

STRATEGY AND PRIORITIES

SECURITY AND RELIABILITY COUNCIL

This paper is to aid the Security and Reliability Council's (SRC) discussion at its risk and strategy session. It appends presentations on the Authority's strategic approach to its work and its security of supply work programme, providing a framework for the SRC to consider its strategic objectives and what it wants to include in its forward work programme.

Note: This paper has been prepared for the SRC. Content should not be interpreted as representing the views or policy of the Electricity Authority.

Strategy and priorities

- 1.1 The Security and Reliability Council's (SRC) statutory function is to provide independent advice to the Authority on the performance of the electricity system and the system operator, and reliability of supply issues.
- 1.2 A previous survey of SRC members found that "establishing an agreed SRC strategy would help drive a work programme and agenda relevant to the SRC brief, ensure the SRC is fulfilling its role, and provide the Authority with more meaningful, actionable advice."
- 1.3 The SRC concluded there should be an annual opportunity to discuss the current SRC work programme, explore emerging strategic issues, consider these in the context of the SRC role and develop an agreed SRC strategy.
- 1.4 To set the scene the secretariat has arranged for a presentation from the Authority on the current security of supply context, its vision for the sector and how this translates into a meaningful programme of work. Slides for this pack are included as appendix A.
- 1.5 Heather Roy, as SRC Chair, will act as facilitator in a workshop style session, with a brief to draw out from members what they see as appropriate areas of focus to support both the SRC's functions and the Authority's work programme. This should enable the SRC to focus on the greatest risks to the sector, and what themes and other items the SRC wants to see on its forward work programme and its risk radar.
- 1.6 An agenda for this session has been provided in the attached slide (appendix B) and members have been given 'prework' in preparation for the session.
- 1.7 The overall goal of the session is to more closely align the SRC's approach with the Authority's strategic objectives and work programme and maximise the impact of the SRC's advice.
- 1.8 Key outcomes from the session are to identify key issues and topics the SRC should include in its forward work programme and what changes need to be made to the SRC's risk radar to prioritise future work.

Questions for the SRC to consider

- 1.9 The SRC may wish to consider the following questions:

- Q1. What changes would members like to see for their next risk and strategy session in 2025?**
- Q2. Does the SRC have further guidance for the secretariat about how it would like to receive information about the themes for upcoming meetings?**

