

6 March 2023

Submissions
Market Development Advisory Group (MDAG)

Nova Energy Limited
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By email: MDAG@ea.govt.nz

Re: MDAG options paper – Price Discovery in a Renewables-Based Electricity System

Nova supports the work undertaken by the Market Development Advisory Group (MDAG). Success in reducing New Zealand's CO₂-e emissions is going to rely heavily on an efficient and competitive electricity market. It is Nova's view that the transition to a low emissions energy market has two key prerequisites:

- a) The price of NZUs under the emissions trading scheme (ETS) should be the primary driver of the transition to a low emissions economy, and
- b) The electricity market should continue to reflect the marginal costs of generation and delivery.

The MDAG's work is useful in demonstrating that the electricity market can continue to operate on an "energy only" basis so long as the right operational and regulatory structures are in place.

Enabling a competitive market must be at the core of MDAG's final recommendations. As MDAG quotes from Prof Paul Joskow: "Try to deal with potential market power structurally ex ante rather than ex post."¹ Like MDAG, Nova does not support structural changes to the ownership of the current generation fleet, either physical or virtual, (i.e. options **D6 and D7** - Physical and Virtual disaggregation of the flexible generation base respectively).

Investment environment concerns

In the short term there is a question of whether new generation builds will catch up with electricity demand and meet peak demand requirements. This reflects the Government's policies currently directly impacting on investments in the energy sector. Specifically:

- a) the restrictions on petroleum exploration,
- b) the prospective development of Lake Onslow,
- c) a consenting environment that is anti-development for both renewable energy projects as well as non-renewables,
- d) increased litigation risk faced by gas producers,
- e) non-ETS related responses to climate change measures being adopted by the Commerce Commission,
- f) Modern slavery requirements that are proposed to be more onerous and costly to comply relative to peer international jurisdictions, and
- g) the uncertainties around a potential mandate for 100% renewable electricity.

The MDAG's mandate falls outside these policies, but it is useful to consider the priorities of policy options identified by MDAG in this context.

¹ Para 10.10 of the Options Paper 2022

Given the prospective time required to build and fill Lake Onslow, it is apparent that New Zealand needs to maintain thermal generation capacity and likely expand the peaking capacity if it is going to bring down wholesale electricity prices. Should the Tiwai aluminium smelter close at the end of 2024 then that would relieve the need for new generation at that time, but only until the expected electricity demand from the rest of the market makes up the difference. Further, closure of Tiwai may be counterproductive to reducing emissions globally given the growing importance internationally of producing aluminium from renewable energy sources.

Options supported

In this context, Nova supports the following options identified by MDAG and recommends prioritising these options given they can have a more immediate impact on market competitiveness and efficiency, irrespective of which generation technologies are adopted fastest:

A1 Improve forecasts of wind, solar and demand

Given the cost of thermal plant start-ups, inaccurate forecasts have a direct impact on thermal operating costs. High start-up costs and inaccurate forecasts can lead to plant:

- i being unavailable when required to meet peak demand, or
- ii incurring unnecessary running costs when spot prices fall below their SRMC.

In both cases the costs incurred over time are likely to exceed the cost of improving forecasts. Similarly, accurate forecasts will be valuable for demand side flexibility as it improves the ability of parties to prepare to respond to high prices with greater confidence.

A3 Update shortage price values

Emergency generation capability or provision for managed demand response can have a significant cost. If the appropriate mix of generation capacity is to be maintained the economic cost of lost load (VOLL) must be reflected in electricity prices when excess demand threatens to cause cascade failure. The Authority has been remiss in not increasing VOLL in line with inflation since it was first determined. This value should be updated for inflation promptly, even if the Authority intends conducting a more comprehensive review of the appropriate values in the near term.

Nova suggests extending the concept of VOLL to include control of hot water load. That should apply when the System Operator (SO) instructs distributors to reduce demand as a first step before disconnecting load. The instruction from the SO to reduce demand should lead to demand offers being set to a predetermined minimum value, or "VOLL_{light}". VOLL_{light} would be considerably less than VOLL because the impact is comparatively minor, nevertheless, the load reduction effected under normal conditions reduces demand and as a result prices. Imposing VOLL_{light} will better reflect market costs.

A4 New reserve to cover sudden reduction from intermittent sources

This is an interesting proposal as it would assist in covering events such as occurred on 9 August 2021. There are periods of time when spot prices are well below the SRMC of thermal plant due to high hydro storage and river flows, yet there remains at risk of capacity shortage in the event of a drop-off of wind or solar generation output.

Nova notes that the MBIE Investigation onto electricity supply interruptions of 9 August 2012, the 'Hodgson report' (Section 5.3) included a similar recommendation.

A5 Offer price reductions after gate closure

This option addresses the practical considerations of operating Peakers and potentially other dispatchable generation units. The primary benefit to the market would be to enable competitive price offers by the Peaker units when expected spot prices are close to their SRMC. This would make the operators of dispatchable hydro plants less inclined to maintain high price spreads between the expected marginal price and the next offer tranche which tends to increase spot price volatility.

The benefit to the market would be the added competitiveness of energy offers at around expected market prices.

A7 Remove UTS over-ride of trading conduct provisions

Providers of high-cost backup generation and demand response need to be able to have confidence that real time prices are most likely to stand so long as there has been no breach of the trading conduct provisions. The very nature of high priced events is such that parties exposed to the high prices are inclined to claim a UTS even if the only basis of such a claim is for technical breaches of the Code. Such claims almost inevitably require significant resources to address. Making the proposed amendment should help improve confidence in the market.

B5 Develop standardised 'shape' products

Nova supports this option, and believes it has potential on the OTC market, noting that some generators already offer shaped profiles from time to time.

For an exchange traded shaped product to be successful, it is Nova's view that it would need to be tradeable on a New Zealand Exchange and for prudential requirements able to be netted against prudential and commitments held with the Clearing Manager.

B7 Extend trading conduct rules for hedge market

A competitive hedge market is critical for retailers that do not have their own generation capacity. Many generators also rely on a competitive hedge market when they are required to cover maintenance outages on their generation plant. Sometimes these requirements come at short notice, and it is important that they are not charged excessive prices to cover those times.

The above options are obviously only a subset of the list put forward by MDAG, but as stated above they are the options that Nova believes will have the greatest and more immediate impact on ensuring a competitive market is maintained.

Improving demand side flexibility (DSF) is also an intrinsic requirement if the market is to achieve a 100% renewable status. In the longer term as the market develops, technology is improved and commercialised, and new tools and standardised communication protocols are developed, it should become easier to expand the DSF tools. Nova therefore suggests that these initiatives should not be given as much priority as the above options by the Authority in the short term.

Nevertheless, EECA could potentially be asked to promote and develop options such as:

C1 Monitor provision & uptake of DSF-rewarding tariffs

C13 Provide information to help large users with upcoming DSF investment decisions, &

C14 Provide information to help domestic customers with DSF decisions

Other options

C7 Negawatt scheme for the wholesale market

Nova agrees that this is unnecessary given the availability of demand side dispatch under real time pricing.

E1 – E5 set out to Increase public confidence are consistent with good regulatory practice and Nova supports those. When energy markets lose the confidence of the public and politicians, events and ‘knee-jerk’ responses from politicians can spiral out of control very quickly The costs of bringing the market back to equilibrium can be very high, yet still not understood by those making the decisions. It is not expected that options **E1 – E5** require excessive resources or detract from the other options. The benefits are likely to be significant, yet probably under-appreciated by many.

We are happy to meet to discuss any elements of this submission further.

Yours sincerely



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