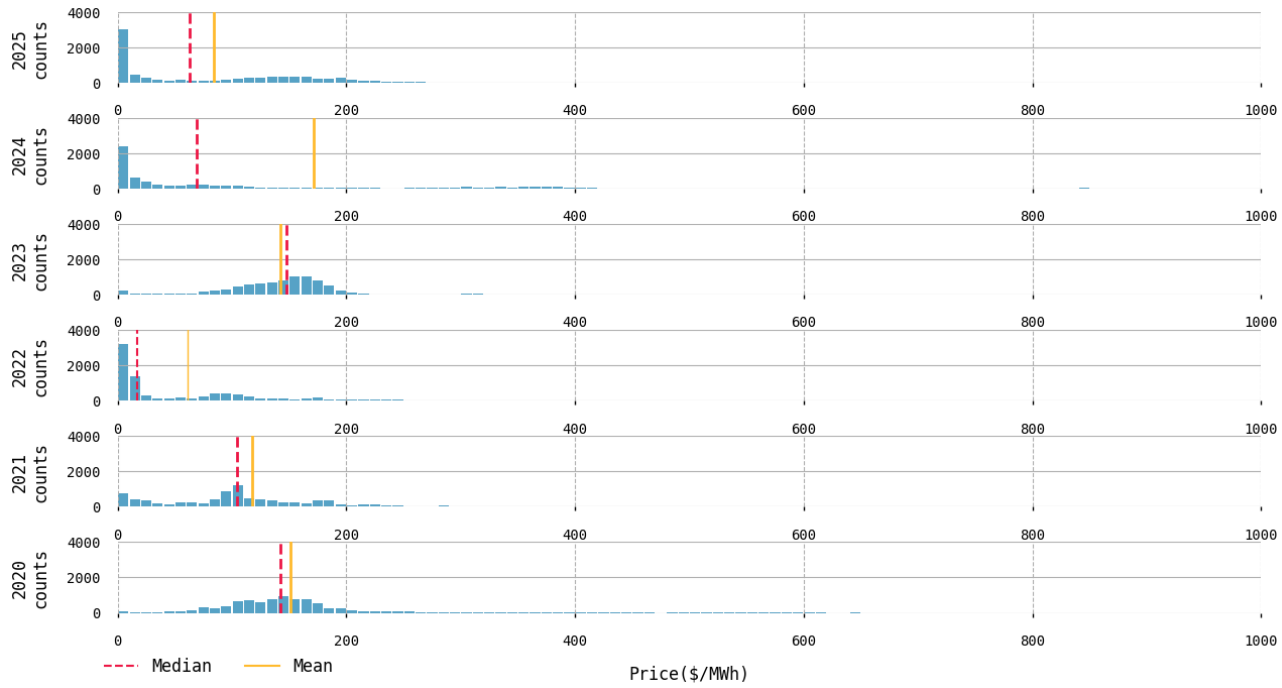
1.5 If prices are being determined in a competitive environment, one would expect very low prices in off-peak trading periods to occur more frequently than in a market where participants are exercising market power. If participants are economically withholding generation (in a manner consistent with the exercise of significant market power), very low prices would be less likely to occur. It is important to note this is an indicator only, as fewer low prices could also arise from prudent hydro storage management during times of declining hydro storage.

1.6 Between July and August hydro storage across all major catchments declined. National hydro storage reached a minimum of 2,005GWh on 28 August, which is 74% of mean and 44% nominally full. During this time spot prices reached around $250/MWh. However, from early September onwards storage rapidly increased, with spot prices falling to mostly under $100/MWh. Prices rose slightly in November as Huntly 5 and some large geothermal units went on outage but decreased again in December.

1.7 The period was dominated by prices under $10/MWh with a somewhat flat distribution of prices between $10-200/MWh (Figure 1). This price distribution reflects hydrology with

declining storage until early September, after which many lakes rapidly refilled and the electricity system had abundant fuel.

Figure 1: Histogram of price counts for July – December of each year 2020-25



1.8 The share of low prices during daytime off-peak periods in the last six months of 2025 increased slightly compared to 2024. The median low price also decreased.

1.9 This reflects underlying conditions over the period. In 2025 several lakes spilled including Manapōuri and Te Anau (from September through December), Pukaki from early December and Takapō from mid-November. There was also spill along the Clutha scheme in late October and some periodic spilling out from Taupō. When spill occurs wholesale prices often approach zero to reflect the low value of the stored water.

1.10 Since the introduction of the trading conduct rule in 2021, all years, apart from 2023[1], have had a higher share of low prices occurring in daytime off-peak and average prices have been lower than pre-2021.

