2 November 2023

Submission to the Ministry of Business, Innovation and Employment issues paper on Measures for Transition to an Expanded and Highly Renewable Electricity System

Electra Limited (Electra) owns and operates the electricity lines and assets in the Kapiti and Horowhenua districts. We welcome the opportunity to submit to the Ministry of Business, Innovation and Employment (MBIE) issues paper on *Measures for Transition to an Expanded and Highly Renewable Electricity System*, 9 August 2023 (the MBIE Issues Paper). Nothing in this submission is confidential.

Our submission focuses on the questions raised in Part 2—competitive markets of the Issues Paper. The Electricity Networks Aotearoa (ENA) submission represents our views on all other matters.

In December last year, we submitted to the Authority's *Promoting competition in the wholesale electricity market in the transition towards 100% renewable electricity*, Issues paper, 12 October 2023 (the Authority's Issues Paper)[1]. We believe that our views expressed in that submission are relevant to the issues raised by MBIE in Part 2 of the Issues Paper, and accordingly, we have repeated those views in this submission.

Q18. Do you agree that the key competition issue in the electricity market is the prospect of increased market concentration in flexible generation, as the role of fossil fuel generation reduces over time?

The key competition issue in the current market is the power of the gentailers and the failure to establish a wholesale market that encourages the level of workable competition required to encourage investment in generation alternatives to fossil fuel plants.

[1] More information on the Authority's review of wholesale market competition can be found on its website at https://www.ea.govt.nz/projects/all/review-of-wholesale-market-competition/

Flexible generation has a role to play in a workably competitive electricity market, particularly as an alternative to fossil-fuelled peaking plants. Further, there is the potential for the transition to be incremental, making flexible generation effective and efficient, provided the inherent issues in the wholesale electricity market are removed.

Q19. Aside from increased market concentration of flexible generation, what other competition issues could be considered and why?

Removing legacy barriers to entry to generation and retailing would go a long way to enabling investment. For example, the 50MW renewables generation limit applied to distributors is unnecessary and reflects a time of fossil fuel dependency; the one-to-one relationship of an ICP to retailers is outdated and a barrier to getting the best value for customers who should be 'picked and mixed' depending on their wants at the time; and permitting the current gentailer arrangements.

Q20. What extra measures should or could be used to know whether the wholesale electricity market reflects workable competition, and if necessary, to identify solutions?

The New Zealand electricity market can be judged to be workably competitive[2] only after a comprehensive review of the structural characteristics of the wholesale electricity market and the dynamic forces that shape those characteristics.

> 'An industry may be judged to be workably competitive when, after the structural characteristics of its market and the dynamic forces that shaped them have been thoroughly examined, there is no clearly indicated change than can be effected through public policy measures that would result in greater social gains than social losses.'[3]

The Issues Paper is the first step to undertaking that review. It identifies a need to do so but must not be the final step whereby MBIE merely deems the New Zealand electricity market workably competitive.

Q21. Should structural changes be looked at to address competition issues, in case they are needed with urgency if conduct measures prove inadequate?

MBIE should comprehensively review the need for structural changes to address the inherent competition issues within the New Zealand wholesale electricity market. Four large generators operate as energy retailers (Contact, Genesis, Meridian, and Mercury), commonly called 'gentailers'. Gentailers supply over 80% of the generation into the wholesale electricity market[4]. The problem with this concentrated structure is that a small number of market participants have disproportionate market power. Meaning there is an oligopoly present in the New Zealand wholesale electricity market.

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[2] Workably competitive markets is an alternative to perfectly competitive markets and exist where there is a high degree of monopolistic powers but there is sufficient competition to protect consumers.

[3] Jesse W Markham, An Alternative Approach to the Concept of Workable Competition, the American Economic Review, page 361.

[4] The Authority's Issues Paper, paragraph 2.12.

In 2017, the International Energy Agency (IEA) released its *Energy Policies of IEA Countries, New Zealand 2017 Review* (the IEA New Zealand 2017 Review)[5]. Chapter 6 focuses on renewable energy, evaluating opportunities and challenges for increasing the share of renewable energy to 90%. The IEA observed that—

> "Under the current spot market arrangements, the risk management of the gentailers (physical hedging strategy) is driven by the ownership and the vertically integrated structure rather than the seasonal price fluctuations during a dry year; the high prices in the spot market benefit the generation business at the expense of the retail segment; when spot prices are low, the loss or profits on the generation side is offset by increased profits in the retail arm."[6]

The problem with allowing an oligopoly to exist in a competitive market is that they exercise profit maximising behaviour, i.e., dominate and can maximise their profits while minimising competition via non-price competition and product differentiation. Profit maximising behaviour by the oligopoly makes it difficult for other market participants to make a market offering in direct competition with the oligopoly.

