Security of Supply Outlook – 31 Aug 2026

Transpower as the System Operator is responsible for providing information and short- to medium-term forecasting on all aspects of security of supply and manages supply emergencies. This document provides the System Operator's assessment of the security of supply outlook approaching spring 2026 based on the latest Energy Security Outlook, New Zealand Generation Balance (NZGB), generation commissioning expectations, annual Security of Supply Assessment (SOSA), and observed operational conditions. We provide these Security of Supply Outlook updates quarterly[1].

In summary:

- The current energy risk outlooks indicate no elevated near-term risk, provided there are no major unplanned outages or fuel supply disruptions. Current fuel stocks are healthy, providing a solid position heading into spring with additional new generation coming online.
- Capacity risk is low if sufficient generation is available and offered into the market during stressed system conditions. The healthy energy position helped lower wholesale electricity prices this winter, which coincided with lower commitment of higher-priced, slower-start thermal generation. That increased capacity risks this winter during periods of record-setting peak demand in late July and early August coinciding with low intermittent generation and unplanned outages. This highlights the need for flexible resources in the market, which are coming online in the form of batteries.

[1] We continue to evolve our analysis and insights to improve the Security of Supply information we provide to industry. We also welcome your feedback and suggestions. Please email system.operator@transpower.co.nz with subject line: SOS Information feedback.

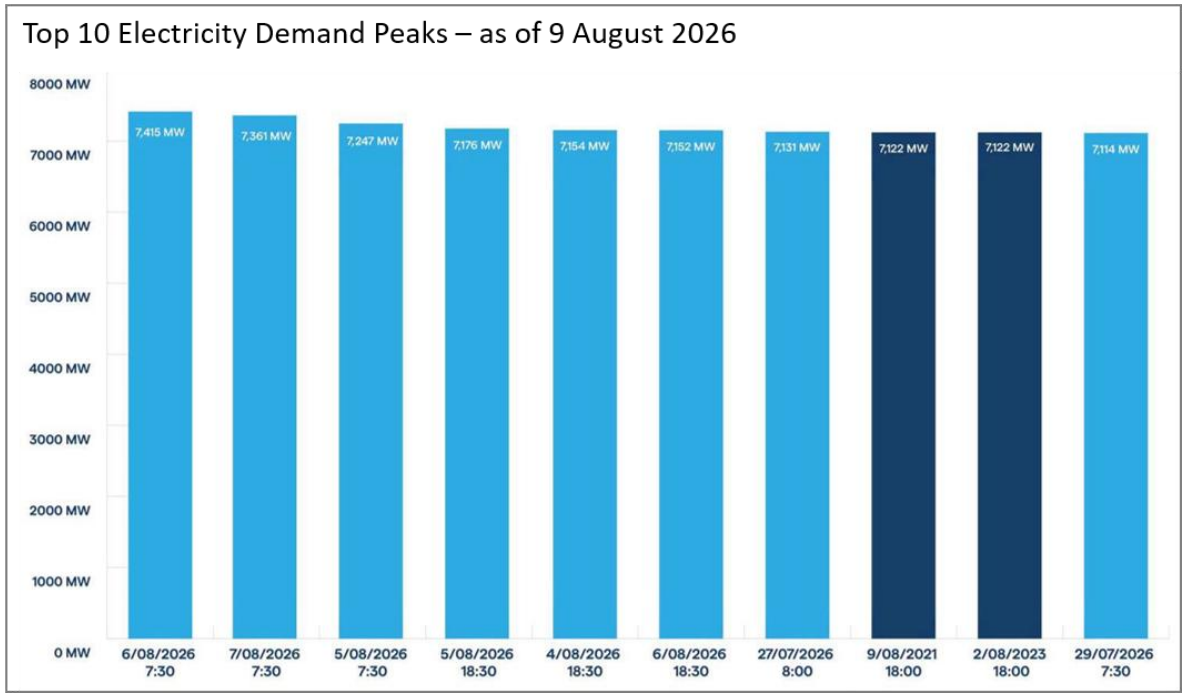
- Major controlled hydro storage in both islands have dropped from their highs earlier in the year but national hydro storage is still above average, sitting at ~127% of historic mean for this time of year. This continues to be largely driven by South Island hydro storage where Pūkaki is at 136% of the historic mean. Earth Sciences New Zealand (formerly NIWA) is forecasting "normal or below normal" rainfall for most of the country except for the western South Island, where rainfall is most likely to be above normal and where the major South Island catchments are located.
- The latest reported thermal fuel stockpile is also healthy with the Huntly coal stockpile at ~1.2MT and Ahuroa gas storage sitting at ~75% of capacity. Maintaining healthy thermal fuel stocks and plant availability will help the system respond to any extended periods of low inflows that may occur. It will also help the sector respond to capacity risks should a cold snap through spring coincide with multiple planned maintenance outages. At this stage, the conflicts in the Middle East are not having major impacts on coal and diesel availability for local electricity generation, although fuel prices remain elevated and supply conditions continue to be monitored closely.
- Eight of the 10 highest demand peaks were observed in late July – early August due to a sustained cold snap with highest demand peak of 7,415 MW during the morning of 6 August. Looking ahead, demand is expected to increase with the new electric arc furnace load now online at NZ Steel. There are also various industrial electrification projects progressing (particularly at Fonterra sites expected to come online later in winter). These are captured in our forecast.
- On the generation front, Genesis has shut down its Huntly 5 CCGT from 1 July to 31 December to make gas available to commercial and industrial users. The unit is available within a three-to-five day recall subject to gas availability and its planned outage in October[2]. We note that between 1 April to 31 August ~760 MW of new installed supply capacity has come online with a further ~466 MW expected to come online ahead of winter 2027. All of this new capacity is solar aside from one geothermal unit.
- Wholesale electricity spot prices averaged around $64/MWh in July and $84/MWh in August with New Zealand electricity futures contracts for Q3 (Jul-Sep)[3] and Q4 (Oct-Dec) this year currently at ~$64/MWh and ~$40/MWh respectively. This time last year, average spot prices for July were higher at ~$105/MWh and Q3 and Q4 futures prices were ~$150/MWh and ~$155/MWh. These lower prices correspond to the system holding a stronger security of supply position and lower risk outlook going through winter and spring than last year.