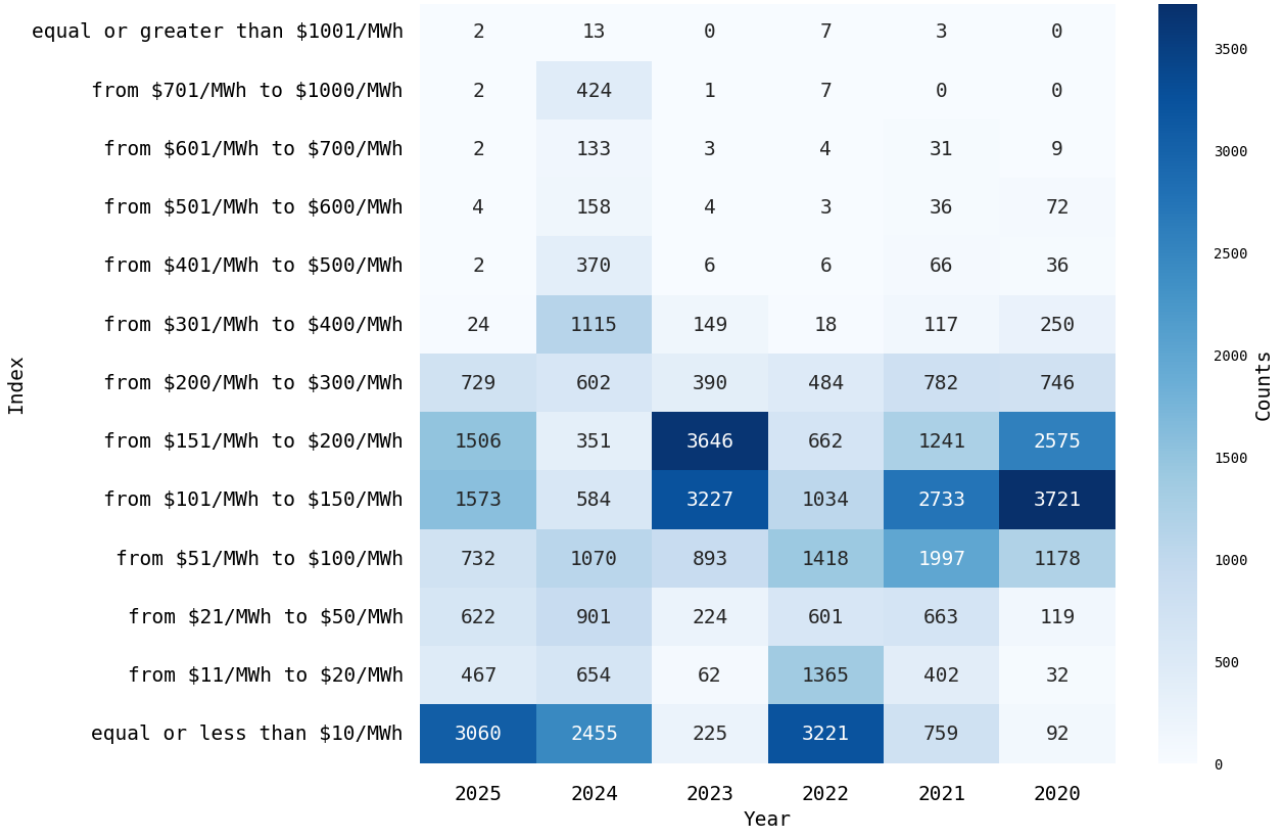
Table 1: Very low prices, July - December

Year	Share of very low prices occurring during daytime off-peak times (9am – 4:30pm)	Median price of all very low prices (all trading periods)
2025	28.4	1.1
2024	27.2	2.3
2023	12.3	0.8
2022	30.0	0.6
2021	21.1	0.4
2015-2020	12.9	4.9

Figure 2 shows a heatmap of price distribution for the last six months for 2020-25.

[1] Which had a lower proportion of low prices when compared to other post 2020 years

Figure 2: Heat map of price distribution for the last six months of each year, 2020-25



Price separation

1.11 An indication of economic withholding (consistent with the exercise of significant market power) would be subdued price separation, although subdued price separation can also result from hydro generators trying to conserve water in periods of low hydro storage or for other reasons. Large price differences, or price separation, indicate where transmission is constrained. These prices are important investment signals. When large amounts of South Island generation is exported north, transmission could become constrained. This should lead to lower prices in the South Island than in the North Island.

1.12 The mean ratio of Haywards to Benmore price separation continues to be higher since the introduction of the trading conduct rule. The mean in 2025 was similar to the 2023-24 value. In all these years, periods of high inflows led to greater instances of very low South Island prices – with the HVDC binding and creating price separation. In 2025 most of this separation occurred in December. The median price separation in 2025 was roughly similar to the level seen in previous years.

1.13 Between Benmore and Manapōuri the mean price separation was similar to 2024. Manapōuri began to spill in September but due to high renewable generation prices were low across the country so there was less price difference between Manapōuri and Benmore. The median separation remains similar to previous years.

Table 2: Price separation, July-December

	Ratio of Haywards to Benmore price		Ratio of Benmore to Manapōuri price	
Year	mean	median	mean	median
2025	34.9	1.04	1.31	1.07
2024	29.7	1.04	1.47	1.08
2023	33.3	1.04	1.05	1.05
2022	12.2	1.04	9.8	1.06
2021	68.7	1.06	26.9	1.09
2015-2021	1.8	1.04	8.5	1.09