Q22. Is there a case for either vertical separation measures (generation from retail) or horizontal market separation measures (amending the geographic footprint of any gentailers) and, if so, what is this?

The IEA identified the negative impacts that gentailers can have on competition, transparency, and innovation, including:

- undermining the development of a more competitive physical market
- limiting the scope for new entrants
- undermining timely and efficient financial market development
- limiting the degree of innovation, especially in products and services
- reducing the degree of competitive pass-through of efficiency gains, reducing the effectiveness of consumer choice and market participation behaviour.[7]

The case for vertical or horizontal separation should be made on the findings of a comprehensive review, as discussed above in question 19. And if that review finds that the presence of gentailers is inhibiting workably competitive markets, then solutions should be consulted on, including vertical and horizontal separation.

Q23. Are measures needed to improve liquidity in contract markets and/or limit generator market power being used in retail markets? If yes, what measures do you have in mind, and what would be the costs and benefits?

In our December 2022 submission to the Authority's Issues paper, we put forward two changes to the wholesale energy market, which could potentially improve liquidity in contract markets and reduce the gentailers market dominance. The following discussion has been extracted from that submission.

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5 A copy of the IEA New Zealand 2017 Review can be found on its website at Energy Policies of IEA Countries: New Zealand 2017 Review – Analysis - IEA

6 The IEA New Zealand 2017 Review, page 72.

7 The IEA New Zealand 2017 Review, page 67.

(i) apply a price cap to spot prices—currently, the spot market is uncapped, except for scarcity events

(ii) introduce a capacity market—New Zealand does not have a capacity market or capacity payments; instead, a half-hour instantaneous reserve market operates alongside the energy market. Energy and instantaneous reserve prices and volumes are determined at the exit points and nodal pricing.

Apply a price cap to spot prices

The IEA formed the view that the liquidity and depth of the hedge market could be enhanced by addressing the market dominance of the gentailers by ensuring that all retailers use this market.

> 'The financial market can effectively moderate incumbent gentailers' behaviour and encourage them to look to more efficient means to manage their risk exposures rather than to physically hedge their positions. **Around 90% of the financial market is locked up because of the dominant position of the gentailers in the market, a barrier to the development of more liquidity**.'[8] [emphasis added]

Applying a price cap to spot prices is one way to remove the barrier and promote more liquidity. The IEA suggested that—

> "During normal times, **setting an ex-ante value of lost load (VoLL) price cap – at least for an interim period while the cap product develops sufficient liquidity and depth** – would help to moderate the infinite price exposure risk, to increase the number of counterparties (beyond the gentailers) and keep prices at reasonable levels. The VoLL expresses the average willingness to pay to avoid an additional hour without power."[9] [emphasis added]

The usual pushback on applying a price cap is that it creates a 'missing money problem'. The missing money problem refers to the idea that prices for energy in competitive wholesale electricity markets may not adequately reflect the value of an investment in the resources needed for reliable electric service.

The IEA New Zealand 2017 Review stated that provided the VoLL is set at a sensible level, and the missing money problem ceases to be an issue. In August 2021, the Security and Reliability Council released its paper The Value of Lost Load, which determined the value of the VoLL to be $20,000/MWh. The Commerce Commission used the VoLL in setting its third price-quality paths (DPP3), which apply to EDBs from 1 April 2020 to 31 March 2025. The Authority used the VoLL recently when determining the new Transmission Pricing Methodology (TPM) to commence from 1 April 2023. Both regulators using the Security and Reliability Council VoLL in their respective frameworks could indicate that a VoLL of $20,000/MWh would be sensible.

The New Zealand wholesale electricity market is an energy-only market without a price cap; this means prices can be infinitely high except in times of scarcity. The market is dominated by the gentailers who control upward of 80% of the generation capacity. This market dominance invites anti-competitive behaviour to increase prices, thereby maximising profits. We believe that capping spot prices will go a long way to mitigate the gains from such behaviour.

[8] The IEA New Zealand 2017 Review, page 103.

[9] Supra n8.