[2] See Genesis to shut down Unit 5 to support gas consumers | Genesis NZ
[3] As at 28 August

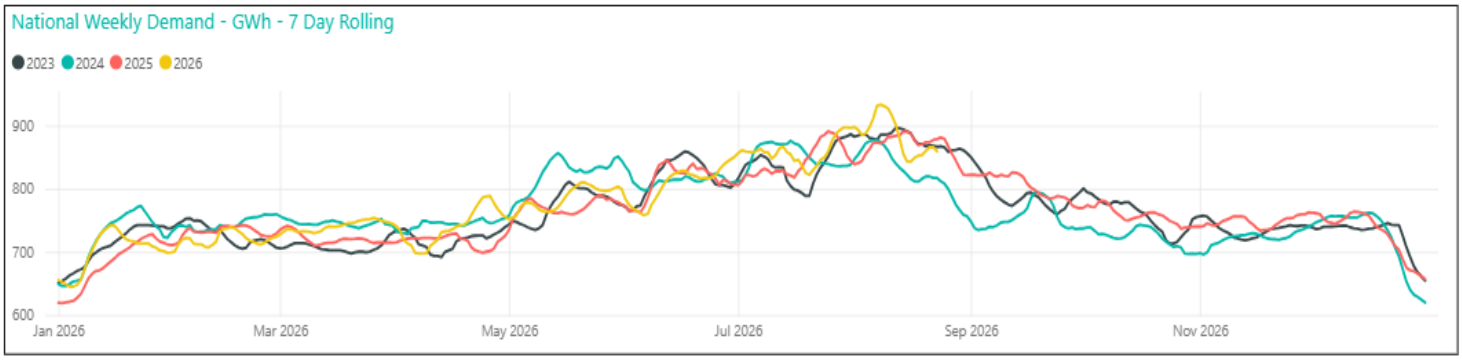
- Beyond this winter, our final 2026 Security of Supply Assessment (SOSA) report indicates winter security margins have improved compared to previous SOSAs (due to strong industry response to bring new supply capability). The security margins remain above the standards until three-to-five years out, at which point additional generation needs to be committed (for the short-term) or consented (for the mid-term) to lift margins back above the standards. Bringing forward generation investment will also help reduce exposure to risks (such as reduced thermal generation plant availability, reduced gas availability or build delays) and will help support a higher demand growth potential.
- The System Operator is working with the Electricity Authority to implement Emergency Reserve as a new ancillary service. We are currently working on preparing the procurement plan consultation targeted for September 2026. Full details can be found on our website.

Demand outlook

A sustained cold snap at the end of July to early August resulted in higher heating demand and a record peak demand. National demand reached eight of the 10 highest demand peaks between 27 July to 7 August with a maximum of 7,415 MW in the morning of 6 August. NZ Steel's Electric Arc Furnace started production on 10 August bringing an additional ~25-60 MW of load. Fonterra is continuing its electrification plans[4] at its various locations, which will increase electricity consumption at its Whareroa and Edgecumbe sites.



[4] See Fonterra announces electrification plans to future-proof operations



Supply outlook

Aggregate hydro storage levels have largely been above average from September 2025 due to above average inflows predominantly from September 2025 with a strong contribution from wind generation (except in late March). This has resulted in lower thermal generation, lower wholesale spot prices and allowed a build-up of the coal stockpile at Huntly and gas storage in Ahuroa.

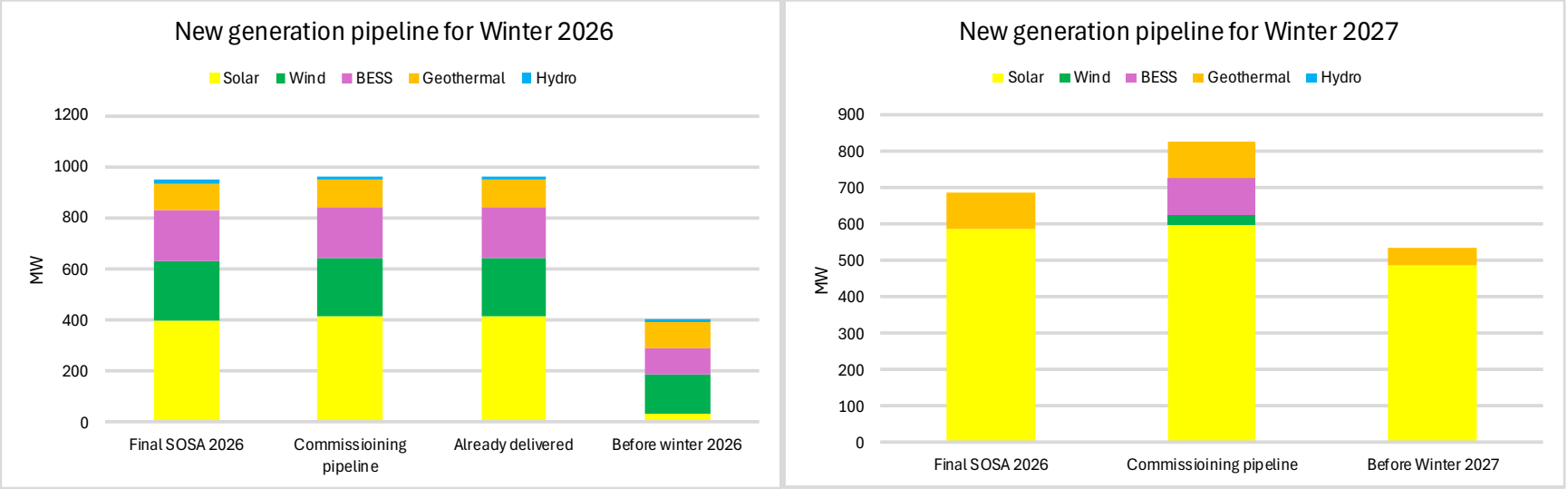
Between April 2026 and September 2026, a total of ~760 MW of additional installed supply capacity has been or is being delivered to the system. This capacity includes ~425 MW of solar, ~230 MW of wind, 100 MW of BESS and 4 MW of hydro. From January 2026, the total additional generation commissioned stands at ~965 MW on 31 August 2026. These additions have been offset with the decommissioning of TCC (330 MW) leaving a net increase of ~635 MW of installed supply capacity.

