15 MARCH 2022: SUBMISSION TO ELECTRICITY AUTHORITY REGARDING RENEWABLE POWER SUPPLY

Stronger competition and affordable electricity is needed for a successful transition to a lower emissions economy

Entrust welcomes the Market Development Advisory Group's (MDAG) investigation into how the wholesale electricity market might operate under 100% renewable electricity supply. Projects such as this are important to prepare for the transition to a lower emissions economy, and to help the electricity sector play its part in tackling climate change.

If the transition to a lower emissions economy is not well managed consumers could suffer from higher electricity prices and weaker competition.

It is clear from MDAG's analysis, there is a significant likelihood hydro generator market power will increase and the electricity market will become materially more concentrated as the market's reliance on renewable electricity increases. MDAG are also clear competition will be at its weakest, and consumers most vulnerable to be taken advantage of, when market conditions are tight.

MDAG have done a good job of highlighting the importance that the competition issues the Electricity Authority has identified in its wholesale market review (WMR) are prioritised and addressed.

Point of clarification: Low emissions versus 100% renewable generation

In making this submission we note that while the Climate Change Commission (CCC) envisages an increased role for renewable electricity in the transition to a lower emissions economy, it has described 100% renewables as "aspirational". The CCC's advise reflects the potentially very large cost to fully displace non-renewable electricity and that "other actions may have a larger impact for the same cost". Entrust agrees with the concerns the CCC has raised.

It may be useful for MDAG to clarify the extent to which its view about the potential cost of moving to 100% renewables differs from the CCC. This could be particularly relevant to the MDAG project given the importance of energy affordability for electrification and transition to a lower emissions economy.

Submission summary

- **Energy affordability is key to managing the transition:** A highly competitive market and affordable electricity are both critical for consumer well-being and a successful transition to a lower emissions economy.

- **Lines companies have an important role to play in providing consumers with choice and innovative, least cost solutions.** Vector is New Zealand's largest

electricity and gas distributor, and is leading the way in solar panels, battery storage, and smart technology initiatives to meet the needs of consumers.[1]

- **Entrust is involved in initiatives that promote lower emissions and benefit our local community, including the 346,000 electricity consumers in central, east and south Auckland trust area.**

- **Entrust agrees with MDAG the electricity market could become less competitive** if the transition to a lower emissions economy isn't well managed. We support focus on the risk that hydro generator market power will increase as part of the next stages of the MDAG project.

- **The next stage of the MDAG project should identify policy options which promote stronger competition** and ensure prices genuinely "reflect real supply and demand conditions".

- **Structural reform is needed:** Entrust reiterates from our WMR submission[2] that structural reform is the best way to deliver a fully competitive and thriving market.

Entrust's submission

Lines companies have an important role to play on the demand-side

Entrust welcomes MDAG's recognition of the critical role of electricity users and the demand-side in the transition to a lower emissions economy, including in reducing system (network) costs, managing spot price exposure, and placing a competitive discipline on the wholesale market.

Entrust similarly welcomes the Electricity Authority's comments to the Economic Development, Science and Innovation (EDSI) Select Committee that it wants to "[harness] the role of distribution in the transition" and "ensure that there aren't barriers to that occurring".[3]

Entrust has raised the importance of demand-side participation, and the role lines companies can play, in submissions for example to the Commerce Commission[4] and the Climate Change Commission.[5]

Entrust is involved in many projects which support lower emissions and, as 75.1% shareholder in Vector, supports their focus on new technology initiatives and innovation. Vector is leading New Zealand in creating a new energy future through its Symphony strategy which puts consumers at the heart of the energy system, and which leverages a range of value streams. Vector owns the largest electricity network in New Zealand and is majority-owned by Auckland's consumers. The Vector group also includes Powersmart, an established solar developer operating in New Zealand and the Pacific, and HRV, one of New Zealand's leading in-home energy solutions providers.