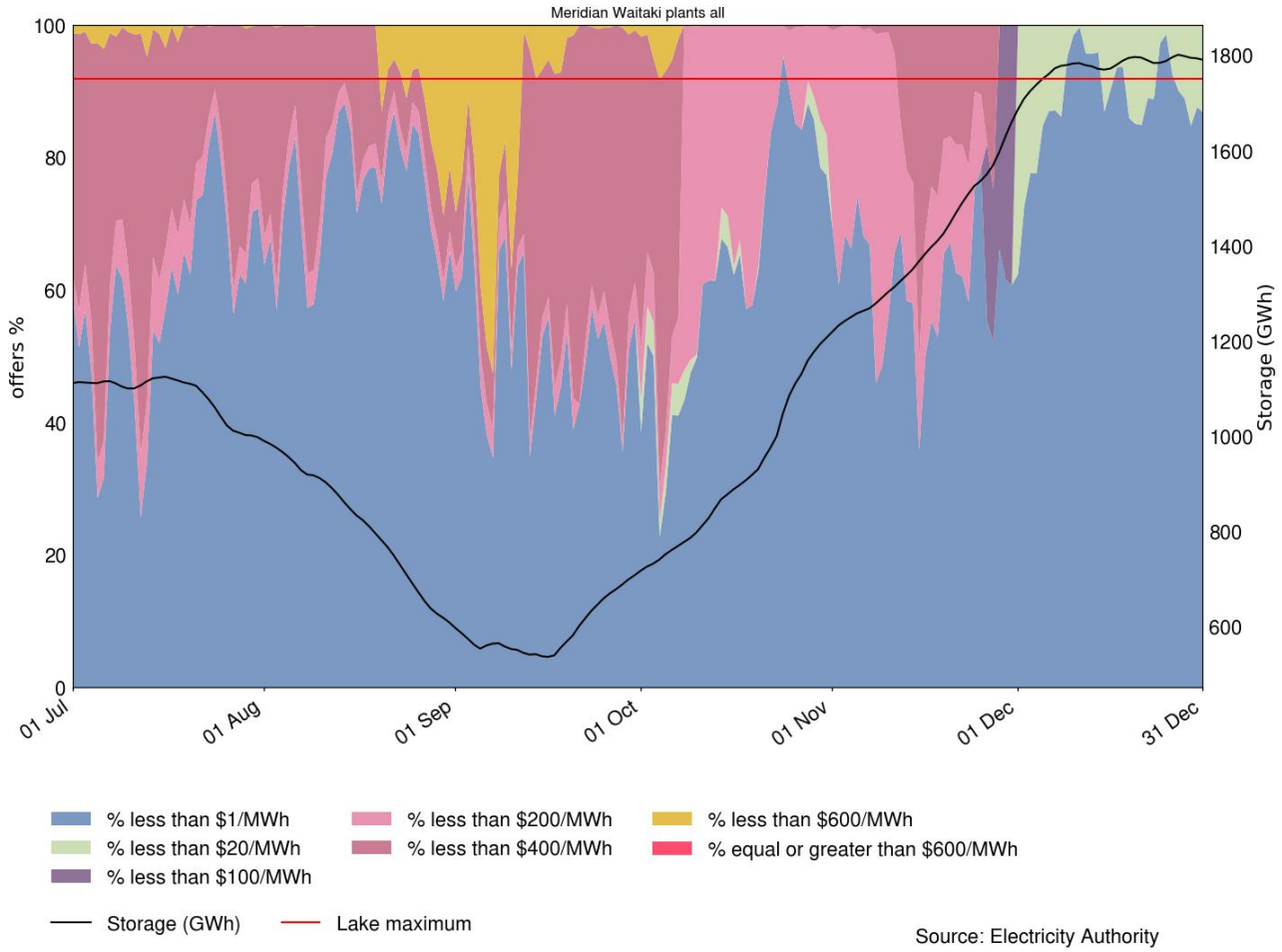
Percentage of offers above $300/MWh, final price and various estimates of cost

1.14 Figure 3 shows how Meridian's Waitaki scheme offers changed over July-December 2025 as Pukaki storage fluctuated.

1.15 Over July, Pukaki storage remained relatively constant at roughly 1,100GWh (or around 100% of mean). However, over August this dipped to just below 600GWh. Over this period between 10-50% of offers were priced between $400-600/MWh to reflect the increasing scarcity of water. However, most days between 60-80% of offers were still priced below $1/MWh. As storage increased from mid-September the amount of generation priced below $200/MWh increased.

1.16 Lake Pukaki began spilling in early December with water being spilled into Lake Benmore, bypassing the Ōhau stations. During this time all energy was priced below $20/MWh, with the majority priced below $1/MWh. As noted by Meridian the $10-$20/MWh tranche was used to ensure unsustainable generation volumes were not dispatched i.e. generation volumes that would force unnecessary mid-Waitaki spill. It also enabled provision of reserves from the Waitaki scheme.

