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Manawa Energy submission: Price discovery in a renewables-based electricity system – MDAG options paper

1. Preliminary remarks

This is Manawa Energy (**Manawa**) submission on the Market Development Advisory Group (**MDAG**) Price Discovery in a Renewables-Based Electricity System Options Paper (**the Options Paper**).

The Options Paper lays out a catalogue of potential changes to the wholesale market and supporting arrangements across five broad areas¹ as well as considering the transition from the remaining fossil-fuel generation to renewable sources and the approach to complete work for the selected options.

Within the paper, MDAG sought the expertise of and quoted Prof. Peter Cramton which we agree with and reiterate here²:

*“Electricity markets are necessarily complex. This follows from the complexity of the engineering and economic problems that must be solved. Still designers should strive to keep the design as simple as possible. **Complicating features should only be added if they are necessary and consistent with market principles.**”*

Manawa continues to strongly support the work of MDAG in exploring this important issue. In particular, Manawa strongly supports MDAGs assessment that the energy-only market, subject to a number of identified improvements, will best serve the long-term interests of consumers in Aotearoa. We agree that fundamental changes to the market design to adopt a capacity mechanism are unnecessary and likely to increase costs through over-procurement, by weakening the incentives for efficient investment and by reducing future energy innovation. We also note that a major revision to the underlying market design to introduce a capacity mechanism would intensify regulatory uncertainty for investors, just at the time when this is needed the most.

Taken as a whole, there is a significant programme of work that has been put forward in the Options paper, much of which would be required to be completed over the next few years. Manawa supports MDAG in considering how the proposed work programme, subject to any revisions post this consultation, could be progressed by the Authority in a manner that allows the interconnections between the options (both known and unknown) to be identified and observed both during and after the implementation process.

We consider that enabling sufficient time to fully consider any impacts of complicating features within any new arrangements, both before and after they are implemented will help to ensure minimal unintended consequences arise within what is already complicated wholesale market. We

¹ Ensure reliable and efficient operational coordination, ensure effective risk management and efficient investment, lift demand side participation, strengthen competition, and to increase public confidence in the system, Options Paper, page 16

² Options Paper, page 91

acknowledge that at times this might seem more expensive and require “less speed” than desired by some participants, but it is intended to enhance the permanency of proposed solutions and reduce the need for further interventions in the future, with an overall lower cost and higher investor certainty.

It is with this in mind that Manawa provides the following general comments in response to matters covered in the options paper that we expand on below:

- The principles of an “agile” project management and iteration could help guide the further development of selected options;
- Adopting a “co-design” approach for further exploring and developing those options identified by the MDAG during the next phase of work, with increased stakeholder input at the design phases, will help produce the best solutions (while also reducing regulatory & investor uncertainty);
- The value of flexibility products is anticipated to increase with volatility and priority needs to be given to increasing the overall supply of flexibility;
- The impacts from changes to contract markets need careful consideration for any unintended consequences such as changes to liquidity or volatility.

More broadly, Manawa wishes to reiterate the importance of ensuring regulatory certainty and stability to enable the significant amount of investment required for electrification of the economy, and the need to ensure that excessive regulatory burden is not created during any subsequent reform process³.

2. Adopting an Agile project management approach to developing and implementing options

The Options paper includes a significant volume of work to be undertaken and is expected to formulate the bulk of the Authority work over the next several years.

Progression of the proposed work programme(s) will result in a step-change in the rate of development of electricity sector arrangements. The resulting workstreams will have overlaps, dependencies, interactions with each other and related risks that need to be managed. In the next (implementation) phase of the project, we suggest that some of the Agile project management principles⁴ could provide useful guidance and observe that these have been adopted in the MDAG’s thinking in many places, and should continue.

