Meridian submission

Measures for transition to an expanded and highly renewable electricity system

2 November 2023

This submission by Meridian Energy Limited (**Meridian**) responds to an issues paper published by the Ministry of Business, Innovation & Employment (**MBIE**) on measures for transition to an expanded and highly renewable electricity system.

For any questions relating to this submission, please contact:

Nothing in this submission is confidential.

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Executive Summary

The issues paper on measures for transition to an expanded and highly renewable electricity system was published prior to the election and under a Labour-led government. While we still do not know the exact composition of the incoming government it is clear that there will be a change. Rather than speculate on the policy direction of the incoming government, this Meridian submission responds at face value to the questions posed in the issues paper. While some of the questions asked may no longer be of interest or no longer relate to the policy priorities of the new government, we respond regardless in the hope that our submission might help to inform officials and the advice they provide to both the incoming government and future governments.

In general, Meridian queries what problem a government strategy or plan is trying to address. Aotearoa has an energy system consistently ranked one of the best in the world across measures of sustainability, security, and equity. The World Energy Council's most recent trilemma index gave the New Zealand energy sector a AAA rating and ranked it number eight in the world – the only country outside of Europe and North America in the top ten. Outcomes in the New Zealand energy sector are delivered by market participants who invest private capital. While the rule making and oversight of the expert economic regulators is critical to the success of energy markets and the long-term benefit of consumers, it is not clear what role there is for government strategies or plans unless they identify and seek to address immediate problems that are outside the jurisdiction of the expert regulators. In our experience, investors respond to market signals, not government strategy documents.

In Meridian's opinion, the existing work programmes of the expert regulators are comprehensive, and they should continue to carry out their functions. If other parts of government second guess existing process and recent regulatory decisions, there will be a loss of confidence in those processes and increased uncertainty in the energy markets, to the detriment of consumers.

Meridian would prefer the government to focus on immediate priority actions, including:

- **Resource management reforms**, which are of paramount importance to the electricity industry and for the achievement of New Zealand's emissions reduction objectives. Reform ought to deliver genuine and tangible increases in the rate of

consenting and reconsenting renewable electricity generation – otherwise it presents only an uncertainty and potential obstacle to emissions reduction.

- **An emissions or total energy goal rather than an aspirational goal of 100 percent renewable electricity by 2030, as well as clarity on whether the Government intends to invest directly in a mega-scale dry year storage and peak capacity project**. Just over 90 percent of New Zealand's electricity generation was from renewable sources in the four quarter moving average to June 2023. Recent and planned investments in renewable generation are expected to lift that to around 96 percent renewable generation within a decade without any intervention. Prematurely squeezing remaining emissions out of the electricity sector would come at significant cost to taxpayers and/or consumers, would not achieve significant emissions reductions for the cost, and might actually be a step backwards if it slowed electrification of the rest of the economy due to increased costs and reduced security of supply. Existing policies, while well intentioned, have also created uncertainty and have had a chilling effect on private investment in peak capacity and storage (both generation and demand response). It is extremely difficult to make a business case for private investment while the threat of government investment looms over the top. Additional peak capacity investment is needed now, not in the timeframes contemplated by the previous government's New Zealand Battery Project.

- **Demand side measures to accelerate electrification and low-cost emissions reductions, primarily in the industrial and transport sectors**. The Government Investment in Decarbonising Industry (GIG) fund has been successful at bringing forward investments to decarbonise industrial processes, primarily through electrification and use of biofuels. While GIDI is a policy of the previous government, without some support or incentives the pace of industrial emissions reduction activities will slow. If the Emissions Trading Scheme is the only tool used, the settings will need to be adjusted to further constrain unit supply, lift the expected price path, and increasingly expose industrial businesses to those emissions prices. There are also barriers to the roll out of nation-wide electric vehicle (EV) charging infrastructure. Work by the Electricity Authority on distribution pricing reform and an access regime for new connections to distribution networks would assist but take time to develop and implement. Therefore, in the near term there may be a role for the incoming Government to help overcome network costs and ensure the roll-out of public charging infrastructure keeps pace with EV uptake.

Addressing these immediate priorities would support investment in an expanded and highly renewable electricity system.