While we report installed capacity, these technologies have quite different contributions to the peak and energy requirements of the system. For example, over the winter months the average[5] contribution from solar is ~16% of its installed capacity (compared, for example, to geothermal which typically operates at ~90% capacity factor). During peak demand periods on cold, dark winter evenings, solar (without BESS) makes no contribution, whereas geothermal, hydro and BESS are firm (non-intermittent) generation sources and could generate up to their maximum. While the new solar generators are an important component of the new supply mix, they provide limited winter energy support and potentially very little during winter peak loads.[6]

[5] Average contribution is an indication of its energy contribution.
[6] Solar with BESS could be used to store solar energy for later use during peak load periods.

Supply pipeline progress against SOSA 2026

The figure below shows the comparison, for winter 2026 and winter 2027, of new generation delivery compared to the committed (Stage 1) generation pipeline published in our most recent Security of Supply Assessments (**SOSA 2026 final**).[7] This shows that what we expected to be ready for commissioning in the SOSA analysis has indeed moved into our commissioning process (some with delays). If aggregate generation is tracking ahead of the stage 1 pipeline it would indicate build faster than signalled and as a result security margins are likely to be higher than forecast, and the opposite if generation build is lagging.[8]



By end-August 2026, commissioned solar, wind and BESS capacity for winter 2026 had broadly caught up with the capacity modelled in the final 2026 SOSA pipeline. However, SOSA winter[9] 2026 is taken as beginning on 1 April 2026. By that date, only around ~400 MW of ~950 MW of modelled SOSA 2026 capacity had been delivered. This means new supply delivery (largely solar and BESS) was slower than modelled

[7] In this case the 2026 SOSA final. See 2026 SOSA - Final Report.pdf
[8] Note the start of winter as defined in the SOSA is 1 April. We have used this date for this comparison.
[9] For the SOSA, winter is defined as 1 April to 30 September for the Winter Energy Margin

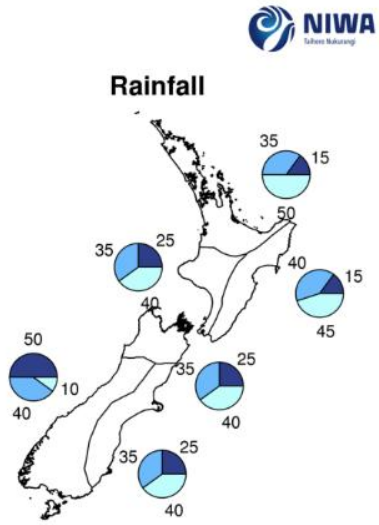
at the start of winter 2026, with a corresponding reduction in the expected contribution to 2026 security margins relative to the final SOSA assumptions, all else being equal.

This matters because the final 2026 SOSA identified NZ-WEM pressure in 2028 under its expected future scenario with a lower gas outlook. Delays to new generation delivery would therefore increase security-of-supply risk relative to the SOSA assumptions, particularly if delays affect projects that have strong contributions to firm winter energy.

Looking ahead, the current delivery pipeline indicates around ~535 MW of additional installed supply capacity (486 MW of solar and 51 MW of geothermal) is expected to come online before winter 2027 with an additional ~290 MW expected to come online during winter 2027[10]. The expected available capacity ahead of winter 2027 is broadly aligned with, but slightly below, the ~690 MW modelled to be online ahead of winter 2027 in the final SOSA. Continued delivery of existing committed projects, together with additional projects progressing into the committed and consented pipeline, would reduce the risk that project delays lower future security margins below the efficient level.

National hydro storage

Above average hydro inflows from September 2025 helped increase national controlled storage up to near full levels at the start of this year. Storage has since declined but is still above average for this time of year with national controlled storage sitting at around 127% of historic mean levels as of 30 August. Below average North Island inflows have pushed Taupo below mean storage for this time of year. South Island controlled hydro catchments are above their average except Hawea which is sitting at ~97% of its average level. The South Island controlled storage is above mean at 135% of average heading into spring.



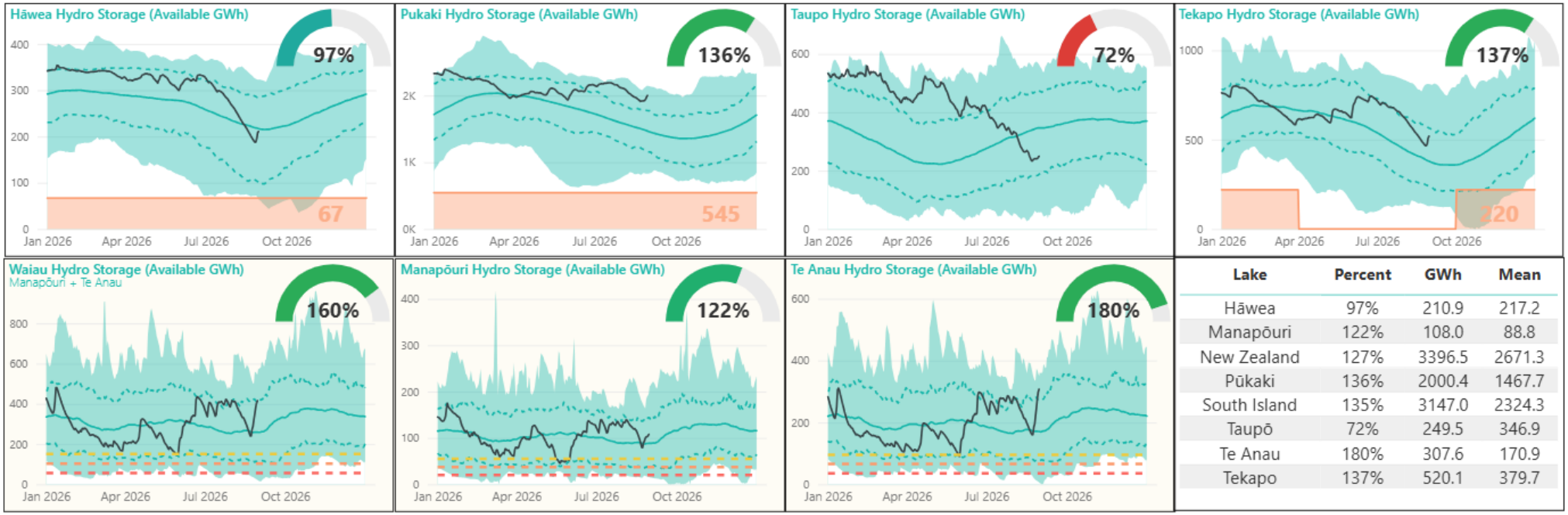
We are mindful of factors that could impact controlled hydro storage levels, including:

- Earth Sciences NZ (formerly NIWA) has confirmed that El Niño conditions have been reached. The August-October 2026 Climate Outlook is for “normal or below normal” or “below normal” rainfall[11] for most of the country except for the western South Island, where rainfall is most likely to be above normal as shown in the chart. Earth Sciences NZ predicts about an 80% chance for El Niño to reach or exceed

[10] This results in the total expected capacity in the commissioning pipeline exceeding the SOSA modelled capacity for winter 2027. A key difference is that the SOSA assesses the available capacity ahead of winter 2027 whereas the commissioning pipeline includes capacity delivered during winter 2027.
[11] The pie-charts in the figure indicate the forecast probabilities.

strong intensity and expects the El Niño influence to become more apparent later in the season. These conditions could improve inflows into major SI catchments in the western South Island[12].

- Meridian's snowpack estimate shows above average contribution (for this time of year) from Waitaki snow storage.[13]



Lake	Percent	GWh	Mean
Hāwea	97%	210.9	217.2
Manapōuri	122%	108.0	88.8
New Zealand	127%	3396.5	2671.3
Pūkaki	136%	2000.4	1467.7
South Island	135%	3147.0	2324.3
Taupō	72%	249.5	346.9
Te Anau	180%	307.6	170.9
Tekapo	137%	520.1	379.7

[12] Historically inflows during El Niño periods are typically above the mean at the start and end of the year, with some above average inflows during winter however there is some variability. See here.

[13] As reported by Meridian on 29 Aug 2026 (Snow storage | Meridian Energy)

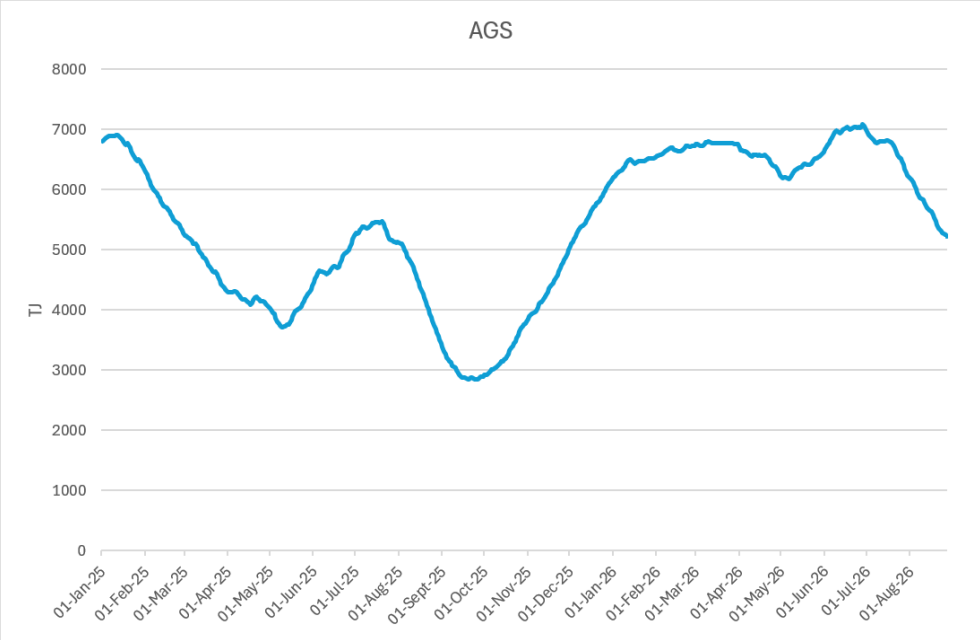
Thermal fuels

The latest publicly[14] reported Huntly coal stockpile is 1,196 kT (as of 26 July), which is sufficient to produce ~2,230 GWh of electricity from the Rankine generators. This is enough coal to fuel a Rankine generator operating at full output for ~390 days (Rankine days). The approved Huntly Rankine arrangement[15] indicates the Huntly strategic reserve stockpile will initially be set at 600 kT and needs to be maintained at a target level ahead of each winter (600 kT is equivalent to ~1210 GWh which is the energy from one 240 MW Rankine at full capacity for ~210 days). This is in addition to an operational stockpile which Genesis will hold to support its customers which it has indicated would be between 350 and 550 kT.[16]

Ahuroa gas storage (AGS) is currently at 5.2PJ (as of 27 August), which is ~75% of full (~90 Rankine days or ~530 GWh of electricity generation).

Diesel-fired generation is largely used to provide fast-start, flexible generation during peak load periods (i.e. peaking generation). As such, diesel-fired generators are not expected to run for extended periods of time. There was ~3.81 ML of stored diesel available for electricity generation as of 26 July. This is equivalent to ~14 GWh or ~2.4 days of running a Rankine unit at full output.

At this stage, the Middle East conflicts are understood to have minimal impact on coal and diesel availability for local electricity generation, although fuel prices remain elevated and supply conditions continue to be monitored closely.



[14] The Authority has been publishing on its website aggregate information on thermal fuels to increase its transparency in the market. See Thermal fuel information | Electricity Authority
[15] See paragraph 91.5 here
[16] See here.