Vector undertook New Zealand's largest electric vehicle (EV) charging trial between 2019 and 2021. The trial successfully smoothed demand peaks and highlighted the

[1] As well as related initiatives such as planting more than 26,735 native trees and shrubs to date, through Vector's Urban Forest Initiative.
[2] https://www.entrustnz.co.nz/media/98100/2021-12-22-Submission-Wholesale-market-review.pdf
[3] https://www.facebook.com/EDSISCNZ/videos/613768709722915
[4] https://www.entrustnz.co.nz/media/70492/commerce-commission-and-ea-contestable-services-project-tor-12042019-1.pdf
[5] https://www.entrustnz.co.nz/media/89547/Entrust-Submission-to-Climate-Change-Commission-25-March-2021.pdf

opportunity to take advantage of daily spot price volatility (charging batteries when prices are low).

Entrust is involved in initiatives that promote lower emissions and benefit our local community

Entrust gets involved in many projects and initiatives each year which support emission reductions.

For example, we have an agreement which commits Vector to spend $10.5 million each year on projects in the Entrust district. Historically this fund has been used for undergrounding projects, however from 2015 the parameters around the fund were changed and extended to include new technology initiatives such as solar and battery and EV chargers. The programme is now known as the Energy Solutions Programme.

This programme has included establishment of 25 EV chargers around Auckland so far. It also includes installation of solar panels and battery packs on some of Vector's zone substations to reduce the energy consumption from the grid.

Entrust and Vector also jointly committed to the development of a smart grid solution at Kawakawa Bay. The network in this area is exposed to significant geographical challenges. The smart/micro-grid, consisting of a solar and battery system is intended to reduce the outage times experienced by residents in Kawakawa Bay.

Other initiatives have included launch of a "Future of Energy" campaign in which Auckland's most deserving families, community groups and schools were nominated to win the use of a Vector solar system featuring a Tesla Powerwall battery for 10 years.[6] The 130 winners of this initiative have all had Telsla Powerwall batteries installed and are benefiting from lower emissions and savings on their power bills.[7]

Successful transition to a lower emissions economy requires a highly competitive market and affordable electricity prices

MDAG has highlighted well that competition "is a critical issue and it should be considered further". Entrust agrees with MDAG that while a lot of new, small renewable generators could emerge there is a strong risk hydro generator market power will increase, and market concentration will get worse if the transition is not well managed.

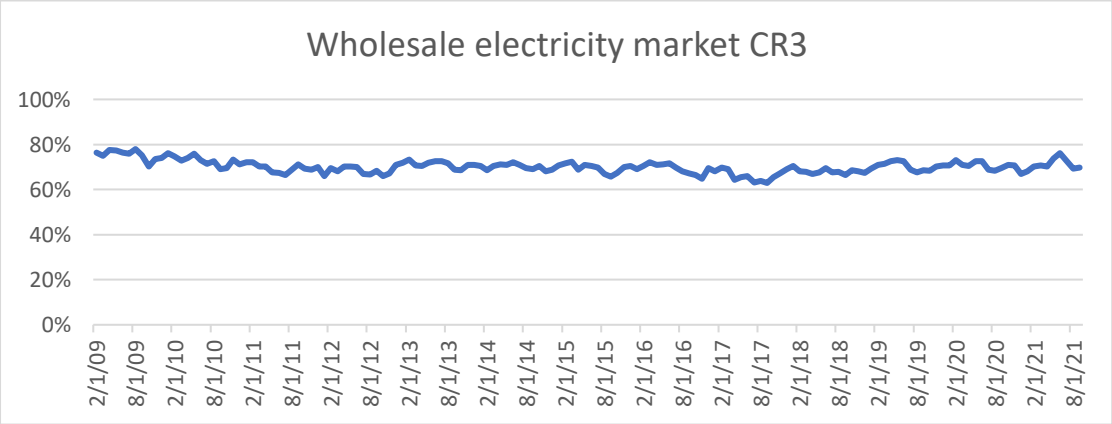
MDAG's competition assessment should be considered in light of the Authority's WMR and the recent release of a UMR survey which identified market participant perceptions that competition in the electricity market is weak. The Authority's WMR principal findings include that competition is weaker than it should be and there is evidence of increasing exercise of market power.