Meridian is part of a group of energy sector participants and stakeholders that have developed an Energy Sector and Government Decarbonisation Framework. If agreed and established, this Framework could provide a forum for the sector and government to collaborate on lasting policy changes that will transform and decarbonise Aotearoa's energy system. We look forward to working with the incoming government on this Framework and on the future of the energy policy work programme.

Growing renewable generation

Chapter 2: Accelerating supply of renewables

Meridian agrees that electrification of industry and transport, and economic growth, will significantly increase the demand for electricity, and require significant new investment in renewable electricity generation and network infrastructure.

Significant investment is occurring now, and various investigations have found that the pipeline of renewable generation projects across the sector is more than adequate to meet forecast demand growth to 2030 and cover the retirement of baseload fossil-fuelled thermal generation, resulting in 98 percent renewable electricity generation by 2030.

Meridian agrees with recent work by the Electricity Authority highlighting impediments to investment in renewable electricity generation. In Meridian's opinion, the main impediments to generation investment are:

- resource consenting requirements and uncertainty regarding the resource management reforms;
- uncertainty regarding the Government's aspirational renewable electricity goals and intentions to intervene directly in the market to supply electricity generation; and
- the regulatory environment for future fossil gas supply and flexibility (including storage) to support peaking generation through the transition.

Meridian's views on these topics are set out in further detail in our submission on the Electricity Authority's paper on promoting competition in the wholesale electricity market.[1] In short, the electricity market relies on significant investment of private capital to deliver generation to meet growing electricity demand. The threat of Crown intervention in the market via a mega-scale flexibility project, risks chilling private investment in other forms of flexibility provision, both for peak and dry year solutions. It reduces incentives to invest in demand flexibility and crowds out potential investment in additional fast-start gas peakers or other sources of flexibility which could be required before 2030 to ensure a secure and affordable supply of electricity (well in advance of the timeframes for delivery of any Crown project).

[1] Available at: https://www.ea.govt.nz/documents/2297/Meridian_submission_-_Promoting_competition_in_the_wholesale_electricity_marke_TIukYsn.pdf

The MBIE issues paper identifies a lot of the work already underway to facilitate investment in renewable generation and demand response. Meridian considers the existing work programmes to be comprehensive and that no further measures are required.

In Meridian's opinion, there is no reason for the Government to consider subsidies for new renewable generation (regardless of the mechanism used). It is not clear what problem this would be trying to solve. The issues paper states that:

> "If existing market arrangements are not expected to deliver sufficient renewable generation at a scale to displace existing fossil fuel use, meet new demand growth as well as maintain affordability and security of supply during transition, then there are a range of mechanisms that could be considered to support investments."

It is clear from the start of this statement that this chapter of the issues paper is a collection of solutions looking for a non-existent problem. Existing market arrangement *are* delivering sufficient renewable generation at a scale to displace fossil fuel use and meet demand growth while maintaining affordability and security of supply. Both incumbent generators and new entrants are making massive investments. By our estimate, generators collectively have committed around $3 billion in new generation since 2020, and another $2 billion will very likely be committed over the next few years. The new generation built, committed, or highly likely since 2020 adds around 7 TWh of new generation to the power system (approximately a 16 percent increase on all current supply). This investment is occurring despite very minimal underlying demand growth, i.e. it is occurring in anticipation of future demand.

Subsidies would be a cost to taxpayers that delivered no net gain in renewable generation. Renewable generation development is already economic and lower cost than other non-renewable generation options. The Emissions Trading Scheme already incentivises renewable generation investment relative to fossil fuelled alternatives. New Zealand already has a high market share of renewable generation, and that market share is growing because of the favourable economics. Subsidised renewable generation would simply displace lower cost renewable options that would otherwise have been built without any subsidy. Subsidies of any form also risk market distortions that then require further interventions to correct.

The absence of generation subsidies has long been a strength of the New Zealand electricity market. Generators are proud to deliver investment free of subsidy to meet demand at least cost. We understand that generation developments need to be commercially sound. It

should be telling that the country's largest electricity generator rejects the potential for free taxpayer money. It is simply unnecessary and not in the interests of taxpayers or consumers.

The only parties asking for renewable generation subsidies seem to be international offshore wind developers that are used to doing business in Europe where generation subsidies of one form or another are the norm. The costs of offshore wind development are currently prohibitive. That may change in future. However, subsidies to bring froward offshore developments would only displace lower cost onshore generation projects and result in no net gain for the New Zealand power system.

