Energy Resources Aotearoa
POWERING A BETTER NEW ZEALAND TOGETHER

energyresources.org.nz
energyskills.org.nz
energymix.co.nz
PO Box 25259, Wellington 6140

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Electricity Authority
By email: WholesaleConsultation@ea.govt.nz

Submission on Electricity Authority Consultation Paper: Driving efficient solutions to promote consumer interests through winter 2023

Introduction

1. Energy Resources Aotearoa is New Zealand's peak energy advocacy organisation. We enable collaboration across the energy sector through and beyond New Zealand's transition to net zero carbon emissions in 2050.

2. This paper constitutes our submission on the Electricity Authority (the Authority) consultation paper *Driving efficient solutions to promote consumer interests through winter 2023* (the Consultation Paper).

Key points

- We agree with the Authority's overall assessment of the options to better manage residual supply risks ahead of winter 2023, noting the time available means our options are limited. Its prioritisation of measures makes sense in this context.

- Beyond the short-term measures that can be taken to address these residual risks, we need to address the more fundamental first-order need for additional fast-start gas-fired peaking generation capacity in the system, estimated at between 200-400+ MW, and stable long-term gas supply more generally.

- Doing so requires decisive action to rebuild investment confidence in the energy sector, which we note is the focus of the Authority's *Promoting competition in the wholesale electricity market in the transition toward 100% renewable electricity* and our submission on the same.

- We repeat here the recommendations we make in our 14 December submission on that Issues Paper:

    - remove the 'aspirational' target of 100% renewable electricity by 2030;

    - reverse the 2018 ban on new offshore oil and gas exploration;

- rule out further development of the Lake Onslow pumped hydro scheme at the conclusion of Phase One of the NZ Battery project; and
- ensure the forthcoming Gas Transition Plan and National Energy Strategy recognise and reaffirm the sustained role of natural gas in an increasingly renewable electricity system and in our economy more broadly.

Submission

Overarching comments

3. We were alarmed by the System Operator's recent updated analysis which found that tight peak supply conditions may be more prevalent in winter 2023 than previously indicated.[1] This added to its earlier finding that under certain scenarios the winter capacity margin could fall under the security standard in the Code as early as 2024.[2] Its analysis indicates that if climatic conditions are not as favourable as 2021 and 2022 the situation in winter 2023 could be much worse.

4. We welcome the Authority's initiative in seeking views on short-term solutions to ensure the availability of slow-start generation capacity when it is required. Given the time available before winter 2023 this is a sensible focus. But we should also address the more fundamental first-order issue: the flexible capacity gap that emerges as our generation system becomes increasingly renewable.

5. The electricity system needs additional fast-start gas-fired generation capacity. Estimates of this requirement range between 200-400MW or more. Demand response – while promising and essential – cannot alone provide the buffer capacity that an increasingly intermittent renewable generation system requires. This is particularly so as the threshold for making slow-start thermal generation available is rising, due to a combination of fuel and (in particular) carbon costs.[3]

6. The Consultation Paper notes the primary issue is *availability* of capacity, rather than the *installed* capacity margin (which has remained stable over time). The two are related: we need to change the nature of some installed capacity (from slow-start to fast-start) to ensure it is made available when it is required. The Consultation Paper anticipates this issue in its discussion on the changing role of thermal.

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1 See here: https://tpow-corp-production.s3.ap-southeast-2.amazonaws.com/public/bulk-upload/documents/Market%20insight%20report%20-%20Winter%20Review%20-%2011%20Nov%202022.pdf?VersionId=QaQVHc8zmQ6_FpC_Ux7GOimodObF9Vt2

2 See here: https://tpow-corp-production.s3.ap-southeast-2.amazonaws.com/public/2022-11/2022%20SOSA%20-%20Final%20Report%20-%20(Revised)%20Final%20Version.pdf?VersionId=tW0BseaBlB_7TTylOBMutn9bJWEnxUls

3 BCG's *The Future is Electric* report estimated at least 200MW of flexible gas capacity would be required; Transpower's *Te Whakamana I Te Mauri Hiko* estimated 400MW.

7. This submission therefore provides our views on:

    - the range of potential measures laid out in the Consultation Paper, some of which could be implemented ahead of winter 2023; and

    - longer-term measures to address the critical need for additional fast-start gas-fired generation capacity.

8. On the latter point, this submission repeats many of the same arguments as our parallel submission (14 December) on the Authority's *Promoting competition in the wholesale electricity market in the transition toward 100% renewable electricity*. These arguments bear repeating.

Our positions on the Authority's proposed options to better manage residual supply risk for winter 2023

9. We agree with the Authority's overall assessment that options A, B, D and E appear most attractive in terms of:

    - their likely benefits (relative to costs);

    - the likelihood they can be in place before winter 2023; and

    - the relative ease with which they can be removed/reversed should they prove ineffective.

10. We support further work on options F and G (subject to further consultation and/or engagement with the sector), though at this stage favour Option G on the basis it is:

    - more likely to be implemented ahead of winter 2023;

    - neutral as to instantaneous reserve/frequency keeping and supply/demand side solutions; and

    - less likely to undermine investment and contracting incentives.