Appendix A: Authority vision and security of supply work programme presentation

Appendix B: 2024 SRC risk and strategy session agenda

Authority strategic framework and security of supply work programme

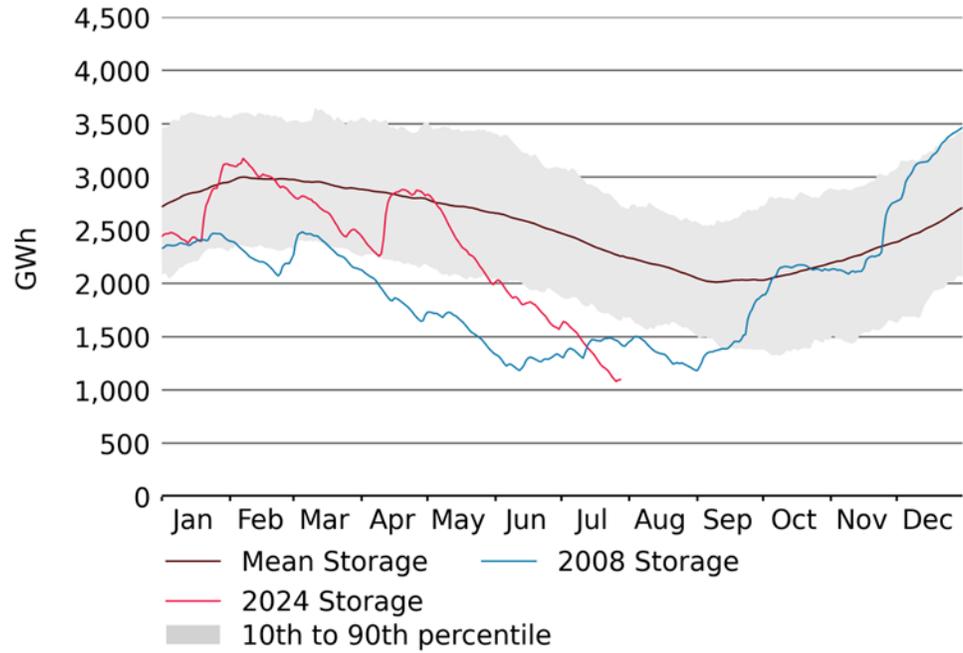
Agenda

- Current context
- Authority strategic framework
- Security of supply work programme
- Questions for reflection

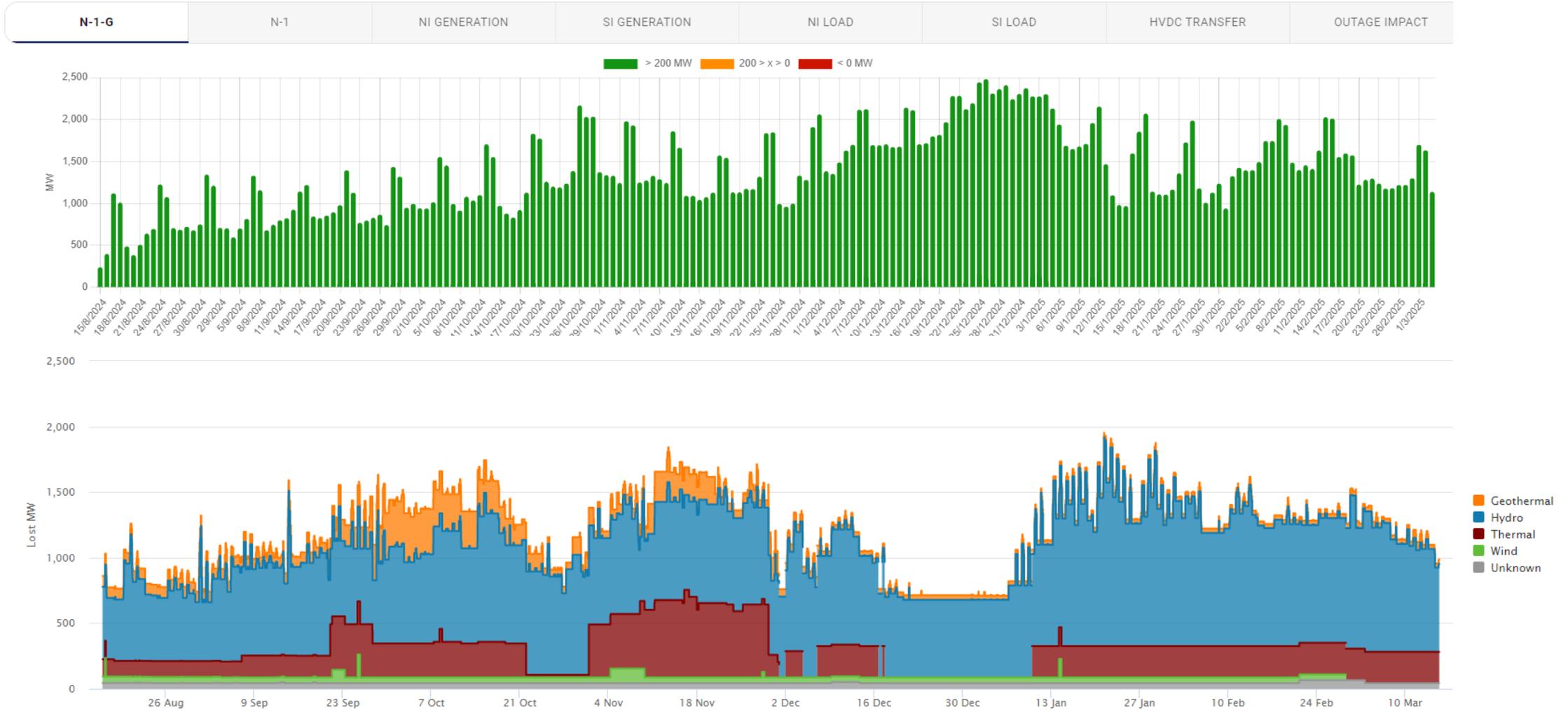
Current Context



Historic low hydro storage and gas supply constraints



Energy concerns have replaced capacity concerns.. for now



Industry response has helped the immediate situation and provides some certainty for 2025

