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**RE: Price discovery under 100% renewable electricity supply – Issues discussion paper**

Nova Energy (Nova) supports the work undertaken by the Market Development Advisory Group (MDAG) and believes it makes a valuable contribution to the debate on what policies and market structures are required to ensure that New Zealand's energy market continues to meet the demands of the 'Energy Trilemma'. The current Government's policy of achieving 100% renewable electricity generation by 2030, in contrast, is a classic example of poor policy development that is having a range of unintended consequences.

Nova agrees (Q.3) that a well-structured wholesale market is the preferred mechanism for ensuring that the appropriate resources are developed to meet NZ's energy needs. For example, the modelling undertaken by MDAG assumes that there will be thermal peaker plants available to provide generation during periods when wind and solar generation is at a minimum. Yet the Government's current policy on thermal generation has made the risk of building new open cycle gas turbines too high at present. Given that thermal peakers could potentially be progressively converted to run on renewable biofuels once suitable sources are developed, the current government policy is already impacting on future market developments.

In view of the development of the wholesale market, the overriding focus must be on ensuring that competition between participants and alternative technologies is effectively maintained (Q.13). Focussing on the competitive aspects of the market should help the issues identified in the paper fall into place. For instance, spot price signals, demand side flexibility and ancillary services.

A key assumption in the modelling work is the presumption that hydro generators will drive average prices towards the long run cost of new renewable generation. While Nova accepts that premise, the current practice of hydro generators is to match their generation output with their contract position. This is inconsistent with the determination of water values as described by Dr Read.

Nova is concerned that parties with significant hydro storage capability will have a significant advantage in developing new generation projects and underwriting those by building up their retail book, i.e. hydro generators can limit their exposure to price spikes by generating when intermittent generation is at its lowest. This advantage stems from the very limited opportunity for other parties to develop hydro generation resources, and the high cost of other peaking capability such as batteries or peakers running on biofuels.

Under such conditions the vertically hedged generator / retailer has no incentive to reduce spot price volatility, which increases the risk of market price exposure for other parties. Nova agrees with the key issues set out in para. 3.42 (Q.6).

The question arises whether parties with peaking capacity, i.e. primarily the hydro generators, will supply suitably designed hedge products to parties relying on intermittent generation (Q.10), or retain that flexibility to back their own investment in wind and solar projects<sup>1</sup>. Evidence to date supports the latter view. Nova suggests that when considering the key issues in relation to the contracts market, the question needs to be addressed: Is there a need to place a cap on the maximum market share to be held by any single generator under 100%RE to preserve market competitiveness?

Nova agrees that the systems and capability for real time coordination of generation and demand response will be important but does not expect that this should be a significant challenge from a market design perspective (Q.4).

The offer rules, and potentially different gate closure times for each generation technology and batteries should be reviewed to ensure an orderly and competitive market. Water values in the large reservoirs change only slowly over time and gate closure for these hydro generators could be set days in advance (with exceptions for major inflow events). Such a policy would reduce the opportunities for short term gaming by the hydro generators and help facilitate new demand response capabilities by more consistent signalling of spot prices (Q.1)

This could be considered as part of the Authority's Future Security and Resilience project (Q.5).

Further observations:

- Generation plant retirements<sup>2</sup>: closing plant in most cases involves staff redundancies. Setting restrictions around notice periods etc. for closing generation can be expected to create issues in terms of retaining key staff through the remaining life of the operation.
- Project delivery lead times<sup>3</sup>: While some solar projects may have been completed within a year, usual practices to engage contractors and procure equipment is likely to result in timelines well in excess of this, even on brownfields sites.
- Given the likelihood of more diverse sources of both generation and demand response, the trend may be for developments to be less 'lumpy' and as such more predictable over time (Q.3).
- New development risks<sup>4</sup>: An additional risk of investing too early is that the project may be committed to technology that is surpassed in a relatively short timeframe. As such, there is a possibility that investors hold off from building new generation despite a market need.

Nova will be happy to explore these ideas further with MDAG and looks forward to the next stages in the consultation process.

Yours sincerely



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<sup>1</sup> Refer discussion in para 7.117 of the Issues discussion paper

<sup>2</sup> Para 3.53

<sup>3</sup> Para 5.34

<sup>4</sup> Para 7.40

