

6 March 2023

Market Development Advisory Group (MDAG)
MDAG@ea.govt.nz

Submission on MDAG options paper – Price Discovery in a Renewables-Based Electricity System

Introduction

1. Energy Resources Aotearoa is New Zealand's peak energy advocacy organisation. We enable constructive collaboration across the energy sector and with government, through and beyond New Zealand's transition to net zero carbon emissions in 2050.
2. This document constitutes our submission to the Market Development Advisory Group (MDAG) on its options paper, *Price Discovery in a Renewables-Based Electricity System*. It should be read in conjunction with our recent submission on the Electricity Authority's *Driving efficient solutions to promote consumer interests through winter 2023*, which covers some related issues.¹

Key points

- We are broadly supportive of MDAG's general approach. We caution it must strike a balance between anticipating issues before they arise (so as not to be caught out) but also ensuring more material interventions are evidenced by the presence of a clearly-defined problem for which the proposed solution is justified. The options paper demonstrates MDAG is cognisant of this tension.
- A key distinction to be highlighted is between intra-day flexibility, in which demand-side flexibility (DSF) will play an increasingly important role (alongside flexible generation), and intra-season or inter-year flexibility, for which natural gas storage and fast-start generation capacity remains the most obvious solution in at least the medium term. Deep energy storage remains an exposure in New Zealand's energy system and the drive toward

¹ <https://www.energyresources.org.nz/dmsdocument/224>



and increasingly intermittent renewable electricity system will exacerbate this exposure.

- In general, we support measures that reduce barriers (informational, etc) to active participation in competitive market-based solutions. More stringent interventions – such as requiring retailers to provide incentive tariffs for DSF (option C3), or virtual disaggregation of flexible generation (option D7) – should be pursued only once they meet a high evidentiary threshold for both a problem and the merits of the solution. We caution against the mere floating of potential significant interventions could have a chilling effect on investment.

General comments

The project scope's pivot to focus on a 'renewables-based' system is appropriate

3. As the latest options paper states upfront, the mid-2021 terms of reference for MDAG's price discovery project reflected the Government's policy target at the time of 100% renewable electricity by 2030. With this target now recalibrated as 'aspirational', we welcome the MDAG's clarified focus on a 'renewables-based' system that does not necessitate 100% or even 96% renewable electricity. This is appropriate because:
 - it departs from a narrow focus on a particular policy-driven target; and
 - it reflects the reality that the features (and operational/policy challenges) of a highly renewable electricity system will emerge before the system is completely renewable (indeed, as MDAG notes, some appear to be emerging now).
4. Successive reports – including our own *Fuelling the Energy Transition* and BCG/Concept's *The Future is Electric* – see a sustained, albeit decreasing, role for natural gas peaking in the electricity system through the coming decades, even as we approach a very high share of renewable generation.²

Comments on specific proposals in the options paper

Topic A: Ensuring reliable and efficient operational co-ordination

5. We are generally supportive of further work to either introduce a new integrated ancillary service (e.g., a reserve product) (A4) or to increase the volume of an existing ancillary service(s), as a short-term fix for heightened risks around

2 BCG's modelling predicts 200 MW of new open-cycle gas turbines will need to be developed to meet the future needs of the system.

capacity shortfall.³ We note there that there may be practical limitations on the effectiveness of existing ancillary services, as they are tightly constrained by the short response times (<60 seconds) they require, while a new reserve product that can accommodate slower response times – up to, say, 5 minutes – might provide more cover for sudden drops in wind output.

6. Longer-term, our preference is for flexible demand-side participation to be fully enabled within the energy-only market. However, we recognise this would take longer to implement and would involve complex regulatory design.
7. A key distinction to highlight here is between the need for intra-day firming (for sudden drops in renewable generation) and intra-season or inter-year firming for longer-term drops (e.g., for seasons or years in which available hydro, wind, and/or sun resource is lower than average).
8. Demand-side flexibility (DSF) clearly has an important, and likely growing, role to play in helping to provide intra-day firming, and some large electricity users might be able to support longer-term flexibility on a commercial basis. But currently only coal and gas storage and generation can provide reliable, affordable, longer-term seasonal and year-to-year cover for the electricity system. This role is expected to become even more important for gas, as coal is progressively pushed off the load duration curve.
9. This highlights the criticality of our consistent public calls for a ‘reset’ in the policy posture toward the role of natural gas in the electricity system, to ensure that barriers to investment in new fast-start natural gas generation capacity are removed.