Given MDAG's expectation that hydro generator market power will increase, it is notable the Authority has determined "The market is dominated by a few large firms, with Meridian needed to meet demand over 90 percent of the time".

The Authority's WMR finding that "The HHI for generation in New Zealand has been hovering around 2,000 since 2014" meets the definitions of a concentrated market used by international regulators. For example, the UK Competition and Markets Authority defines a market with an Herfindahl–Hirschman Index (HHI) above 2,000 as highly concentrated and between 1,000 and 2,000 as concentrated.

[6] https://www.vector.co.nz/articles/dozens-of-auckland-schools-connected-to-the-future
[7] For more on Entrust's community interests refer to: https://www.entrustnz.co.nz/community/

The wholesale electricity market also meets the Commerce Commission's definition of a "concentrated market" as a market where the three largest firms have a total market share of 70% or more (CR3).[8]



A key measure for MDAG to consider is the percentage of long-term storage capacity currently held by incumbent generators, particularly Meridian, and how this percentage could increase in the future without coal or gas generation and storage. It would also be useful for MDAG to consider the extent to which new renewable generation can be expected to be built by new entrant and independent generators versus the incumbent generators, and whether this should be expected to result in a positive or negative trend overtime in market concentration measures, such as HHI and Concentration Ratios.

Recommendations

Entrust **supports** MDAG's view that:

- the state of competition "is a critical issue and it should be considered further". This could include quantitative assessment of how much market concentration could change as the market transitions; and

- the contracting (hedge) market will become increasingly important, and new risk management products will be needed.

Entrust **recommends** MDAG consider the following matters as part of the next stages of the 100% renewables project:

- How would an increase in hydro generator market power affect the acceptability of high prices during dry-year conditions? What protections or surety is needed to ensure prices reflect genuine scarcity and consumers won't be over-charged or taken advantage of?

- If hydro generator market power increases, would consumers see the full benefits of low prices when electricity supply is plentiful, including when hydro dams are spilling water? What are the implications for forms of demand-side participation such as battery storage and peak to off-peak load shifting if prices don't drop as low as they should?

- What are the implications of an increase in the amount and frequency of hydro spill, under 100% renewables if large hydro generators have incentives to "economically

[8] Source: www.emi.govt.nz

withhold" electricity generation, as has been telegraphed in the Authority's December 2019 Undesirable Trading Situation decision and WMR?

- What options would promote competition and offset the prospective increase in hydro generator market power? Our WMR submission suggested it could be use useful to model different structural options to test the competitive outcomes that could be expected.

Concluding remarks

Entrust wants to ensure electricity is supplied in an efficient and affordable way to all consumers and its beneficiaries, including the 346,000 households and businesses in Auckland, Manukau, and parts of Papakura and eastern Franklin.

This requires that energy services are supplied at least cost to the economy as a whole, consistent with sustainable development. It also requires strong pressure on electricity costs and prices, especially in areas of new investment, so electricity suppliers find innovative, least cost solutions.

The MDAG 100% renewables project coupled with the Authority's WMR work, and UMR survey findings, demonstrate there are substantial competition problems in the electricity market and, unless these problems are addressed, they will get worse.

The Government's climate change ambitions and the successful transition to a lower emissions economy, hinges on competitive, affordable electricity which encourages greater reliance on electricity and electrification of the economy. Issues of energy affordability have become increasing acute in light of the impact of COVID on the economy, and on Kiwi businesses and households.

Kind Regards,

Alastair Bell
Chair of Regulation and Policy Sub-committee

About Entrust
Entrust (formerly Auckland Energy Consumer Trust) is a private trust that owns the majority of Vector on behalf of its 346,000 beneficiaries.

Entrust owns 75.1% of shares in Vector. The shares are held in trust for energy consumer beneficiaries in Auckland, Manukau, northern parts of Papakura and eastern Franklin who are paid a cash dividend each year.

The organisation was created in 1993, to ensure that power lines remained in the control of electricity consumers and was established under a trust deed for 80 years on behalf of electricity consumers in the area that used to be served by the Auckland Electric Power Board.