Methanex gas deals a win-win-win

Staff Writer - Tue, 13 Aug 2024

Agreements announced today for Contact Energy and Genesis Energy to buy gas from Methanex will boost the country's electricity generation and Methanex's bottom line.

The two generators notified NZX of the agreements this morning, while Vancouver-headquartered Methanex told the Toronto Stock Exchange that the deals will be positive for its earnings over the next two quarters.

Genesis will use up to 3.2 petajoules of gas that it is buying primarily to bring Unit 5 at Huntly – the country's largest generation unit – up to full capacity for the first time this winter, providing enough power for 400,000 homes.

Daily output from the 400 MW plant has averaged 200 MW to 250 MW the past month.

Market snaps up 85 MW of coal-backed firming

Felicity Wolfe - Mon, 12 Aug 2024

Market participants have snapped up 85 megawatts of firming under Genesis Energy's over-subscribed options offer.

Genesis announced its Huntly Firming Options in May, calling for expressions of interest in the coal-generation-backed products for 2025 and 2026.

It said the options aimed to provide supply and price certainty to mitigate peak supply risks and shorter duration constraints. The products were designed to enable buyers to manage risk in tailored ways previously not possible with other products available in the hedge market.

Meridian calls for maximum Tiwai reduction on continued hydro squeeze

Felicity Wolfe - Mon, 22 Jul 2024

Meridian Energy has made the call to exercise its largest demand response option of 185 MW with the Tiwai smelter, as hydro lake levels continue to fall.

It has decided to revoke and replace the call it made last week, which would have reduced New Zealand Aluminium Smelters' demand by 100 MWh through to mid-November. The new call is for reductions until 24 September, unless Meridian advises New Zealand Aluminium Smelters otherwise.

System operator consultation: adjustment to alert contingent storage release boundary

Though the prices resulting from fuel scarcity have impacted some consumers

Pan Pac halts pulp mill on soaring electricity costs

Felicity Wolfe - Thu, 8 Aug 2024

Pan Pac Forest Products is stopping its pulp mill operations indefinitely due to the skyrocketing cost of electricity – the fourth North Island production facility to do so.

Managing director Tony Clifford was part of a group of manufacturers who met with Ministers in Wellington yesterday, but says that in the short term, the Government had nothing to offer.

The Hawke's Bay site has been out of action since Saturday as the high cost of electricity has made it unviable for the company to produce its export pulp product.

"Production will have to remain on hold until electricity prices come down," Clifford says.

Oji looks to close plant, others considering options

Staff Writer - Wed, 7 Aug 2024

Oji Fibre Solutions is looking to close its Penrose plant, saying skyrocketing energy costs are largely responsible.

It's the latest company to implement production cuts or closures as electricity prices hit record levels, and *Energy News* understands other announcements could be close.

In its latest energy newsletter, broker Forsyth Barr says that with hydro storage lakes at just 52 per cent of capacity in July, wholesale electricity prices averaged \$350 per megawatt hour for the first time at Otahuhu, while the average Benmore nodal price broke the long-standing June 2008 record, averaging \$370 MWh.

"However, that's nothing compared to \$447 MWh and \$716 MWh averaged over the first five days of August," it says.

Industries considering stoppages, closure on soaring energy prices

Felicity Wolfe - Tue, 6 Aug 2024

The Major Electricity Users' Group is warning that high energy prices will force more businesses to cut production as Winstone Pulp International shuts its Karioi Pulp mill and Tangiwai sawmill for two weeks – and possibly permanently.

MEUG executive director Karen Boyes says several other large industrial firms are also looking at production reductions or stoppages as prices soar on tight hydro and gas shortages.