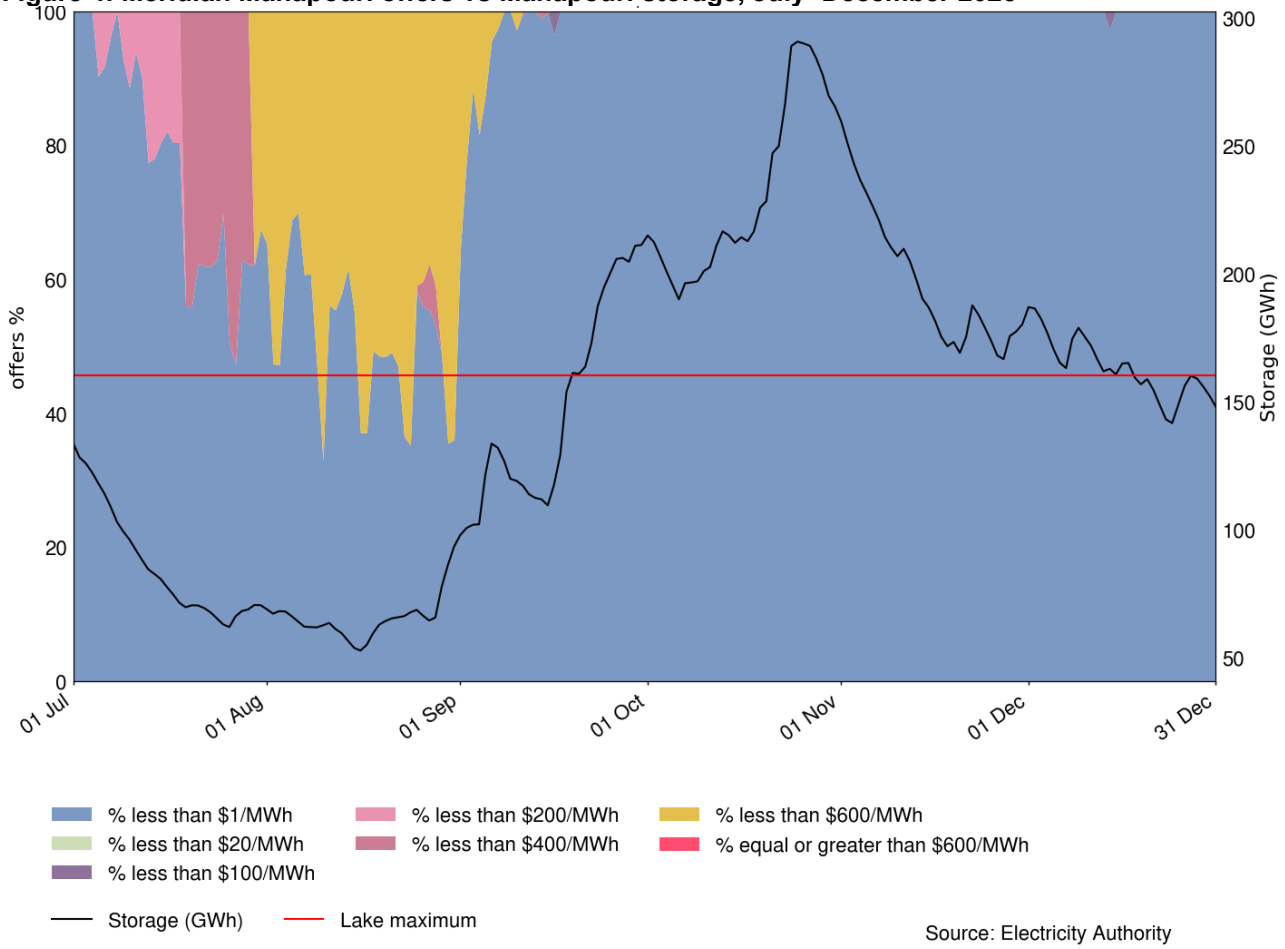
Figure 3: Meridian adjusted Waitaki offers vs Pūkaki storage, July–December 2025



1.17 Figure 4 shows Meridian's Manapōuri scheme offers over July-December as storage changed.

1.18 Over July storage at Manapōuri was decreasing and plateaued during August to around 50GWh. During this time Meridian increased the proportion of offers priced above $1/MWh to reflect the increasing scarcity of water. This peaked in August with a period where 60% of offers were priced between $400-600/MWh. As inflows increased in September the lake began to spill and all offers were priced below $1/MWh - except on December 14 when there were five trading periods where the energy from one unit was priced at $85/MWh following its return from outage. This was due to a trader error.

Figure 4: Meridian Manapōuri offers vs Manapōuri storage, July–December 2025



Source: Electricity Authority

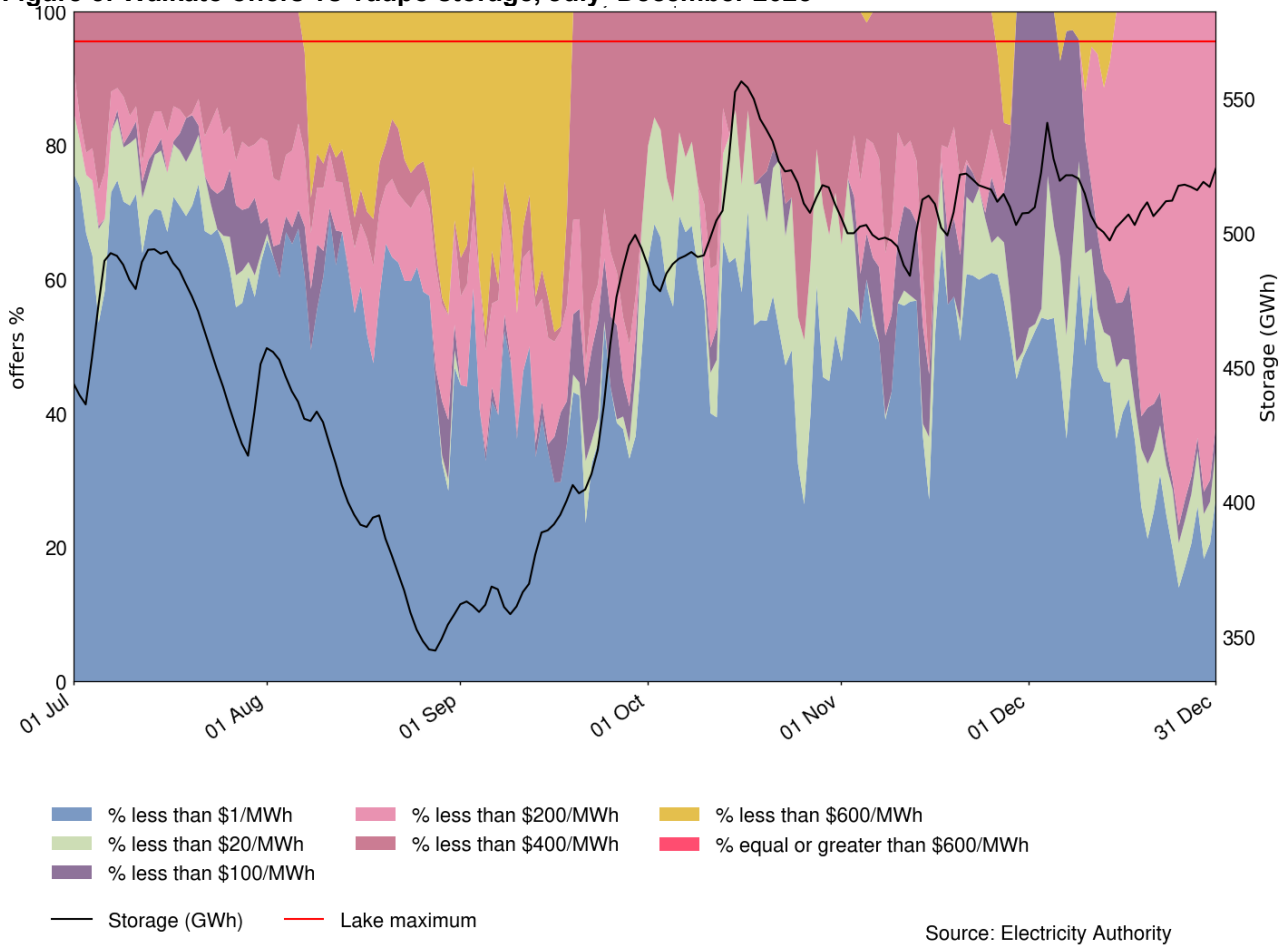
1.19 Figure 5 shows Waikato chain offers from July-December and hydro storage at lake Taupō.

