

1 March 2024

Nova Energy Limited
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Submissions
Electricity Authority
PO Box 10041
Wellington 6143

By email: operationsconsult@ea.govt.nz

Re: Potential solutions for peak electricity capacity issues – consultation paper

Nova Energy (Nova) agrees with the Authority's assessment of the potential market interventions for addressing electricity capacity issues.

Nova believes the Authority is not giving sufficient weighting to two initiatives however:

- Updating and reinforcing the stress test¹, and
- Updating the scarcity values in the Code²,

as per the recommendations in the Market Development Advisory Group's (MDAG) final report; Price discovery in a renewables-based electricity system. Neither recommendation would be particularly complex for the Authority to implement.

While those initiatives may not provide sufficient incentive or urgency of action to meet a potential capacity shortfall in 2024, they are a necessary precondition to achieving an appropriate market response beyond this year.

Nova's responses to the Authority's questions are appended to this letter.

Yours sincerely



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¹ Recommendation 7

² Recommendation 16

Nova submission: Potential solutions for peak electricity capacity issues

Q No.	Question	Response
Q1.	<p>Do you agree with the principle that the winter capacity margin should be based on the trade-off between the cost of the hours of reserve or energy shortfall and the cost of the peaking generation needed to mitigate it? Do you have any other suggestions on factors the Authority should consider and why?</p>	<p>Nova agrees with this principle.</p> <p>It is stated that ‘the standards are not designed to take into account consumer preferences for supply reliability’, yet when the market is allowed to operate as designed, then the market will supply the appropriate level of security. So long as the cost of shortage events is reasonably accurately reflected in the scarcity price, then the providers of marginal generation or demand response can factor in the expected market prices, including the probability of scarcity, into their investment decisions. As such, the right balance between capacity and demand will be met.</p> <p>In a market as small as New Zealand, where decisions external to the electricity market, such as the uncertainty over the future of the Tiwai smelter or the last Government’s impact on the gas market, we can expect imbalances to occur in some years. This will inevitably have a potential cost under adverse climatic conditions or events. The question then arises:</p> <ul style="list-style-type: none"> • is there a need for reserve capacity to cover peak demand caused by temporary adverse market circumstances, or • is the market structure not adequately signalling the need for additional capacity through prices? <p>If the former, then there is a place for short term measures to correct for market failure. That needs to be achieved in a manner that minimises the disruption to the normal market signals.</p> <p>If the later, the Authority needs to give greater consideration the pricing signals and how they are formed.</p> <p>Care must be taken to not to lock in measures to maintain security of supply in the short term that will potentially disrupt the supply and demand balance over the long term.</p>
Q2.	<p>Do you agree with our assessment of the incentives for demand response? If not, what is your view? Are there</p>	<p>Nova agrees with the assessment and notes the conclusions of the Market Development Advisory Group (MDAG) that demand response will be a critical component of the future wholesale electricity market.</p>

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	<p>other criteria that the Authority should consider?</p>	<p>Nova also agrees with ruling out the option of paying directly for demand response.</p> <p>While there are undoubtedly significant benefits to be gained from expanding demand response capabilities, this will take time to develop as the systems to engage with and reward customers through tariff options will take time. The Authority can help facilitate the rules and processes required to support cost reflective pricing, but it should not directly invest in demand response contracts.</p> <p>The Authority should give a high priority to updating the scarcity values. The risk of exposure to scarcity prices will have a direct incentivising effect on parties exposed to spot prices.</p> <p>If generation capacity shortages are not taken seriously enough, we will continue to have market participants exposed to spot high prices and the potential for outages. Demand for hedge contracts helps support the development of demand response capability or new generation with peaking capability.</p>
Q3.	<p>Other than financial incentives, what are the other barriers to entry for demand response participation in the wholesale market that you have identified?</p>	<p>Nova expects the most significant barrier to be simply consumers' understanding of the potential electricity savings and tools available to realise savings with minimal management time. For most businesses the potential gains are comparatively small against other priorities and most retailers are not yet geared up to roll out demand response systems. We are seeing more progressive arrangements between the gentailers and their large industrial customers.</p> <p>Nova suggests that there is also a lack of good communications channels in place to assist mass market consumers to respond to peak demand, even if they are able and willing to switch off a few appliances or equipment for an hour or three in a grid emergency.</p> <p>The awareness of consumers to the threat of power cuts could be improved if the appropriate messaging and media channels are planned in advance.</p>
Q4.	<p>Do you agree that the Authority should focus its resources on identifying and lowering barriers for BESS and demand side flexibility to participate in the wholesale and ancillary services markets? If so,</p>	<p>Yes.</p> <p>BESS is ready for wider deployment and is available at sufficient scale to warrant the development of rules to best utilise its capability.</p>

Q No.	Question	Response
	where do you think the Authority should focus first?	
Q5.	Do you agree that any solutions should satisfy these principles? If not, what is your view and why? Are there other principles that the Authority should consider?	Nova agrees with the evaluation criteria.
Q6.	Do you agree that a standard product for financial 'super peak' hedges is required?	<p>Nova agrees that providing liquidity for a standardised 'super peak' hedge product would be of benefit to the market. Nova anticipates that there will be resistance from the major gentailers to market making for such a product because of the costs involved in doing so.</p> <p>Ideally the availability of a 'super peak' product would be supported by uncommitted thermal peaking plant in addition to hydro peaking capability. Under current gate closure rules however it is difficult for peakers, which are offered on a unit commitment basis because they cannot offer at the margin, to be assured of operating on every occasion that prices spike. They would be better placed if they could reduce offer prices in the event of being dispatched.</p>
Q7.	What factors do you think we should consider in the design of such a product?	Nova reiterates a point that it has made before; that the prudential requirement for any exchange traded futures product should be able to be offset with the Clearing Manager. Any seller of an ASX traded 'super peak' product would require a very significant level of prudential cover, which impacts on the bid-ask spread of any contract, and as a result, leading to limited liquidity.
Q8.	Do you agree with our assessment of the risk for the medium to long term?	Yes
Q9.	Do you think it would be beneficial to create a new integrated standby ancillary service? What is your view and why?	No

