Submission by Genesis Energy Limited

ON

Promoting competition in the wholesale electricity market in the transition toward 100% renewable electricity

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Consultation – Promoting Competition in the Wholesale Electricity Market in the transition toward 100% renewable electricity

Genesis Energy Limited (**Genesis**) welcomes the opportunity to provide feedback on the Electricity Authority's (**Authority**) consultation paper: *Promoting competition in the wholesale electricity market in the transition toward 100% renewable electricity* dated 12 October 2022.

The wholesale electricity market has served New Zealand well …

Genesis agrees with the Authority that neither fundamental structural reform of the wholesale electricity market nor regulatory intervention through the imposition of wholesale electricity price caps or market share restrictions, are justified. We also agree that while there are challenges to building new renewable generation, these do not arise from the exercise of market power or a lack of competition in the wholesale electricity market.

Often missing from the commentary and analysis on significant electricity industry issues, is the acknowledgement that New Zealand's electricity system has delivered reliable and low-cost electricity for more than a decade.

The World Energy Council's Energy Trilemma Index, which ranks countries on their ability to provide sustainable energy through three dimensions: energy security, energy equity (accessibility and affordability), environmental sustainability, has consistently ranked New Zealand in the top 10 countries and in 2022, New Zealand was ranked eighth overall and first in Asia.[1] This consistency is partly down to our country's natural resources and high proportion of renewable electricity generation capacity. It is also because we have a well-functioning electricity market that has fostered competition and innovation and provided universal access to reliable and affordable electricity.

[1] See: https://trilemma.worldenergy.org/#!/energy-index (as at 14 December 2022).

While markets, as the Authority in the issues paper and the Ministerial inquiry into the 9 August 2021[2] each acknowledge, are not perfect, the wholesale electricity market has served New Zealand well to date. For over a decade, there has been almost no significant disruption to power supply and retail electricity prices have remained relatively flat in real terms, with prices close to 2011 levels in real terms.[3]

And the market works as it should when hydro storage is abundant. In November 2022, for example, this abundance allowed Genesis to reduce thermal generation at Huntly Power Station to record low levels, saving around 300,000 tonnes of carbon emissions. This contributed to New Zealand's electricity generation from renewable sources reaching 99% for the first time.

The current market settings, together with expectations of future wholesale electricity prices have also provided the price signals for building new renewable electricity generation. Billions of dollars of capital are being allocated to building new renewable generation and a large number of new entrants competing with incumbents to develop projects across all fuel sources. While there is some uncertainty around the timing and extent to which these projects will be built, we agree with the Authority that there is no evidence of any anti-competitive behaviour discouraging or impeding new entrants or the building of new projects.

We agree that the impediments to the development of new renewable generation by existing and new entrants arise from a range of factors such as: uncertainty arising from the NZ Battery initiative and the Tiwai aluminium smelter's future; grid connection resourcing and process constraints; and the time required to obtain Resource Management Act (**RMA**) consents. This is consistent with other views. The Boston Consulting Group for example, in an independent report on how the electricity sector can best contribute to New Zealand's decarbonisation objectives (**BCG Report**), concluded that the RMA posed the greatest risk to achieving the 4.8 GW of utility-scale renewable investment required this decade. Accordingly, BCG recommended that consenting frameworks which enable the rapid development of renewable generation be prioritised.[4]

While the current system has served New Zealand well, there is no room for complacency.

The Ministerial inquiry into the 9 August 2021 electricity supply disruption observed that:[5]

> *The New Zealand Electricity Market began on 1 October 1996, 25 years ago. Over this period, it has evolved in response to periodic reviews and challenges such as dry years and events such as 9 August. We believe it remains the best model for delivering the outcomes expected from the sector. We are keen to see it improved.*

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[2] Ministry of Business, Innovation and Employment *Investigation into electricity supply interruptions of 9 August 2021* (2021).

[3] See: https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/energy-prices/ (as at 14 December 2022).