1.20 Storage in Taupō declined over July-August and throughout this period Mercury decreased the amount of offers below $1/MWh and increased the amount in higher tranches. Prices peaked over August and early September with up to 50% of energy priced between $400-600/MWh.

1.21 In late September as storage increased sharply the proportion of offers below $1/MWh increased, with a significant amount of energy priced between $1-20/MWh. In December there were periods where all energy was priced below $100/MWh. However, this was preceded and followed by days with some energy priced between $400-600/MWh. The reason for this was due to nearby transmission outages (Wairakei ring constraints) constraining generation at some Waikato chain sites.

1.22 While Taupō didn't reach maximum capacity the lake did spill in accordance with the lake's resource consents, which state the lake should have a less than 20% exceedance probability of 357.25 meters above sea level. Mercury endeavoured to generate as much as the market allowed while spilling. Spilling of what they were unable to clear in the market was done at times in October, November and December.

Figure 5: Waikato offers vs Taupō storage, July–December 2025



Source: Electricity Authority

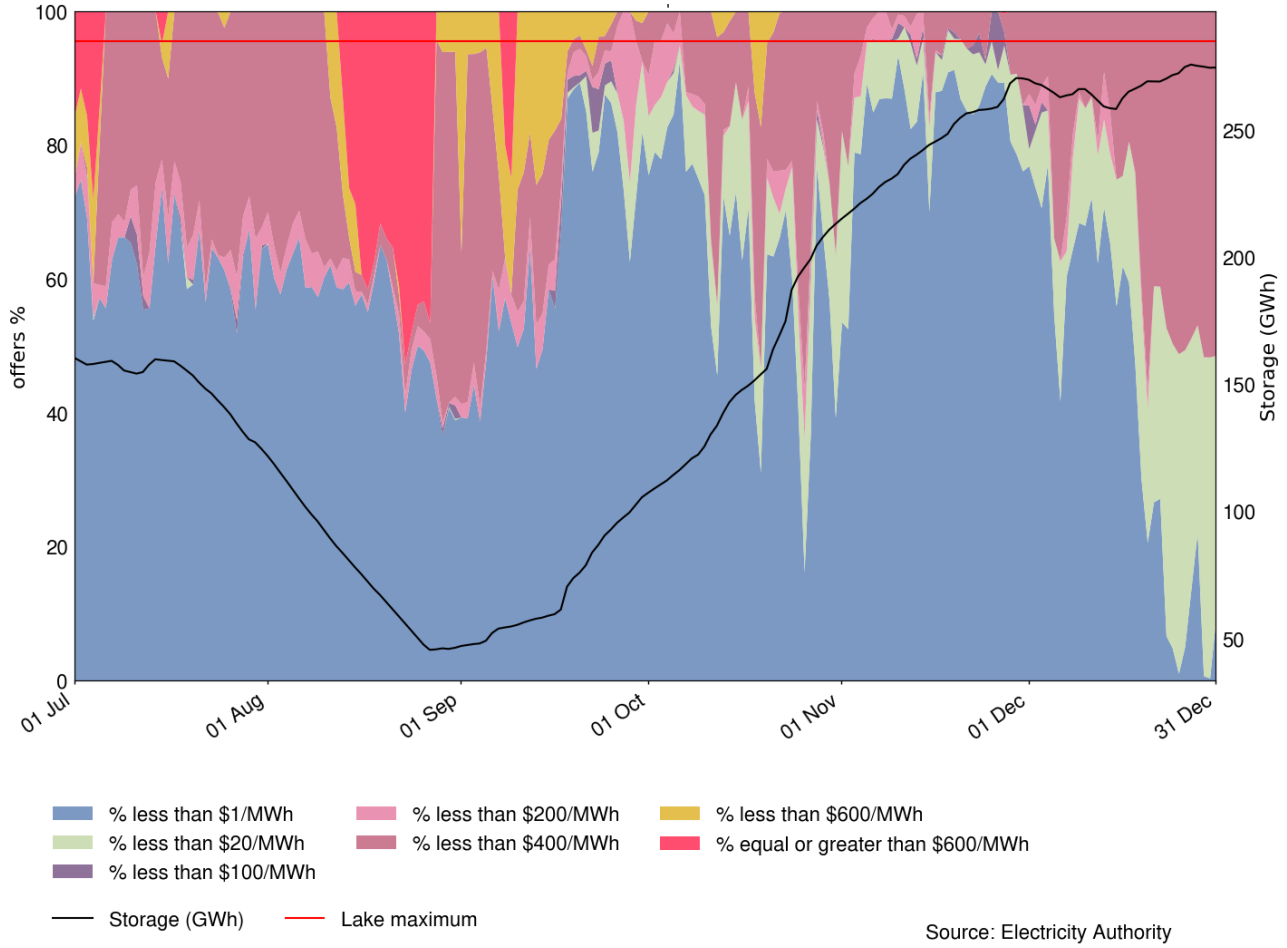
1.23 The Contact Clutha scheme also does not have much storage and runs mostly as a run of river scheme. However, its offers have closely aligned with storage levels at Hawea, as shown in Figure 6.