Topic B: Ensuring effective risk management

10. We broadly agree with MDAG’s preferred options (particularly its non-support for a strategic reserve, given it will raise costs and not improve security).

Topic C: Lifting demand-side flexibility

11. We agree with the MDAG’s underlying approach of seeking to provide consumers with sufficient information about the value of their flexibility, and the options to contract this flexibility. Addressing informational barriers will enable those consumers who are willing and able to change their demand profile to do so.
12. In the proposed DSF trial and more generally as the DSF market grows, officials should consider the need for standardisation and cohesion on one hand, and the

³ As noted in our submission on *Driving efficient solutions to promote consumer interests through winter 2023*, available here: <https://www.energyresources.org.nz/dmsdocument/224>.

need for flexibility and innovation on the other. Regulatory design for standards and protocols should strike an optimal balance between a DSF market in which many nodes can ‘talk’ to each other on common platforms, without unduly disincentivising new entrants or enshrining incumbents. Strong intra-government collaboration will be important.⁴

13. We caution against moving too quickly on a backstop regulatory requirement for retailers to offer DSF tariffs (C3). Caution should be taken to preserve space for market competition to drive this behaviour organically. We expect retailers offering contracted DSF incentives to willing consumers will have a clear competitive advantage over those that do not. A high evidentiary threshold – around both the problem to be solved, and the relative cost/benefit of the proposed solution – will need to be met.

Topic D: Proposed measures to strengthen competition

14. We acknowledge MDAG’s concern that an increasingly renewable electricity system may thin competitive incentives in the provision of shaped products (i.e., flexibility), noting its conclusion is based on scenario modelling, rather than observed market behaviour.
15. We agree with MDAG’s preferred initial focus on measures that address the exercise of market power (conduct) rather than structural market power at its source. Of course, even where these less stringent transparency measures are explored, it will need to be demonstrated that their public benefits outweigh the private costs of forcing disclosure.
16. A very high threshold should be maintained for the more stringent ‘back-up’ structural interventions (virtual disaggregation of hydro storage and generation) floated in the options paper. We also caution that simply floating policies for further development can have a dampening impact on investment confidence.

Topic E: Increase public confidence

17. We agree with the overarching position established by MDAG here – specifically, that the best means to coordinate an increasingly participative and innovative energy system is through an ‘energy only’ market approach. By the same token we agree that market volatility and high prices (in times of scarcity) are not necessarily problems that require government ‘solutions’. They are a feature, not a bug, of a

⁴ Standards and protocols may be developed in different parts of government, so frequent communication will be key. For example, EECA recently consulted on measures to require ‘smart enabled’ EV chargers through its product regulatory regime. Any such requirements should be compatible with others, such as those in the Electricity Code.

system designed to signal the real cost of energy and thus guide efficient decisions by producers and consumers.

18. As MDAG points out, government intervention (to suppress prices or otherwise solve perceived shortcomings in market outcomes) can undermine incentives for market participants to manage risk and invest – thereby exacerbating scarcity and further diminishing consumer and politician confidence in a vicious cycle. Recent examples in the UK and Australia show how short-term politically expedient ‘solutions’ can quite quickly prove counter-productive to the long-term interests of consumers.
19. While we appreciate the question is largely outside MDAG’s scope, we think it’s worth asking why forward wholesale electricity prices have been stuck at persistently high levels well above the cost of new generation. We suggest this indicates a suite of Government policies, both implemented and under consideration, are creating friction in the investment pipeline for new generation.⁵

Summary

20. We appreciate the opportunity to provide input on the MDAG’s important ongoing work, and we support its overarching approach to the work – that is, identifying barriers to competitive and innovative participation in market-based solutions.
21. We are happy to meet to discuss any elements of this submission further, or to speak to any of our research reports or other publications that might inform MDAG’s thinking on these important issues.

5 These have been well canvassed in numerous consultation processes – they include the aspirational 100% renewable electricity target; the NZ Battery Project (specifically consideration of the Lake Onslow pumped hydro scheme; the 2018 ban on new offshore and non-Taranaki onshore oil and gas exploration; and a series of other onerous reforms to the regulatory system for upstream oil and gas.