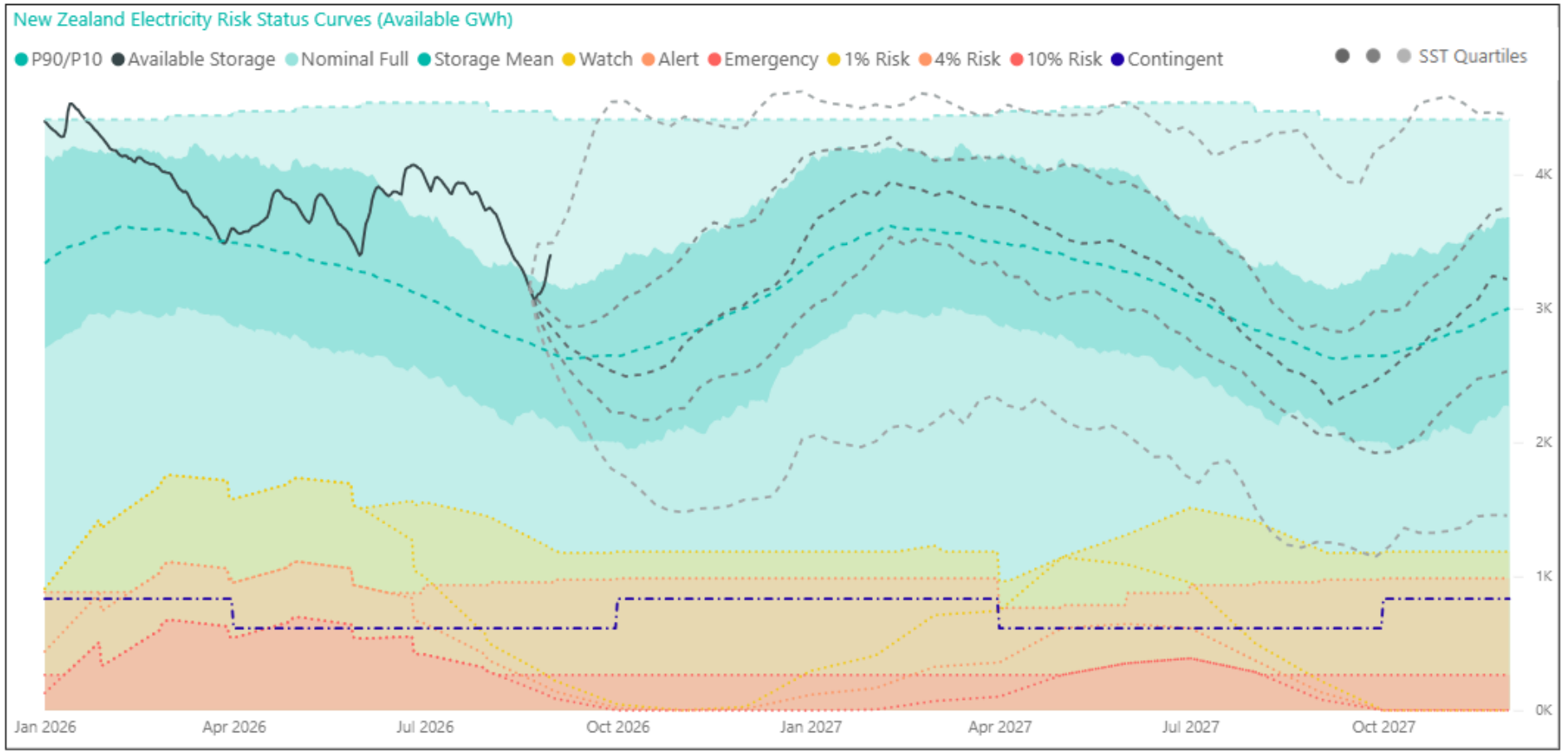
Energy Security Outlook

The Energy Security Outlook (ESO) is evaluated through two lenses: the Fuel Capability Case (Base Case), which uses the original methodology based on total physical capability to source thermal fuels and utilise it for generation, and the Contracted Fuel Case [17], which strictly limits thermal energy to firm commercial contracts secured by generators. This approach highlights the gap between physical capability and actual commercial certainty, signalling to industry where additional fuel contracts can yet be secured to reduce security of supply energy risks.

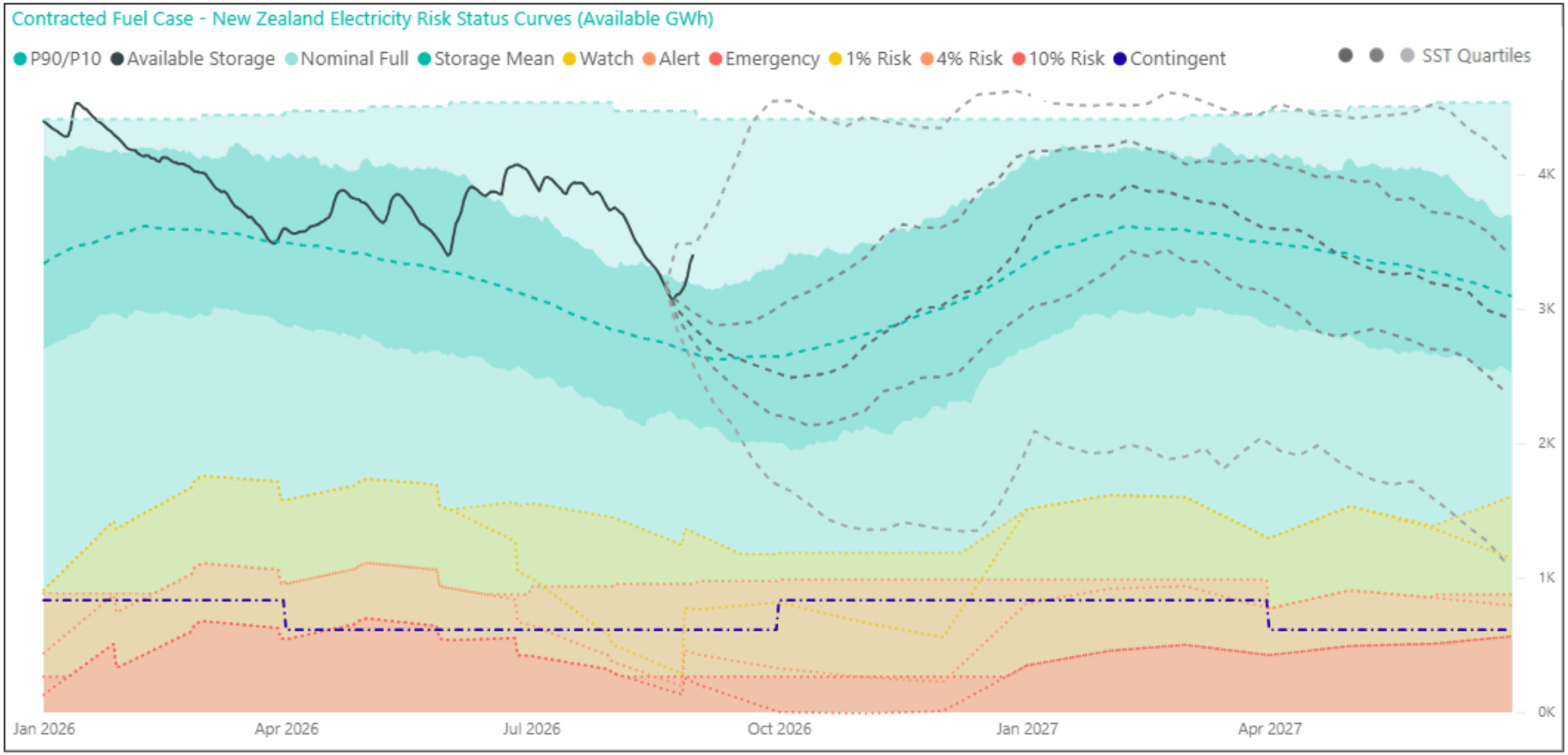
Our latest ESO update was published on 28 August.[18] It shows a low energy risk over the next 12 months with one SSTs crossing the Watch curve in 2027.[19] This is a result of healthy coal stockpile, gas storage and hydro storage. The electricity risk curves (ERCs), and simulated storage trajectories (SSTs) reflect the availability of all three Huntly Rankine units[20], the exit of TCC, and the assumption that thermal fuels storage will be replenished at the physical capacity to do so during any extended dry period.