To be clear, contracts for difference, power purchase agreements, and other financial instruments are actively traded in the market now to help generation developers stabilise their revenues (and provide price certainty for purchasers). However, these are agreed on commercial terms as opposed to the taxpayer funded, favourable terms with a government counterparty that seem to be contemplated by the issues paper.

Consultation questions
1. Are any extra measures needed to support new renewable generation during the transition?
No.
2. If you think extra measures are needed to support renewable generation, which ones should the government prioritise developing and where and when should they be used? What are the issues and risks that should be considered in relation to such measures?
Meridian does not think such measures are needed.
3. If you don't think further measures are needed now to support new renewable generation, are there any situations which might change your mind? When and why might this be?
Such measures could be considered if there is ever evidence that investment is not occurring in response to existing market signals. There is no evidence of this currently.

Chapter 3: Ensuring sufficient firm capacity during the transition

Meridian agrees with the observation in the issues paper that flexible, dispatchable capacity plays a critical role to ensure security of supply. Meridian's own internal modelling is well aligned with that of the Climate Change Commission, BCG, and MDAG indicating an ongoing role for some fast start peaking generation in the foreseeable future.

Meridian disagrees with the statement in the issues paper that demand response "cannot economically cover multi-day wind and solar generation intermittency or provide firming for dry years." That has not been our experience to date with industrial demand response and we would expect demand response to eventually displace the few remaining fossil gas peakers in the system as emissions prices increase and large-scale demand response resources become more economic.

As examples of the potential of industrial demand response, Meridian recently agreed a new demand response contract with the New Zealand Aluminium Smelter for 50MW of sustained on call demand response to help cover a dry year. This response can be called in advance of other smelter demand response triggered by lake levels, arresting the decline of storage levels earlier than would otherwise be the case. Meridian is also working with:

- dairy processors like Open Country Dairy, with whom we have agreed a contract for up to 27MW of demand response; and
- Woodside Energy, Mitsui & Co, and Ngāi Tahu to partner on development of a world-class hydrogen and ammonia export facility in Southland called Southern Green Hydrogen.

The economics of any investment in hydrogen production in Aotearoa are finely balanced and we consider the key factor to be the flexibility of electrolysis. Financially rewarding that flexibility can reduce the total energy input cost and make hydrogen production in New Zealand commercially viable. Concept Consulting has modelled the potential for flexible electrolysis plant in Southland with up to 600MW of demand response capability, finding that: [2]

> "… large-scale flexible demand from a facility such as a hydrogen production plant can potentially deliver significant system flexibility benefits. Coupled with renewable overbuild, and assuming the plant could manage significant reductions in output during dry years, such a facility could help New Zealand cost-effectively achieve 100% renewable generation."

Further details are set out in Meridian's submission on MBIE's Interim Hydrogen Roadmap consultation.

In Meridian's opinion the existing energy-only market provides the right incentives for ongoing investment in flexible, dispatchable capacity. Some capacity challenges have

[2] https://www.concept.co.nz/uploads/1/2/8/3/128396759/h2_flex_analysis_v3.0.pdf

recently emerged in the New Zealand market, specifically relating to the operational coordination of slow-start thermal units and other resources that need to make commitment decisions ahead of real time based on forecast information. An underlying driver of these challenges is the government policy impediments to investment in peaking and upstream gas supply (discussed in under Chapter 2 above). Meridian supports the work of the Electricity Authority to address the current peak capacity challenges.

Meridian does not think a capacity market mechanism or equivalents like a retailer reliability obligation would benefit consumers. In Meridian's opinion a capacity mechanism would lead to higher prices because of:

- a tendency to be risk averse and over procure;
- weaker incentives to select the most cost-effective mix of supply and demand response options; and
- less ability to facilitate and reward innovation – the most important source of cost savings in the long-run – because of the higher level of centralised decision-making and prescription.

Capacity market designs can also give rise to:

- questions over whether procured capacity will in fact be available and generate when needed and therefore a likely need for the contemporaneous introduction of detailed penalty regimes that end up serving much the same purpose as scarcity pricing in an energy-only market;
- susceptibility to increased lobbying and the risk of short-term political influence and therefore the risk of increased cost and uncertainty due to frequent changes to any capacity procurement regime.