Introduce a capacity market

The IEA New Zealand 2017 Review noted that the New Zealand wholesale electricity market has no capacity market. A capacity market acts as an insurance policy against future blackouts. In the UK, the capacity market ensures the security of electricity supply by providing a payment for reliable sources of capacity. Participants in the capacity operate under a prescribed framework, the Capacity Market Rules.

Capacity markets are resource agnostic as they do not have an inherent resource preference. Participants bid into capacity auctions and are issued capacity agreements where they are successful bidders. The agreement acts as a 'forward' to supply energy at some time in the future. In the UK, this delivery date can be as far as three years away and is called the Base Residual Auction. Smaller auctions occur every year up to the delivery date to cover any shortfalls arising since the original bid three years prior.

A capacity market operates separately from the energy market, which provides the energy under the normal course. The capacity market encourages investments in alternatives such as renewable, peak thermal, and demand-side resources (e.g., instantaneous reserves). This investment suppresses prices within the energy market by meeting peak demand at a lower cost.

New Zealand had an energy reserve scheme until 2010 when it was repealed. The scheme enabled the Electricity Authority (at the time, the Electricity Commission) to contract for reserve generation and demand response. A reason for its repeal may have been that only one reserve generator was contracted at the time, the 155 MW diesel-powered Whirinaki station, owned by the government and operated by Contact Energy.[10]

Decarbonisation will likely cause more renewables to enter the New Zealand wholesale electricity market. Opening a second and separate capacity market to the wholesale energy market will go a long way to supporting new entrants, which is likely to reduce the gentailers dominance, particularly if the gentailers are prohibited from bidding incumbent generation into the capacity market.

Q24. Should an access pricing regime be looked at more closely to improve retail competition (beyond the flexibility access code proposed by the Market Development Advisory Group or MDAG)?

Not currently. We support full consideration being given to MDAG's proposed flexibility access code—

> 'There may also be a case for using a hybrid approach in some cases with market facilitation followed (if necessary) by regulation. This would allow issues to be initially explored in a less formal (and hopefully more collaborative) environment, followed by Code development to address outstanding issues. An example where a hybrid approach may be useful is development of a flexibility access code Option B6/D3.'[11]

Perhaps consideration might be given to bring forward this workstream to a date earlier than the proposed start of 2025[12].

[10] The IEA New Zealand 2017 Review, page 96.

[11] MDAG, Price discovery in a renewables-based electricity system, options paper, 2 December 2022, paragraph 13.6

[12] Supra n 11, Option B6, Table 2, on page 21.

Q25. What extra measures around electricity market competition, if any, do you think the government should explore or develop?

MBIE may like to consider measuring market concentration within the wholesale electricity market using the Herfindahl-Hirschman Index (HHI).

> *Herfindahl-Hirschman Index= the square of each participant's market share added together across all participants in the market*

The value of the HHI is that it measures market concentration (and, therefore, the level of competition in that market) based on the contribution of participants with the largest market share. Values vary between zero, indicating the market is perfectly competitive, and ten thousand in the case of a pure monopoly.

Q26. Do you think a single buyer model for the wholesale electricity market should be looked at further? If so, why? If not, why not?

No, a single buyer model is unnecessary as New Zealand has already made the transition to wholesale competition, though the wholesale market may be imperfect.

The presence of the gentailers, however, means there is a level of vertical integration that dilute the effectiveness of the wholesale market, i.e., the market is not as workable and competitive as it could be if there were no gentailers.

However, the presence of the gentailers does not necessitate that we adopt a single buyer model to make the transition to wholesale competition. Rather, as part of its review, MBIE must consider whether it is appropriate to continue allowing gentailers to operate in the New Zealand wholesale electricity market.

Closing comments

Electra welcomes all forms of embedded generation, current, new and emerging. We strive to ensure we adopt and implement systems that will support the distribution of energy while maintaining our ability to manage the security of supply for our connected customers from disruptions affecting our local distribution network.

Renewable and flexibility services are part of New Zealand's transition to a carbon-zero economy. They must be permitted to enter and operate in a wholesale market without encountering inherent barriers. A comprehensive review of the extent to which the electricity wholesale market is workably competitive is necessary to identify and remove barriers impeding investment.

The MBIE Issues Paper articulately outlines a series of complex issues in a considered manner and is a good first step in the review process. There are no easy solutions for the matters raised by MBIE, and most will require further consideration and extensive consultation. We are encouraged by the approach MBIE has taken in its Issues Paper as it considers how New Zealand is best to transition to a highly renewable electricity system.

Yours sincerely

Acting Regulatory and Pricing Manager