1.24 Over July-August storage at Hawea declined and neared 50GWh. Over this period water was priced up with a period of up to 50% of offers priced above $600/MWh in late August.

1.25 Despite Hawea not exceeding its maximum in 2025, the Clutha scheme spilled in late October as rainfall increased run of river flows from its other uncontrolled feeder lakes Wakatipu and Wanaka. In November the proportion of offers below $1/MWh approached 90%. In December the proportion of low-priced offers declined as Wakatipu and Wanaka lake levels fell. Additionally, over Christmas low priced offers fell as load declined.

1.26 Contact confirmed with us that over the Christmas break the scheme was operated to manage spill and reduce operational stress, a challenge for this scheme in low priced conditions. Generally, on lower wind days the market provided greater opportunity to dispatch generation at greater than $1/MWh which provides greater certainty of dispatch.

Figure 6: Clutha offers vs Hawea storage, July–December 2025



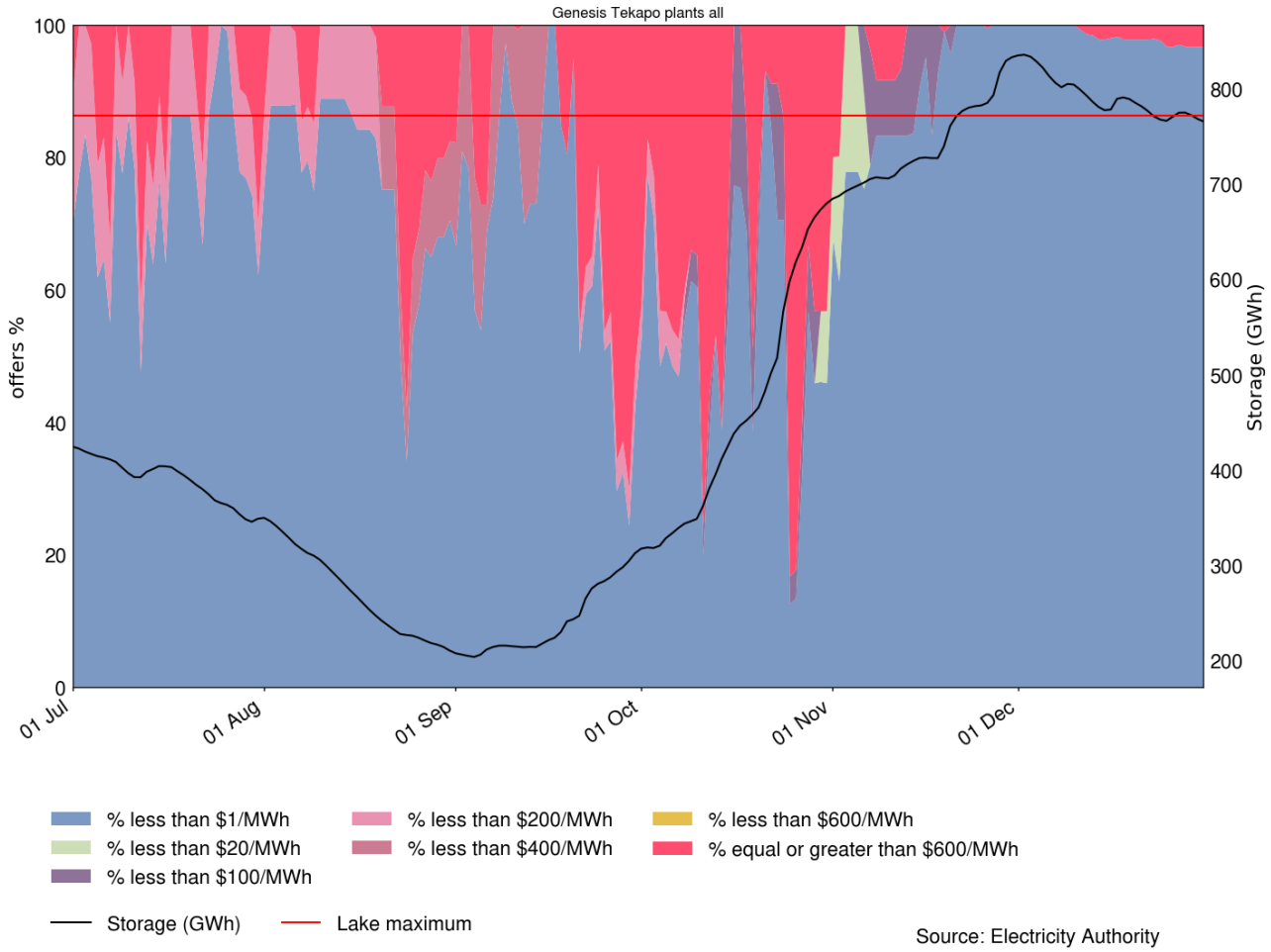
Source: Electricity Authority

1.27 Figure 7 shows how offers from the Takapō power scheme changed as storage changed in lake Takapō. Throughout July and August storage in the lake declined from roughly 400GWh to 200GWh. However, during this time Genesis often had over 80% of energy priced below $1/MWh during weekdays.

1.28 Over September Genesis priced water up to likely minimise dispatch and help maintain lake levels to ensure compliance with the minimum lake level (which increases from 701.8 masl to 704.1 masl on 1 October). Storage began rapidly increasing from mid-October onwards, with most energy priced below $20/MWh in November. In late October Genesis priced energy up at Takapō which was followed up through the trading conduct process. At this time wholesale electricity prices were very low and Genesis wanted to prioritise dispatch of energy at their other sites. No further compliance action was taken.

1.29 During December as Takapō spilled Genesis were offering most capacity at Takapō A and B below $1/MWh However, between 1-5MW of generation was offered above $600/MWh. Genesis has explained that these offers were to preserve short-term operational flexibility and retain a small amount of deployable generation for an immediate grid security response.

Figure 7: Takapō offers vs Takapō storage, July–December 2025



Source: Electricity Authority

1.30 Table 3 to Table 7 cover dates when reservoir storage (for individual lakes and nationally when considering thermal operators) was above its long-term average.

1.31 The hydro lakes were above mean during the following times in Q3-4 2025:

- Pukaki was consistently above mean from 12 October onwards
- Taupō was above mean the entirety of July-December
- Hawea from 23 October onwards
- Takapō from 13 October onwards.