Boyes says the group understands that scarcity prices signal the need for more investment in generation, but "at the moment the only signal that they are sending is to turn off production".

Authority strategic framework



Strategic framework

Our vision

Consumers have choices in accessing the energy they need now, and in the future, to ensure they and New Zealand prosper.

Outcomes

A secure and resilient, accessible and efficient electricity system that improves long-term outcomes for consumers and protects the interests of small consumers.

-  Secure and resilient
-  Accessible
-  Efficient

Regulatory functions

As New Zealand's electricity regulator, under the Electricity Industry Act 2010, our functions are to:

-  Promote market development
-  Monitor, inform and educate
-  Operate the electricity system and market
-  Enforce compliance
-  Protect consumers

Statutory objectives

Our work delivers value to consumers through:

-  Competition
-  Reliability
-  Efficiency
-  Protection of small consumers

Our intended outcomes for security of supply

THE OUTCOMES WE SEEK

The transmission and distribution system are coordinated to ensure security of supply over hours, days, months and years

Rural, vulnerable and isolated communities are protected against risks to security of supply

Different parts of New Zealand manage the risk and opportunities of the transition in ways that reflect their regional circumstances

KEY ACTIONS TO ACHIEVE OUR OUTCOMES

- Improve understanding of emerging risks to the power system and the competitive market and put plans in place to mitigate these risks
- Improve large energy users' confidence and access to tools to support electrical security of supply
- Enable the transmission and distribution system to accommodate a large increase in renewable generation
- Work closely with industry participants who focus on affordability and security of supply for vulnerable consumers

Statement of intent measures 2024-28

HOW WE WILL MEASURE PROGRESS

Intended outcome	Measure	Strategic approach	Desired trend	Statutory objectives
The transmission and distribution system are coordinated to ensure security of supply over hours, days, months and years	Participation in demand response and ancillary services	Authority ensures demand response and ancillary service markets match system needs > ensures market settings support participation > participants enter firming capacity into the market > reliable supply	Maintain or increasing	Reliability 
Rural, vulnerable and isolated communities are protected against risks to security of supply	Effective management of dry years or emergency events, as measured by region on a case-by-case basis	Effective management of emergency situations > optimal use of scarce resources minimises probability of loss of supply > reliable supply	Maintain	Reliability 
Different parts of New Zealand manage the risk and opportunities of the transition in ways that reflect their regional circumstances	Consumer awareness of security of supply options available	Authority activities enable a range of security of supply options for consumers > market develops options > consumers aware of options > consumers utilise options > reliable supply, including for small consumers	Increasing	Reliability, Protection of small consumers  

Delivering on our vision

Outcomes

-  Secure and resilient
-  Affordable
-  Efficient

Priorities

- Security of supply
- Data
- Flexibility

Enablers

- Investment
- Competition
- Innovation

Security of supply work programme



The Authority is taking a long-term view of security of supply

Horizon	Timeframe	Challenges and opportunities
Short-term	2024 - 2027	<ul style="list-style-type: none"> Increasing levels of variable generation – increased need for firming (storage, generation and demand based) Reliance on hydro and gas to provide energy storage – increased need for firm generation Increasing focus on regional resilience – enhancing participation for community – based solutions
Medium-term	2027-2031	<ul style="list-style-type: none"> BESS and DER taking an increasing role in firming, supplementing existing assets – greater reliance on hydro to provide annual energy Increased DER placing strain on distribution networks – need for improved information and investment incentives for flexibility Reduced proportion of synchronous generation leading to power system stability concerns – need to ensure voltage and frequency support obligations and market settings capture new technologies
Long-term	2031 - 2050	<ul style="list-style-type: none"> Co-ordination between distributed and grid connected resources becomes critical for power system security – need to enhance visibility and co-ordination of resources across traditional grid/EDB boundaries

Work programme delivery

The Authority has developed a security of supply work programme that is aligned with its vision and outcomes:

- Participants enter firming capacity in the market
- Effective management of emergency situations
- Consumers aware of options