Relevant principles, along with our views as to how they should be considered during the next phases of work are as follows:

- **(#1) Early and continuous delivery:** Manawa supports the focus on the quick wins identified in the Option Paper that reside in the upper tight quadrant of the Assessment of Options⁵ with greater benefit and less complexity.
- **(#2) Welcoming changing developments:** Changes include but will not be limited to new developments, technology, and risk management tools which are all highly probable as the work program progresses, along with decisions that impact on the broader energy system in which the wholesale market operates such as NZ Battery. This will likely require the

³ Refer to Manawa Energy submission on Promoting competition in the wholesale electricity market in the transition towards 100% renewables (December 2022)

⁴ Initially developed from a manifesto for software development, agile techniques are commonly used for projects with uncertainty or in a dynamic environment. All 12 principles can be found here: <https://agilemanifesto.org/principles.html>

⁵ Options paper, figures 7, 10, 12, 14, and 16

reassessment of prior assumptions, cost-benefit analysis and timelines for further development. Importantly, this may require time between the implementation of an option and initiating work on the next initiative, and Manawa recommends time be added between sequential options to allow for impacts to be better understood.

- **(#4) Business people and developers must work together:** Support for enhancing the “Co-design” option as discussed below.
- **(#12) Regularly Reflect and Adjust Your Way:** Related to the #2 principle above, the work program should be anticipated to change as the results of early work are realised, and as additional renewables come online and thermal units retire. We note that with further concentration in the thermal market enhanced monitoring by the Authority and Gas Industry Company will be required through the transition.

3. Favouring “Co-design” and “Hybrid” frameworks to develop the preferred options

Manawa strongly supports the MDAG recommendation for a wide stakeholder group to utilize the “Co-design” or “Hybrid” process for developing solutions, with the Electricity Authority (the Authority) to undertake a facilitation and sponsorship role. As an organisation, Manawa is strongly committed to participating in industry initiatives (for example Flexforum) and working collaboratively with stakeholders to seek the best outcomes for Aotearoa.

Being able to draw on the collective experience of all parts of the sector to develop fit-for-purpose market design reforms, will be more important than ever as the whole industry struggles to find the skilled resources to undertake the required developments towards 100% renewables. We note that the Authority itself will likely end up competing for many of the same resources should they be needed for the implementation of the MDAG workplan. Having input from a range of industry experts, both from within private sector organisations and government/regulators, during the design phases will lead to improved solutions while not significantly adding to the timelines for during and will significantly reduce the possibility of rework.

4. Value of flexibility and priority for development

It is widely recognised that the future, renewables-based system will lead to higher spot price volatility and that contract markets will be required to do more of the heavy lifting. However, there remains considerable uncertainty around the exact supply of such flexibility products and whether they may (or may not) become more concentrated⁶. As thermal generation is retired, the loss of this flexible generation will need to be replaced with new sources of flexibility to the extent possible, such as grid-scale batteries, flexible renewable generation (for example, green peakers), and demand side flexibility, rather than relying on the fixed and limited supply of flexibility available in hydro generation. It is likely that the supply of flexibility products will become much more distributed (both for future market share and geographically) and a focus on the “dominant suppliers” may become a transitional issue.

Manawa supports the increased prioritization of options that will support or expand the overall supply of flexibility services⁷ from new areas in a way that will not be highly correlated to hydrological conditions such as the ever-present dry year risk. Options that support the development of batteries

⁶ Options Paper, section 8.28 page 64

⁷ Such as options B5, C4 and C5

and DSF, and options that will increase investor certainty for adding flexible renewable generation will better align the future potential mismatch between supply and demand of flexibility services.

5. Contracting Markets: Volatility, Liquidity & Investor Confidence

Across the MDAG options proposed, nowhere would be more important to include industry expertise than in the continued development of contract markets. Manawa recommends that the MDAG considers specifying in its final advice that those options under the Ensuring Effective Risk Management and Efficient Investment chapter (Chapter 8) should be set with a default to the “Co-design” or “Hybrid” process for the next phases of development. We consider this will help ensure that the potential impacts of any design features on volatility, liquidity or investor confidence overall can be given due consideration.

Seemingly small changes can have undue impacts on the operation of contract markets for efficient price discovery. Reductions in liquidity (perhaps by splitting liquidity across increasing number of products or markets) or increases to volatility – or both – increase the transaction costs for participants and reduce the ability for price risks to be efficiently reallocated to the party best able to manage it. Utilizing the available industry expertise to assist the design of the proposed options (from both sellers and buyers) and specifically assessing the potential impacts to liquidity and volatility should significantly reduce any unintended consequences. As each option progresses or code change is proposed, publishing the expected impact(s) on volatility and liquidity (and monitoring this post implementation) will assist in maintaining or improving the overall efficiency of forward markets and investor certainty.