On 3 July Meridian received consent for their fast-track application to access what has been considered contingent storage in lake Pūkaki without an Alert or Emergency status being declared. This consent will expire on 31 December 2028. Once this consent is effective, it will impact the ESO by lowering the Alert and Emergency risk curve floors and by lowering the SSTs on average to reflect the lower expected operating levels for lake Pūkaki with unrestricted access below 518m RL (down to 513m RL). However, the consent has conditions which must be met before it can be exercised and it will take Meridian some time to meet these conditions. As such, the effect of the consent is not modelled in our August ESO update.

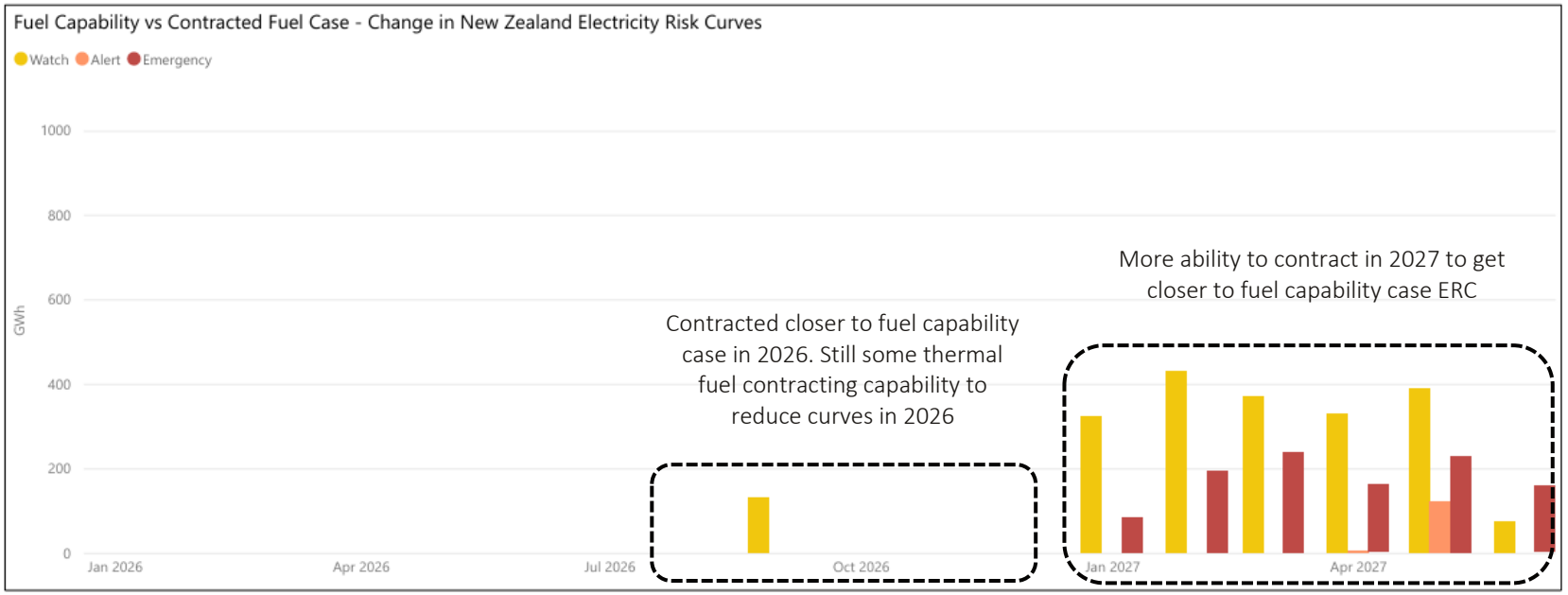
[17] Included from May 2026 after implementation of recently approved Security of Supply Forecasting and Information Policy (SOSFIP).
[18] The Energy Security Outlook (ERCs and SSTS) are published on our webpage and stakeholders can subscribe to be notified when updates are published: Energy security outlook | Transpower. The ERCs and SSTs use updated generator commissioning information so include the effect of delays discussed in the Supply Outlook section. Our Energy Security Outlook 101 provides more information.
[19] This assumes the market will procure sufficient thermal fuel if needed during periods of extended low hydro inflows.
[20] When not on outage.


New Zealand Electricity Risk Status Curves (Available GWh)
P90/P10
Available Storage
Nominal Full
Storage Mean
Watch
Alert
Emergency
1% Risk
4% Risk
10% Risk
Contingent
SST Quartiles
4K
3K
2K
1K
0K
Jan 2026
Apr 2026
Jul 2026
Oct 2026
Jan 2027
Apr 2027
Jul 2027
Oct 2027

The Contracted Fuel case shows that current thermal fuel contracts are sufficient to fuel most of the power system's thermal generation capability in 2026, reflecting a strong near-term contracted fuel position. As a result, the Contracted Fuel ERCs for 2026 are similar to the Fuel Capability ERCs.



The gap between the Contracted Fuel Case and Fuel Capability Case risk curves becomes more pronounced in 2027, reflecting a larger pool of physically available energy in 2027 that has not yet been commercially secured. The increase of the curves into 2027 reflects the market's tendency toward contracting closer to need, where participants finalise firm fuel contracts closer to the period of actual consumption.