Ongoing work supports this approach

- Submissions on the Authority's *potential solutions for peak electricity capacity issues* were strongly supportive of solutions aligned with these approaches
- We have prioritised peak capacity work that immediately focusses on enabling flexibility to more easily participate in the wholesale market
- Work to review security of supply monitoring settings will support better signalling and management of emergency situations
- The Authority will continue to monitor the security of supply situation and will react accordingly to developments as they arise

Key Security of Supply work programme projects

The following slides provide an overview of the key security of supply projects the Authority is progressing over the near-term

Project	Purpose	Next milestone	Strategic approach
Review of the common quality requirements of part 8 of the Code	To ensure common quality requirements enable evolving technologies to participate in the wholesale market and provide appropriate levels of power system support	Consultation on Code amendments May 2025	Participants enter firming capacity into the market
Improving the accuracy of intermittent generation (IG) forecasts	To improve operational coordination and provide more reliable signals for flexibility providers	Consultation on Code amendments September 2024	Participants enter firming capacity into the market Effective management of emergency situations
Instantaneous reserve cost allocation	Ensure reserve costs are allocated to all causers and increase incentives to provide flexible resources to manage	Decision December 2024	Participants enter firming capacity into the market
BESS enhancements	Remove wholesale and ancillary service market participation barriers	Consultation on Code amendments February 2025	Participants enter firming capacity into the market

Key Security of Supply work programme projects

Project	Purpose	Next milestone	Strategic approach
Frequency keeping re-design	Re-design normal frequency management tools to ensure they are fit for purpose in a high inverter-based generation mix	Consultation 2025	Participants enter firming capacity into the market Effective management of emergency situations
Dispatchable demand enhancements	Lower technical barriers to participation for commercial and industrial users	Consultation on Code amendments April 2025	Participants enter firming capacity into the market Effective management of emergency situations
Update the Security Standards assumptions Document (SSAD)	Increase confidence in security of supply assessments by ensuring that the market settings are fit for purpose through the transition and provide the correct incentives for investment.	Consultation 2025	Effective management of emergency situations

Key Security of Supply work programme projects

Project	Purpose	Next milestone	Strategic approach
Improve visibility of generation investment	Improve long-term monitoring of security of supply	Decision October 2024	Participants enter firming capacity into the market Effective management of emergency situations
Standardised flexibility products (wholesale)	Increase flexibility in the form of financial incentives (hedge products) to enhance forward price discovery in flexibility markets.	Establish working reference groups approach October 2024	Participants enter firming capacity into the market Consumers aware of options

Key Security of Supply work programme projects

Project	Purpose	Next milestone	Strategic approach
Outage coordination enhancements	Clarifying the roles and responsibilities of asset owners and the system operator for providing asset outage information and assessing the potential impact on security of supply	Consultation late 2024	Effective management of emergency situations
Scarcity pricing review	Review of the wholesale market settings for energy scarcity to ensure efficient dispatch of resources at times of system stress	Consultation late 2024	Participants enter firming capacity into the market Effective management of emergency situations

Questions for reflection

We value the advice provided by, and expertise of, the SRC and are keen to ensure that we work closely together to maximise the role and value of the SRC. WE would like the SRC to include the following questions in their reflections on the role of the SRC and your interactions with the Authority:

- What does the SRC do well and what could the Council do differently?
- What are the areas of focus that the SRC should prioritise for the coming year?
- How should the SRC work with the Authority to achieve these priorities?

SRC Risk and Strategy agenda – 21 August 2024

- Authority presentation on 1. Current context; 2. strategic framework; and 3. security of supply work programme – **40 mins**
- Chair-facilitated workshop – introduction, group discussion (two groups – one online and one in the room, with Authority staff split among the groups) - **40 mins**

Questions for group discussions

1. What does the SRC do well and what could the Council do differently?
 2. What are the areas of focus that the SRC should prioritise for the coming year?
 3. How should the SRC work with the Authority to achieve these priorities?
- Full group discussion – **30 minutes**
 - Pillars, risk radar review and themes/items for next meeting – **20 minutes**