Any decision to fundamentally redesign the wholesale market would create significant transition costs and uncertainty. Market redesign would likely take several years to develop and implement. During that transition period there would be considerable generation investment uncertainty with potential implications for emissions reduction, security of supply, and affordability – this could be particularly problematic given the forecast demand growth and generation investment need over the coming decades.

The Electricity Authority has considered this issue in detail and Meridian agrees with the conclusions. In Meridian's opinion there is no need for central government to further consider mechanisms like this.

Consultation questions
4. Do you think measures could be needed to support new firming/dispatchable capacity (resources reliably available when called on to generate)? If yes, which kind of measures? What needs do you think those measures could meet and why?
No.
5. Are any measures needed to support storage (such as battery energy storage systems or BESS) during the transition? If yes, what types of measures do you think should be considered and why?
No.
6. If you answered yes to question 4 or 5 above, should the support be limited to renewable generation and renewable storage technologies only or made available across a range of other technologies? Keep in mind that fossil fuels are generally the cheapest option for firming, though this may change over time as renewable options (particularly batteries) become more efficient and affordable.
N/A.
7. If you answered yes to question 6 above, what are the issues and risks with this approach? How could these risks and issues be addressed?
N/A.

The issues paper raises specific concerns regarding the role of fossil gas during the transition. Meridian comments on this issue in detail in our submission on the Gas Transition Plan issues paper. Like the Climate Change Commission, Meridian sees an ongoing role for gas generation to cover peak needs and support security of supply and affordability while New Zealand expands the use of its electricity system to decarbonise other areas such as transport and industry.

In the first instance the Government should consider how to undo the harms of previous policy settings that have eroded the business case for any investment in gas peaking generation. The policy settings that have chilled investment in gas peaking include:

- the New Zealand Battery Project;
- the aspirational goal of 100% renewable electricity by 2030; and
- the ban on offshore exploration.

The Government should also consider what changes are needed to overcome current impediments to investment in upstream gas supply and flexible storage.

Further options to actively incentivise gas peaking and upstream investments should only be contemplated if there is evidence that, even when existing policy impediments are removed, there remains a clear risk to security of supply that will not be solved by the market. It is unclear at this stage whether removal of impediments will be sufficient, but it is a low

risk first step. Additional measures to actively support gas peaking could risk keeping fossil gas in the electricity market for longer than would otherwise have been the case.

Consultation questions
8. Are any measure(s) needed to support existing or new fossil gas fired peaking generation, so as to help keep consumer prices affordable and support new renewable investment?
Yes.
9. If you answered yes to question 8 above, what measures should be considered and why? What are the possible risks and issues with these measures?
Removal of existing policy impediments to investment in peaking. Removal of these impediments is low risk. It is unclear at this stage whether any further measures would be required.
10. If you answered yes to question 8 above, what rules would be needed so that fossil gas generation remains in the electricity market only as long as needed for the transition, as part of phase down of fossil gas?
This is only a risk if support is actively provided by the Government. Removing policy impediments does not give rise to this risk.
11. Are there any issues or potential issues relating to gas supply availability during electricity system transition that you would like to comment on?
No.

Chapter 4: Managing slow-start thermal capacity during the transition

Like the Electricity Authority and MDAG, Meridian considers that baseload thermal plant that is not already scheduled for closure will remain operational as long as there is a need, and there are opportunities to earn revenue sufficient to cover costs. The Authority will monitor the sufficiency of thermal capacity during the transition and its recent assessments indicate low risks associated with thermal retirement.

Meridian sees some potential merit in a minimum notice period for reductions in plant capacity. However, this would need to be carefully designed to deliver benefits over and above existing wholesale market information disclosure obligations.

Meridian agrees with recent assessments, including by the Electricity Authority that a strategic reserve scheme would be challenging to implement, is not needed to mitigate risks during the transition, and is unlikely to benefit consumers.

Meridian commented on these options in response to the Electricity Authority's paper on ensuring an orderly thermal transition.[3] Meridian queries whether reconsideration of these issues by MBIE adds any value or simply undermines regulatory certainty and confidence in the regulator.

Consultation questions
12. Do you agree that specific measures could be needed to support the managed phasedown of existing fossil fuel plants, for security of supply during the transition?
No.
13. If you answered yes to question 12 above, what measures do you think could be appropriate and why? What conditions do think you should be placed on plant operation? For example, do you have any views on whether there should be a minimum notice period for reductions in plant capacity, and/or for placing older fossil fuel plant in a strategic reserve?
N/A.
14. If you answered yes to question 12 above, what are the issues and risks with these measures and how do you think these could be addressed?
N/A.