1.32 These tables consider the percentage of offers above $300/MWh, and above final price or above various measures of cost.

1.33 The percentage of offers above $300/MWh decreased for Waikato and Takapō when compared to 2024. This is likely due to these schemes experiencing prolonged periods of high inflows and periods where the schemes were spilling. Meridian's proportion of offers above $300/MWh increased compared to 2024, but was similar to 2023 and 2021, and continues to be much lower than the pre trading conduct period.

1.34 The majority of offers from the Stratford peakers were above $300/MWh as the peakers seldom ran between July-December 2025, but offered into the market for security of supply. The Huntly station had 21% of offers above $300/MWh. These thermal offers were higher than they were in 2024 as they reflect the start-up costs associated with running for shorter periods of time.

Table 3: Percentage of adjusted offers over $300/MWh, July–December 2014-25

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)	Stratford	Huntly
2025	12.1	4.4	9.3	0.0	92.4	20.7
2024	20.7	0.5	16.0	0.0	66.7	14.1
2023	38.8	3.1	1.5	25.1	58.6	11.2
2022	19.3	0.5	12.5	17.8	90.5	15.3
2021	37.8	4.2	9.2	4.7	77.3	11.2
2019-2020	41.2	25.9	6.6	13.6	72.0	15.3
2014-2018	27.7	24.6	5.8	NaN	35.9	14.9

1.35 In 2025 more generation was priced above the final price across all major hydro and thermal generators when storage was high. This is because prices were often very low - often below $10/MWh. Prices were low also due to periods of high wind generation, and increases in geothermal baseload, displacing hydro and thermal generation.

Table 4: Percentage of adjusted offers above final price, July–December 2014-25

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)	Stratford	Huntly
2025	41.4	26.2	12.1	33.6	93.1	26.2
2024	57.1	37.2	17.4	26.7	71.1	17.7
2023	45.6	35.4	4.3	27.8	65.2	18.8
2022	31.1	25.9	15.6	28.4	96.7	26.3
2021	53.7	31.1	9.7	15.8	86.2	17.6
2019-2020	49.2	34.3	8.6	43.0	81.7	20.3
2014-2018	39.8	34.4	11.4	NaN	80.3	23.1

Table 5: Percentage of adjusted offers above the average forward price, July–December 2014-25

	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)	McKee	Huntly OCGT	Stratford peakers	Rankines (coal)	E3P	TCC
2025	20.1	9.7	5.0	11.7	63.8	58.0	62.7	17.3	9.9	18.1
2024	29.2	10.5	9.8	7.6	50.3	55.8	44.9	8.0	9.2	23.6
2023	28.8	22.2	2.5	0.0	38.7	53.5	47.5	17.6	NaN	5.1
2022	13.6	5.7	7.8	12.7	62.1	56.4	66.0	15.9	8.4	13.4
2021	30.3	10.9	6.0	8.3	NaN	53.3	62.8	17.3	7.9	11.0
2019-2020	31.2	22.0	4.8	12.4	24.9	62.9	58.9	22.9	8.5	10.0
2014-2018	25.3	20.7	5.3	NaN	51.0	62.4	54.0	20.9	10.3	15.1

1.36 The proportion of offers above SRMC for Huntly 5 (E3P) stayed at similar levels to 2024. TCC only ran between 21 -26 July and 10 August – 5 September. The amount of energy offered above its SRMC decreased to only 5% in 2025, likely due to cheaper gas contracts and limited running of the plant in July and August.

