



Submissions

Electricity Authority

PO Box 10041

Wellington 6143

Consultation on 100% Renewable Power Supply - MDAG Issues Discussion Paper

Thank you for the opportunity to submit on this important topic.

No part of this submission is confidential and I am happy for all of it to be published.

This submission

- Notes all the good work done by MDAG in identifying issues for further consideration.
- Agrees with all the issues identified by MDAG; but
- Suggests the analysis of how wholesale market competition is affected by the shift to 100% renewables would be wider than just seasonal flexibility services and should encompass further consideration of all forms of energy storage (or flexibility) and how these interact.

My concern is that it appears storage (and flexibility services) are likely to become the new price setting services, in the same way that gas is at the moment. Hence the better we understand the nuances of the different types of services in this area and how they interact the better we can identify where threats to competitive price discovery may emerge.

Regards

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Response to specific consultation questions

Q1	<p>Do you agree with the broad conclusions that emerge from the simulations in relation to spot price levels and volatility, in particular:</p> <p>(a) significantly more spot price volatility is likely with a 100%RE system, especially shorter-term weather-driven volatility?</p> <p>(b) New Zealand's sizeable hydro generation base is likely to moderate the growth in volatility to some extent, making extreme oscillations between zero and shortage spot prices relatively unlikely?</p>	p18,61	<p>Agree that spot price volatility is likely to increase and note that there is reasonable evidence of this already starting to appear and my own analysis of the changes in price duration curve shape over the last 10 years suggest this is happening already.</p> <p>The extent to which our hydro generation base will moderate this volatility may depend on the level of competition for different types of storage services, see my comments on question 13.</p>
Q2	If you disagree, what is your view and the reasoning for it?	p18, 61	N/A
Q3	Do you agree that in a 100%RE system there will be many diverse and disaggregated resources to coordinate, and that a wholesale market will be the preferred mechanism to coordinate plans and actions among all the resource owners? If you disagree, what is your view and reasoning for it?	p18,65	Agree and note that diverse and disaggregated resources are already emerging and a freely available spot price signal is the best way to coordinate these.
Q4	Do you agree that these are the key issues in relation to real-time coordination? If you disagree, what is your view and the reasoning for it?	p20, 69	Yes, agree, good summary of likely issues.
Q5	Do you agree that these are the key issues in relation to ancillary services with 100%RE? If you disagree, what is your view and the reasoning for it?	p21, 74	Yes, agree, good summary of likely issues.
Q6	Do you agree that these are the key issues in relation to price signalling with 100%RE as summarised in paragraph 3.42 above? If you disagree, what is your view and the reasoning for it?	p24, 88	Yes, agree, good summary of likely issues.
Q7	Do you agree that the preconditions in paragraph 3.38 would need to be in place for an energy-only market design to be	p24, 88	Agree

	effective? If you disagree what is your view and the reasoning for it?		
Q8	Do you agree that we should take forward to the next stage of the process (options identification and analysis) the measures referred to in paragraph 3.43 above? If you disagree, what is your view and the reasoning for it?	p24, 88	Agree
Q9	Do you agree that these are the key issues in relation to demand-side flexibility with 100%RE? If you disagree, what is your view and the reasoning for it?	p25, 93	Agree
Q10	Do you agree that these are the key issues in relation to contracts markets with 100%RE? If you disagree, what is your view and the reasoning for it?	p26, 98	Agree
Q11	Do you agree that these are the key issues in relation to transition to 100%RE? If you disagree, what is your view and the reasoning for it?	p28,102	No comment
Q12	Are there any other 'lumpy' issues that warrant specific consideration in the transition to 100%RE?	p28, 102	No comment
Q13	Do you agree that we should analyse how competition in the wholesale market is likely to be affected by a shift to 100%RE, in particular, in competition for seasonal flexibility services? If you disagree, what is your view and the reasoning for it?	p29, 104	Yes, I agree that we should examine further and that we have insufficient information on competition in storage and flexible load generally. I suggest the issue is wider than just seasonal flexibility. I would like to see a better understanding of how different forms of energy storage or flexibility services meet different needs and how they interact. My suspicion is that energy storage and flexibility services will become the new price setter in the market in the same way gas is at present. It would be good to understand better what level of competition might emerge for different types of storage and flexibility services.

Q14	<p>What other key areas of opportunity or challenge (if any) will arise in the wholesale electricity market with 100%RE that are likely to have a significant impact in relation to achieving the statutory objective of the Authority, which is to “promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers”?</p>	p29, 104	<p>See comments above regarding expanding the review to better understand competition in provision of energy storage and flexibility services. This seems like both an opportunity and a challenge. An opportunity for new services to emerge and a challenge to ensure competitive pressure on existing providers.</p>
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