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		<p>Nova agrees that introducing reserve generation as an integrated standby ancillary service is likely to have a negative impact on the market over the longer term unless it is priced in the vicinity of scarcity prices.</p> <p>The cost of the service would have to be socialised as widely as possible given the difficulties of attributing the costs and benefits in any other way.</p>
Q10.	How should the costs for a standby ancillary service be allocated?	<p>Where possible the costs for a standby ancillary service would be allocated on a beneficiary or exacerbator pays basis. Of course it is never quite that simple. For instance, the largest single contributor to uncertainty over whether there will be sufficient available to meet peak demand are the wind farms, i.e. peak capacity is stretched when high demand is coincident with low wind farm output. To a degree, however, the generation weighted average prices (GWAP) received by windfarms already reflect that uncertainty. Meridian Energy, for instance, has also already contracted for accessibility to demand response from some of its customers to help meet peak demand conditions.</p> <p>Allocating costs of reserve generation to consumers that have already incurred costs to cover their peak period exposure to spot prices would also be inequitable. That includes residential consumers with fixed price, variable volume (FPVV) contracts which cover their spot exposure by virtue of the premium they pay for that product over the long term. Furthermore, many residential consumers already contribute to alleviating peak period capacity constraints through ripple control on their hot water heating system (The cost of relays on meter boards to control hot water heating is passed through to the consumer).</p> <p>Another possible option would be to charge a fee based on each MW of net exposure a retailer or direct purchaser has to the spot market under a peak demand scenario. While being complex and difficult to manage, it would at least allocate the cost to the parties that are not underwriting their own exposure through hedge arrangements. (Allowance would also need to be made for force majeure situations.)</p>
Q11.	How should the residual requirement be set? Should it be an operational setting or dynamically calculated? If it	Nova suggests a dynamic calculation which reflects the wholesale spot market at any point in time.

Q No.	Question	Response
	is dynamically calculated, what factors should be considered in the calculation?	Given the experience from the events of 9 August 2021, it would seem reasonable to set the reserve as $(n-2g) - (n-g)$, i.e. scheduled generation less two generation units dropping out, but not including the largest generation unit which is covered by instantaneous reserves.
Q12.	How should deficit (scarcity) standby residual be priced in relation to scarcity energy and scarcity reserve prices?	<p>The standby residual should be priced sufficiently high to be close to self-sufficient over a long term (7-year+) time frame, i.e. where the expected net benefit from covering capacity shortfalls is close to meeting the costs of providing the standby residual.</p> <p>If such a price exceeds the cost of scarcity pricing, then either scarcity pricing has been set too low, or the standby residual is too expensive to warrant support.</p> <p>[Based on scarcity pricing being the electricity price at which the consumers, in aggregate, are expected to be neutral between paying for additional generation (or demand response) or accepting power outages.]</p> <p>If scarcity prices are set too low, then there is insufficient incentive for retailers to approach customers and make arrangements for demand response, i.e. like most things, supply and demand is a function of price. If retailers give serious consideration to being exposed to scarcity prices of \$25,000³, then they will be incentivised to either hedge their risks contractually or with their customers through demand response.</p>
Q13.	Do you agree with our assessment of the issues associated with procuring additional resource out of market? If not, what is your view and why?	<p>Yes</p> <p>The risks of excessive costs are too high to justify.</p>
Q14.	Do you think it would be beneficial to create an out-of-market tender for emergency demand response? If not, what is your view and why?	<p>No</p> <p>If it is only to be exercised in 2024, then there is a low likelihood that participants will receive sufficient benefit to make the exercise worthwhile. And an out-of-market tender will be distortionary to the market if it is to remain for anything longer than one year.</p>

³ Paragraph 8.37 of the Consultation paper

Q No.	Question	Response
Q15.	Do you think it would be beneficial to provide payments to resource providers for any uncleared generation and/or dispatchable demand? If not, what is your view and why?	No
Q16.	What do you consider to be an appropriate scaling factor to determine the price for residual and why?	-
Q17.	What is your view on the factors the Authority should consider when valuing the costs associated with a standby ancillary service?	The difficulty of developing a standby ancillary service is that it will lead to a change of decision criteria for parties that have a capability to offer demand response. Once in place it will also change the economics of building peaking plant, and thereby potentially locking in an arrangement that penalises consumers whether they benefit from the arrangement or not.
Q18.	What other options should be considered to better manage residual supply risk for winter 2024?	The most cost effective solution could be to fully brief the key media in advance on the circumstances that could lead to power cuts, and establishing channels of communication that could be used to inform consumers of all persuasions when the system is under stress, including via social media. When and if such a warning went out, it would also serve to pre-warn as many consumers as possible of potential power cuts.
Q19.	Do you have information on any other international standby ancillary services and their positive impacts? If yes, please share your information.	-