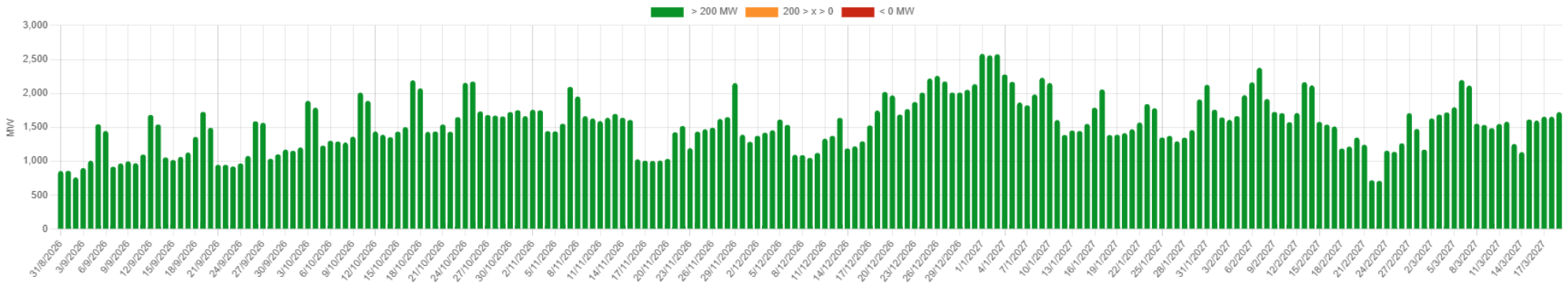


Capacity outlook

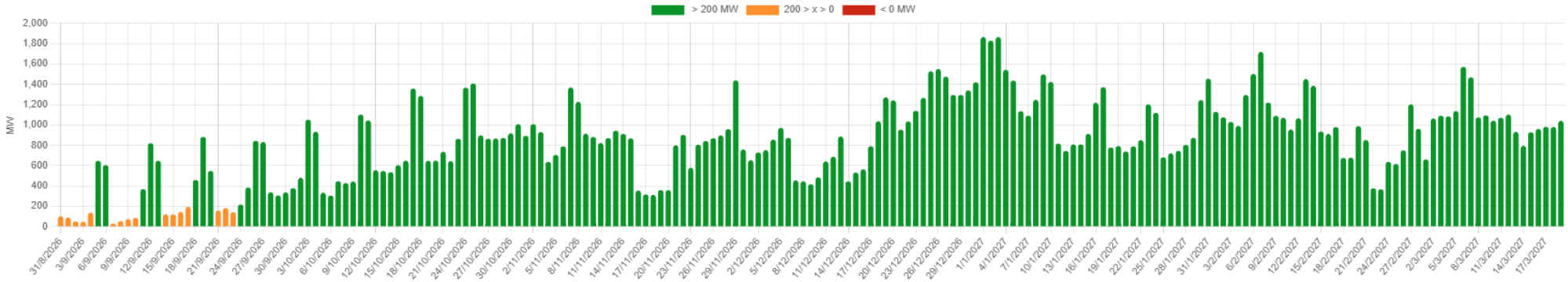
The New Zealand Generation Balance (NZGB)[21] provides a forward assessment of the potential generation margins 200 days ahead based on a P90 forecast peak demand,[22] asset outage information provided by asset owners, and considering different generation availability and demand scenarios. The figures below show NZGB margins for two scenarios as of 11 August. The scenarios are described before each figure.

The NZGB scenario below is where all generation not planned to be on outage is available during peak load periods (based on a P90 load forecast and covering the "N-1" risk).[23] Based on current information the forecast residual generation margins over the 200 days to March 2027 is likely to be sufficient to cover peak national demand assuming the market co-ordinates the available generation and commits sufficient generation capacity during peak load periods.

[21] See here Customer Portal - NZGB (transpower.co.nz)
[22] A P90 load forecast represents the 90th percentile load that we could expect to see on any given day.
[23] Running the system to cover "N-1" risk is normal market operation. The market is cleared to supply the demand and the reserve requirements (largest contingent event risk on the system).



Our NZGB tool allows participants to assess the impact on the power system's capacity to meet peak demand should downside risks be realised (for example unplanned outages, commitment of fewer slower-start thermal generators, different levels of forecast demand), as outlined in the scenario below. This example considers a scenario if there were an unplanned outage of the largest risk[24] and high demand[25] (as would be expected during a cold snap). There are periods of tighter capacity margins exiting winter and early spring particularly Sept as shown by the orange bars. Shifting generator outages can help reduce these risks.



While energy was a key challenge in 2024 and 2025, peak capacity risks are ever-present and will become more acute if there are unplanned outages and/or colder weather recently seen during the cold snap over 27 July - 9 August fortnight. The minimum residual margin was 58

[24] Large generator or HVDC pole
[25] Represented as the P99 load.

MW on 27 July evening peak and 81 MW on 6 August morning peak. Capacity risks will persist until there is sufficient investment in flexible resources such as BESS, demand response and peaking generation.

Contact's Glenbrook 100MW/200MWh BESS is now operational and the Genesis 100MW/200MWh BESS at Huntly is expected online in the next three months. Genesis has announced it will be progressing with another 100MW/200MWh BESS and is also exploring potential for additional fast-start generation capacity at its Huntly power station[26]. Contact has announced it will be progressing with a 200MW/400MWh BESS also at Glenbrook. These investments will help support the system need for firm, fast-start and flexible supply, as increased intermittent generation comes online.

[26] See Genesis exploring new generation plant for Huntly site | Genesis NZ

Longer-term outlook (2026-2035)

The System Operator has published its final annual Security of Supply Assessment (SOSA 2026[27]) which covers the period 2026-2035. Beyond this winter, it indicates security margins remain above the security standards with the current committed generation build until three-to-five years out, at which point additional generation needs to be committed (for the short-term) or consented (for the mid-term) to increase margins back above the standards. Bringing forward supply investment will help reduce exposure to risks (such as reduced thermal generation plant availability, reduced gas availability or new build delays) and will also help support a higher demand growth potential for the country. A summary of the key final SOSA 2026 findings is shown below.