Chapter 5: The role of large-scale flexibility

Meridian agrees that the participation of demand response in the market is likely to be increasingly important and that large-scale flexibility can provide an economic alternative to new generation and storage investment. Meridian considers large-scale demand response will play a significant role in displacing fossil fuels to meet both peak capacity needs and dry year energy needs.

While real-time pricing and dispatch notification enable large industrial consumers to manage their exposure to high electricity prices, there are further opportunities for industrial consumers to commercialise their demand response capabilities and be rewarded accordingly. The issues paper notes several examples where bilateral contracts are rewarding industrial consumers for their services including the 50MW demand response agreement that Meridian agreed this year with the aluminium smelter. This can be called at Meridian's discretion and enables a dry year response sooner than would otherwise be the case under the pre-existing smelter demand response provisions in the main contract that are triggered at very low lake levels. Meridian also signed an agreement this year with Open

[3] https://www.ea.govt.nz/documents/3813/Meridian_j2hHnel.pdf

Country Dairy for up to 27MW of demand response. Meridian's Southern Green Hydrogen project also anticipates an extremely flexible electrolysis facility. Financially rewarding that flexibility can reduce the total energy input cost and make hydrogen production in New Zealand commercially viable while also helping New Zealand cost-effectively displace fossil fuels to manage dry years. Further information about the demand response we expect from this facility is set out in our response to the Interim Hydrogen Roadmap paper. In addition to Meridian's activities, we can see that others in the market are also exploring demand flexibility options with consumers (both at scale and through aggregation of smaller scale resources).

The Electricity Authority has also indicated that it will consider whether there is a need to introduce a new integrated ancillary service for longer periods than existing reserve products and to cover periods of higher than expected demand and lower than expected intermittent generation. This is similar to a proposal from the CEO Forum ahead of winter 2023. Meridian agrees that any new ancillary service would need to be technology agnostic, neutral between demand and supply side resources, and co-optimised with the spot market. Any such mechanism could be a further revenue source for large-scale demand response.

In Meridian's opinion, no further government actions are required to develop and encourage large-scale demand response. The existing commercial incentives on electricity market participants and large consumers are sufficient and we are observing increasing interest in demand response contracts. The parties tend to be relatively sophisticated, and therefore we doubt that generic information about the benefits of demand response would facilitate greater uptake. Bilateral contracts are inherently flexible to reflect the specific capabilities of any large consumer. Contracts commonly include:

- an availability payment, which the consumer receives regardless of whether the demand response is called upon; and
- additional revenue for any calls made, which act to offset loss of production.

In our experience, in aggregate this can be commercially appealing to the consumer while providing value to the electricity market participant by reducing peak or dry year exposure to spot prices.

There are two peripheral actions that the government could take to encourage large-scale electrification and therefore grow the potential market for large-scale demad response. The Government Investment in Decarbonising Industry (GIDI) fund has given rise to many new demand response opportunities as large consumers electrify their process heat. Any removal of this funding could slow the level of interest in large-scale demand response and

confine it to existing large electricity users. The extent to which a lack of GIDI funding would slow activity would be dependent on the price path under the emissions trading scheme and the extent to which industrial consumers are actually exposed to that emission price (as opposed to recipients of free industrial allocations of units).

Meridian has also been encouraging the Electricity Authority to regulate distribution pricing, which (unlike transmission pricing) is currently unregulated and varies significantly across the 29 network regions in New Zealand. A greater degree of standardisation in the pricing methodologies for new connections (including a standard approach to first mover disadvantage and sharing of common costs) would assist large consumers that are considering electrification and enable a better understanding of the total costs. In our experience, network costs can be a barrier to electrification as they are highly opaque and often make up a high portion of the total costs of a process heat electrification project.

Consultation questions
15. What types of commercial arrangements for demand response are you aware of that are working well to support industrial demand response?
Meridian has agreed and is exploring further commercial arrangements with a number of large industrial consumers. We are aware that other parties are doing the same.
16. What new measures could be developed to encourage large industrial users, distributors and/or retailers to support large-scale flexibility?
Meridian does not see a role for any direct government measures. However, large-scale demand response opportunities commonly arise when industrial consumers are electrifying. Therefore, policies that support the electrification of industrial process heat will grow the market and opportunities for large-scale demand response.
17. Do you have any views on additional mechanisms that could be developed to provide more information and certainty to industry participants?
No.