1.37 The Rankines increased their proportion of offers above the coal SRMC. However, the Rankines proportions are misleading due to the Rankines running at low MW (during times of low prices) with additional capacity still being offered into the market but at a price above the thermal SRMC.

1.38 Nova's offering strategy for McKee and Junction Road is to offer the full capacity of a unit at below $1/MWh during periods when it wants the unit to run, which usually correspond to periods when prices are expected to be higher than SRMC, and to offer remaining capacity above $2,000/MWh, so it is not dispatched unless needed for security reasons. As Mckee was seldom needed once hydro generation increased, the majority of its offers were above $2,000/MWh.

Table 6: Percentage of adjusted offers above the thermal SRMC, July–December 2014-25

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)	McKee	Huntly OCGT	Stratford peakers	Rankines (coal)	E3P	TCC
2025	23.0	10.2	9.3	18.9	90.7	81.3	93.1	19.7	18.4	5.3
2024	35.1	10.1	16.0	0.0	71.8	78.8	68.2	8.1	18.9	20.7
2023	40.2	23.7	1.5	26.3	56.8	77.7	69.0	15.9	NaN	14.2
2022	8.1	0.3	12.5	12.2	96.9	79.3	96.5	17.8	13.1	24.0
2021	38.7	6.4	9.2	5.2	NaN	76.7	83.4	8.5	11.1	15.1
2019-2020	46.5	29.3	6.7	20.5	39.3	89.9	80.6	13.8	12.8	12.7
2014-2018	37.8	30.3	8.2	NaN	75.1	91.1	81.6	20.6	21.6	30.1

1.39 In previous SCP analysis we noted that sometimes the JADE model under-valued hydro costing. This is also evident when risk was very high in July-August. These edge cases aren't captured well by the JADE model and the Authority is processing work on how to update JADE to more accurately reflect the risk parameters associated with running out of water. We have, however, included the analysis based on the current water values, as we mainly analyse correlations (which do not depend so much on values but rather movements). We also include the percentage of offers above water values for completeness but note that this indicator will be affected more by the issues identified with the modelling.

Table 7: Percentage of adjusted offers above water values, July–December

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)
2025	23	36	24	10
2024	28	46	14	19
2023	50	36	12	9
2022[2]	15	15	11	25

Relationship of storage and offers to cost

1.40 Table 8 to Table 10 show the relationships between the average water values for each associated reservoir and hydro storage and offers, when hydro storage was high. Figure 8 shows the relationship between these water values and offers.

1.41 For July to December this year, all schemes had a JADE water value which was negatively correlated with storage (as shown in Table 8), meaning that water values increased as storage decreased, which is consistent with competition.

[2] (Data between 16 September to 31 December 2022)

1.42 Figure 8 shows that the quantity weighted offer prices (QWOP) peaked for all schemes, except Takapō, in late August when hydro storage was at its lowest nationally. The QWOP values for Waitaki, Waikato and Clutha schemes quickly fell as hydro storage in the corresponding lakes improved.

1.43 Takapō values peaked again in September and October. During this time Genesis was prioritising fuel use at its other plants and wholesale prices were low.

1.44 All schemes had negative correlations between hydro storage and water values ie, water values decreased when storage increased and vice versa, which is what we would expect under competitive outcomes.

1.45 All schemes also had a positive correlation of water values with the percent of offers above $300/MWh, and with QWOP, meaning that as water values increased, the proportion of offers above $300/MWh and the QWOP increased, as expected under competitive outcomes.

1.46 However, this year Taupō diverged from the usual pattern of having a strong negative correlation between storage and water values. Additionally, water values had a weak correlation with QWOP. This appears to have occurred due to the Waikato water value not significantly increasing during times of declining storage at Taupō during August and September. If we consider the correlations between storage and QWOP, this is strongly negatively correlated at -0.83, indicating that hydro offers increased in price when storage declined.

1.47 The overall picture presented by the indicators suggests a continuation of the trading conduct provisions having a positive impact on generator behaviour.

Table 8: Correlations of water values with hydro storage, July–December

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)
2025	-0.28	-0.73	-0.75	-0.92
2024	-0.92	-0.98	-0.75	-0.69
2023	-0.35	-0.27	0.35	-0.66
2022[3]	-0.48	-0.76	-0.56	-0.61

Table 9: Correlation of water values with percentage of offers above $300/MWh, July–December

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)
2025	0.61	0.83	0.35	0.95
2024	0.75	0.92	0.83	0.93
2023	0.32	-0.23	0.0019	0.63
2022	-0.46	0.19	0.13	0.69

[3] (16 September to 31 December)

Table 10: Correlation of water values with QWOP, July–December

Year	Mercury (Waikato)	Meridian (Waitaki)	Genesis (Takapō)	Contact (Clutha)
2025	0.11	0.76	0.33	0.62
2024	0.8	0.97	0.79	0.67
2023	0.33	0.14	-0.023	0.73
2022	0.18	0.38	-0.12	0.005

Figure 8: Quantity weighted offer prices, July–December 2025