[4] Boston Consulting Group *The Future is Electric - A Decarbonisation Roadmap for New Zealand's Electricity Sector* (2022).

[5] Ministry of Business, Innovation and Employment *Investigation into electricity supply interruptions of 9 August 2021* (2021) at page 21.

> *Yet the electricity sector in New Zealand will need to adapt rapidly if it is going to maintain its social license to operate. If people lose trust in the market and market participants, perhaps because of pricing or reliability, then the political process may explore alternatives to the current market. Such alternatives exist and are being used in other jurisdictions.*

We agree and discuss below the risks to New Zealand's energy security and decarbonisation objectives if the market does not evolve.

… But the market must evolve to support energy security and the transition to a lower emissions economy

While most of New Zealand's electricity is generated from renewable sources (82%), only 28% of New Zealand's total energy consumption is from renewable sources. This represents a significant opportunity, with approximately 30% of New Zealand's gross emissions coming from sources that can be decarbonised by the electricity sector. In fact, electrifying transport and heat, will be the most significant contributors to New Zealand achieving net zero carbon by 2050.[6]

Doing so would:

(a) Deliver an estimated 70%, or 22.2 Mt CO2-e per year, of the gross emissions reductions required to achieve New Z New Zealand's net zero carbon target by 2050.

(b) Reduce New Zealand's reliance on foreign oil imports, increasing energy independence and resilience to global energy shocks.[7]

However, the increasing level of intermittent renewable generation that is forecast and the associated carbon costs for thermal back-up were not anticipated when today's wholesale electricity market was designed.

While the Authority acknowledges in the issues paper the impact of carbon costs on electricity prices and generator earnings, and the trade-off between the increased cost to consumers and the displacement of thermal generation through higher prices, the risk that this poses to the decarbonisation of New Zealand's energy system does not appear to have been considered.

[6] Boston Consulting Group *The Future is Electric - A Decarbonisation Roadmap for New Zealand's Electricity Sector* (2022).
[7] Ibid.

Genesis has consistently raised concerns that:[8]

(a) A consequence of the current design is that companies that generate only from wind, water or solar will continue to make windfall profits when New Zealand requires thermal generation as back-up.

(b) The current market model does not provide the required price signals and incentives to keep thermal generation available to provide security of supply.

(c) Higher levels of intermittent renewable generation will result in more volatile wholesale electricity prices, increasing the needs and costs for all participants in managing risks.

(d) Left unaddressed, high wholesale electricity prices risk disincentivising or hindering the use of electricity to decarbonise sectors like transport and industrial heat.

The implications of the above are lower energy security and reliability, and slower progress to a lower emissions economy.

Similarly, while the Authority has proposed workstreams to assess whether there is an emerging issue of insufficient firming capacity for new renewable generation, the importance of dry year risk support to a well-functioning wholesale market and New Zealand's energy security is not discussed.

While root and branch reform to the wholesale electricity market is not necessary, we consider that improvements to the market are required to ensure back-up thermal generation is available when needed to support the reliable operation of our increasingly renewable electricity system. The existing energy only market, in which generators are only paid for the volume of electricity they produce, will do an increasingly poor job of this as the market follows its current path towards an ever-higher proportion of intermittent renewables.

A targeted well designed transitory solution is required

Bilateral 'swaption' contracts between Genesis and market participants have played this role over many years but these expire at the end of 2022. Genesis has attempted to fill this impending vacuum by introducing Market Security Options (**MSOs**) which, if taken up, should help provide security of supply and price stability.