[27] See 2026 SOSA - Final Report.pdf

Security of Supply Assessment (SOSA) 2026 – At a glance

1. What is the SOSA?

- Assess three security margins over the next 10 years and compares against the security standards
- Standards represent an efficient range – Expected cost of shortage equals cost of reserve resources
- Increased shortage risk (cost) and stronger signal for efficient investment the further margins drop below the standard.
- New Zealand Winter Energy Margin - Do we have enough national energy to get through dry winters? [Standards: 14% to 16%]
- South Island Winter Energy Margin - Can the South Island meet its dry winter energy needs, given both supply and inter-island transfer limits? [Standards: 25.5% to 30%]
- North Island Winter Capacity Margin - Do we have enough North Island generation and South Island contribution via the HVDC to meet North Island peak winter demand including reserves? [Standards: 630 MW to 780 MW]

2. How do we assess the margins?

- Survey participants and investors on future pipeline projects
- Forecast electricity demand for next 10 years
- Consult on assumptions and sensitivities to key inputs
- Use Security Standards Assumptions Document which specifies the methodology and some key assumptions
- Develop other inputs and assumptions as required (eg. gas forecasts, coal estimates, plant availability)
- Assess margins for Reference case (R), Expected Future case (E) and sensitivities (S)

3. Key findings from SOSA 2026

New Zealand Winter Energy Margin (NZ-WEM)	
R E S Short-term (2026-2028)	**Adequate but risk-sensitive:** Dry year energy margins above standards if projects are delivered on-time but fall below the lower standard if gas supply is lower than expected. Project delays, low thermal support, high demand, or weak renewable output increase risks of margins falling below standards. Deliver projects on time and add flexible supply to reduce risks. Margins for Expected Future case drops below the standards by 2028.
R E S Mid-term (2029-2031)	**Emerging energy gap in 2030s:** Dry year margins dip below the standard by 2031 with consented projects, with lower gas bringing this forward. Risks from delays, reduced thermal support, high demand and weak renewables increase exposure, requiring additional project delivery, ensuring thermal generation availability and developing a more diverse supply pipeline. Additional gas from LNG in the Expected Future case can help keep margins above standards.
R E S Long-term (2032-2035)	**Pipeline-dependent adequacy:** Dry-year margins stay above the standard only if future pipeline delivered, but strong demand growth and weaker thermal, gas, or renewables can still drive shortfalls by ~2035. Reducing dry year risk requires expanding and diversifying the future pipeline, with less reliance on weather-dependent generation.

South Island Winter Energy Margin (SI-WEM)	
R E S Short-term (2026-2028)	**Strong but adequacy sensitive to risks:** Dry year energy margins remain above the standard under expected conditions with committed project delivery. Delays, reduced thermal support, higher demand, or very low gas can drive margins to fall below the standards by 2027–2028, so timely delivery and firm backup are critical.
R E S Mid-term (2029-2031)	**Adequate but exposed to risks:** Dry year energy margins remain above the standard if committed and consented projects proceed on-time but can still fall below the lower standard if gas supply is lower than expected. If new supply projects are delayed or if demand is higher and gas, thermal, or renewables underperform then shortfalls emerge. Expanding and diversifying supply is key.
R E S Long-term (2032-2035)	**Robust but demand-sensitive adequacy:** Dry year energy margins remain above the standard if committed, consented and unconsented projects are delivered. Strong demand growth with weaker gas, thermal, or renewables can still erode margins, so expanding the future project pipeline is key to manage this risk.

North Island Winter Capacity Margin (NI-WCM)	
R E S Short-term (2026-2028)	**Adequate but capacity risks exist:** Capacity margins remain above the standard in the short term with committed projects. Peak risks from low wind and limited thermal support and delayed project delivery.
R E S Mid-term (2029-2031)	**Build-dependent capacity margins:** Capacity margins improving if committed and consented projects proceed but fall below by ~2029 if they don't. Weaker gas supplies, and operational coordination issues can increase risks. Timely delivery of flexible peak capacity is needed with additional flexibility reducing risks
R E S Long-term (2032-2035)	**Enduring peak capacity risk:** Capacity margins remain above the standards if committed, consented and unconsented projects are delivered. Operational in managing intermittent generation with inflexible generation mean peak risks persist, so expanding flexible, fast-response resources is critical.

Overall implication: Maintaining security of supply over the next decade requires strong delivery discipline, earlier commitment of additional consent ready projects in the short and mid-term to reduce downside risks, ensuring thermal generation and fuel availability and active development of a more diverse and flexible future pipeline.

System Operator planning for winter/spring 2026

The System Operator has been and is continuing to work on multiple initiatives to better manage potential security risks. These include:

- Engaging with key hydro generators to ensure our assumptions about operational access to lower lake levels and constraints due to low lake levels remain correct. Ongoing
- We hosted special System Operator Briefings on 27 July and 4 August 2026 on National Low Residual situations.[28] The briefings provided updates to industry on low residual CANs sent preceding that week and potential low residual situations in that week. The briefing also covered the industry actions and SO course of actions in shortfall situations. Complete
- We consulted on incorporating the Low Residual Situations (LRS) process into the Policy Statement through the 2026 review, building on earlier engagement and consultations in 2024. This aims to formalise the process, including the use of discretion during shortfall and scarcity conditions, and improve transparency and industry coordination. The proposal reflects generally supportive feedback from previous consultations and has been approved by the Authority. The amended Policy Statement will come into force on 1 October 2026. Complete
- We have published the final SOSA 2026 report and supporting information on 30 June 2026.[29] Complete
- The Government's 2025 review of the New Zealand electricity system[30] included a decision to "work with Transpower, as the System Operator, to ensure their security-of-supply assessments are fit for purpose for our evolving energy system."[31] We will continue to work with MBIE to support its implementation of the review recommendations. In progress
- Looking beyond winter 2026, the System Operator is working with the Electricity Authority to implement Emergency Reserve as a new ancillary service. We have finished a series of workshops with industry experts to co-design the product with the System Operator and help inform draft amendments to policy and procurement documentation, and contractual arrangements. We are currently working on procurement plan consultation which is targeted for September. Full details can be found on our website. In progress
- The System Operator is also working with the Electricity Authority as it reviews the security standards and its assumptions document. In progress

[28] SO Briefing - National Low Residual situations
[29] Security of Supply Assessment 2026 | Transpower
[30] Securing New Zealand's energy future | Beehive.govt.nz
[31] Ministerial Services briefing template