11. We also agree with the Authority's assessment that options C and H-K should not be progressed further for winter 2023.

12. The table in Appendix 1 sets out our views on each of the options in more detail where relevant.

Additional commentary on the critical need for additional fast-start gas-fired generation capacity and stable long-term gas supply

13. As emphasised in our overarching comments, the electricity system desperately needs additional fast-start gas-fired peaking generation (around 200-400 MW). We see broad agreement on this point across the sector. Fast-start generation can be

committed in a much smaller time window, meaning it can take advantage of the significant increase in forecast accuracy 3.5-4 hours ahead of real time.

14. The Consultation Paper notes that fuel and carbon prices are among the factors that make it more difficult to commit (particularly slow-start) thermal generation ahead of a potential supply shortfall. This reinforces the criticality of providing the investment confidence and predictability the sector needs to ensure stable, reliable gas supply over the medium to long term.

15. Both issues – the need for additional capacity, and the need for stable, reliable, and affordable gas supply to fuel it – require decisive action to restore investment confidence. Some of this action is floated by the Authority in *Promoting competition in the wholesale electricity market in the transition toward 100% renewable electricity*, and our submission on that Issues Paper discusses these actions in further detail.[4]

16. Notwithstanding these are outside the direct responsibility of the Authority, their relevance to the residual supply risks merits recapping them here:

    - **remove the 'aspirational' target of 100% renewable electricity by 2030** – already-consented gas-fired peaking generation is not proceeding while the target (even aspirational) remains in place, because it brings a credible risk of future government intervention to achieve it. These critical investments cannot be justified with an assumed end date of 2030;

    - **reverse the 2018 ban on new offshore oil and gas exploration** – the ban fundamentally undermined investment confidence in the upstream sector, and over the long term will have a dampening effect on the upstream investment required to secure stable and affordable long-term supply of gas;

    - **rule out further development of the Lake Onslow pumped hydro scheme** at the conclusion of Phase One of the NZ Battery project – the spectre of this significant market intervention is creating significant uncertainty and undermining investment confidence across the energy value chain; and

    - **recognise and reaffirm the role of natural gas in the transition** – the Gas Transition Plan and National Energy Strategy offer an opportunity to 'reset' our policy posture toward the gas sector and to pursue an orderly transition toward net zero that does not undermine energy security or affordability. A rising carbon price under the ETS is sufficient to drive a market-led disincentive for higher-cost thermal (particularly baseload) generation.

4 See here: https://www.energyresources.org.nz/dmsdocument/download/223

Conclusion

17. The issues raised here point to a larger problem: how to ensure an increasingly renewable energy system can continue delivering secure and affordable energy to New Zealand consumers, given its associated intermittency.

18. We will continue to advocate for an 'all options on the table' approach to our energy policy, recognising the need for genuine balancing of the trilemma, and the need for an open, vibrant market to achieve this. We appreciate the Authority's ongoing thoughtful engagement with these issues.

Attachment 1: Detailed views on options to address supply risks for winter 2023

Option/proposal	Our view
A. Provide better information on headroom in supply stack	**We support.**
B. Provide forecast spot prices under demand sensitivity cases	**We support.** We note this has been provided in the past and notwithstanding limited interest at the time, is now increasingly relevant and useful information.
C. Improve the accuracy of intermittent generation offers	**We support** but agree this work will not be ready in time to operationalise for winter 2023. We note the significant improvement in forecast accuracy about 3.5-4 hours ahead of real-time suggests a sufficient window of confidence to routinely enable commitment of fast-start peaking generation.
D. System operator review of wind offers based on external forecast	**We support**. The nominal operational cost of $150k is negligible compared to its potential value as evidence by the winter 2022 trial.
E. Clarify availability and use of 'discretionary demand' control (e.g. ripple control)	**We support.**
F. Introduce new integrated ancillary service to offset increased uncertainty in net demand	**We prefer option G over option F.** We agree with the Authority's assessment that this approach is: more likely to be implemented ahead of winter 2023; neutral as to instantaneous reserve/frequency keeping and supply/demand side solutions; and less likely to undermine investment and contracting incentives. Option F would introduce a significant new mechanism in the market and this should not be rushed ahead of winter 2023.
G. Selectively increase existing ancillary service cover at times to offset uncertainty in net demand	

Option/proposal	Our view
H. Require retailers to make compensation payments to customers affected by forced power cuts	**We agree** that this should not be considered for adoption ahead of winter 2023.
I. Review administer prices to apply in energy or reserve shortages	**We agree** that this should not be considered for adoption ahead of winter 2023.
J. Introduce hours-ahead market	**We agree** that this should not be considered for adoption ahead of winter 2023.
K. Procure additional resource outside of spot market	**We agree** this should not be considered for adoption head of winter 2023. On face value we oppose such a measure on the basis it brings significant risks of undermining both spot market incentives to commit resources, and the likelihood of contracts incentivising resource availability.