If this is not addressed through the MSOs or a similar product, the next best way to mitigate this risk would be to add a form of capacity, or reserve energy, mechanism to our energy only market for a period of time. Such mechanisms are used overseas and would see market participants paying to ensure thermal generation remains available, as it operates less but

[8] Genesis submission to the Ministry for the Environment - *Reforming the New Zealand Emissions Trading Scheme: Proposed Settings* (2020), Genesis submission to the MBIE - *Accelerating renewable energy and energy efficiency* (2020), Genesis submission to the Climate Change Commission's *2021 Draft Advice* (2021), Genesis submission to the Environment Committee on *Price Discovery under 100% Renewable Electricity Supply* (2022), Genesis submission to the Environment Committee on the *Government Emissions Reduction Plan and Emissions Budget* (2022).

remains critical in times of shortage. The BCG Report recommended that a "limited dispatch mandate" be investigated to ensure slow start thermal units can provide capacity when needed through the transition to 2030.[9] And while the Market Development Advisory Group does not currently consider these mechanisms as preferred options to facilitate the shift to a more renewables-based electricity system, it concludes that a mechanism like a "warming contract" could be implemented quickly (one year lead time) and would in principle support the transition to a more renewable electricity system.[10]

Such a mechanism will need to be designed carefully, applying lessons from the New Zealand and overseas experiences, to reduce the risk of perverse incentives or unintended consequences. However, as the BCG Report concluded, a well-designed and targeted transitory mechanism:

(a) Employs existing market mechanisms and is a relatively direct measure to influence energy assurance.
(b) Represents a pragmatic and low-cost solution to ensuring slow-start thermal generation is available when our electricity system needs it.

Amongst the Authority's options to facilitate investment in new renewable generation, is its intention to analyse: thermal generation transition risks to 2030; thermal generation's role in hydro firming and more prevalent solar and wind generation; and options to mitigate these risks. Accordingly, we ask that the Authority include in this analysis mechanisms for ensuring that back up thermal generation is available when needed to support New Zealand's energy system.

Additional Information Disclosure Obligations Not Supported

If there is significant confusion concerning the disclosure obligations in clause 13.2A of the Code, then we agree that further consultation on the disclosure obligations is merited. However, no evidence has been presented that demonstrates that this is the case or that the current disclosure regime (which was only recently amended) is not fit for purpose.

Information disclosure regimes use materiality thresholds to strike the appropriate balance between the costs and benefits of disclosure. While this will need to be monitored over time, clause 13.2A of the Code achieves the right balance. Imposing additional obligations on generators to disclose information that affects, or may affect, offers of generation capacity - but which have no material impact on wholesale electricity prices - is unduly onerous, adds unnecessary administrative and compliance costs, with no discernible benefit to promoting wholesale market competition.

To the extent that there are perceived information gaps that imperil security of supply assessments or that are not addressed by the Planned Outages Co-ordination Process website (POCP), then the system operator should be asked to confirm this and consult with the industry where appropriate (as it has in the past).

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[9] Boston Consulting Group *The Future is Electric - A Decarbonisation Roadmap for New Zealand's Electricity Sector* (2022).
[10] Market Development Advisory Group *Price discovery in a renewables-based electricity system Options Paper* (2022).

We would, however, support a centralised platform to which disclosure information under the Code can be disclosed. We suggest that this either contain a link to the Gas Industry Company's website for gas market disclosures or that, with the agreement of the GIC and the gas industry participants, those disclosures be made on the centralised platform.

Summary

New Zealand's electricity system has delivered reliable and low-cost electricity to date, and the wholesale electricity market has been central to this. Fundamental structural reform is not justified, and the current settings are sufficient to address the misuse of significant market power or other anti-competitive behaviour. While there are current challenges to building new renewable generation, these do not arise from the exercise of market power or a lack of competition in the wholesale market. Improvements to the market are, however, required to ensure that back-up thermal generation is available when needed to support the reliable operation of our increasingly renewable electricity system. A well-designed and targeted transitory mechanism, such as warming contracts, would be a pragmatic and low-cost solution to provide this support. A failure to make these improvements will heighten New Zealand's energy security risks and slow progress to meeting its decarbonisation objectives.

Please contact me should you have queries or wish to discuss our submission further.

Yours sincerely

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