Competitive markets

Chapter 6: Workably competitive electricity markets

Meridian is aware of the Electricity Authority's views on how the market might evolve in future and the potential for the retirement of thermal generation to lead to an increase in market concentration for flexible generation or demand response resources.

We agree that ongoing monitoring of wholesale market competition is warranted. However, we see limited value in speculation about the future of the market. No one knows how the market will evolve over the coming years. The regulator should monitor the evolution of the market, but it would not make sense now to analyse (or attempt to solve) an unspecified problem that may or may not arise in future.

In Meridian's opinion, the assumptions underlying speculation that market power may increase are also questionable. No one is developing new hydro generation options given the consenting challenges involved. In fact, reconsenting of existing hydro schemes risks a reduction in the ability of hydro schemes to store water and respond flexibly to seasonal or peak capacity needs. The speculation about future market power seems to assume that the need for power system flexibility will decrease and that thermal generators will be able to retire without any replacement flexibility entering the system. With a higher penetration of intermittent renewable generation this speculation does not seem particularly plausible. If thermal generation retires and there are insufficient flexible alternatives then the problem will be physical security of supply.

It seems more likely to Meridian that the future of the market will involve a range of diverse flexibility sources competing with hydro operators for seasonal and peaking needs. For example, aggregated small scale demand response from EV chargers, household hot water heating, batteries and connected appliances may compete alongside large-scale industrial demand response, grid-scale batteries, and gas peakers (using fossil gas or renewable gases further into the future).

Even if the market for flexible resources did become more concentrated, the trading conduct rules are effective and prevent the exercise of market power in the spot market. Meridian strongly agrees with the Electricity Authority's conclusion from the review of wholesale competition that "reliance on the current conduct-based measures remains broadly

appropriate for the transition toward 100% renewable electricity."[4] The Electricity Authority is also considering options to increase the transparency of markets for derivatives and will consider the recommendations of MDAG due in December.

Consultation questions
18. 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?
This is a potential issue that might arise in the future and is not currently an issue.
19. Aside from increased market concentration of flexible generation, what other competition issues should be considered and why?
The Electricity Authority spent over two years considering competition issues in the wholesale market (March 2021 – May 2023). The Electricity Authority has also progressed a suite of work on market making of electricity future, disclosure of internal transfer prices, work with the ASX on market access issues, facilitating the development of a voluntary code of conduct for the over the counter hedge market, and requests for information from small retailers which failed to substantiate their claims that generator retailers were refusing to trade hedges. MDAG is also due to make recommendations to the Authority in December on options including standardisation of shaped hedge products, trading conduct rules for hedge markets, and market making of longer dated futures. Meridian considers the existing work to be comprehensive. As an aside, the issues paper spends a lot of time repeating MDAG's options paper. We note that MDAG has not yet delivered final recommendation to the Electricity Authority. Once MDAG delivers final recommendations, it is up the Electricity Authority as the expert regulator to decide whether or not to act on any recommendations. The Authority has already stated its views in the decision paper on promoting competition through the transition, namely that "the best approach to promoting wholesale market competition in the transition is to focus on proactive monitoring of trading conduct, enabling a greater and faster supply response, and promoting more demand flexibility and participation."[5]
20. What extra measures should or could be used to know whether the wholesale electricity market reflects workable competition, and if necessary, to identify solutions?
None.

The issues paper also refers to recent work on competition including by MDAG and the Electricity Price Review. Meridian considers the work already underway or recently completed to be comprehensive. Responses to the consultation questions are below.

[4] https://www.ea.govt.nz/documents/2243/Promoting-competition-in-the-wholesale-electricity-market.pdf
[5] Ibid.

Consultation questions
21. Should structural changes be looked at now to address competition issues, in case they are needed with urgency if conduct measures prove inadequate?
Meridian strongly agrees with the Authority's assessment that: "fundamental structural options are currently not justified by the available evidence. Further, they would take considerable time and cost to implement and may not be available during the transition, may or may not be effective in fundamentally improving competitive conditions, and would add uncertainty that would stymie investment."[6] Once the Authority receives final MDAG recommendations in December it may consider whether development of any "backstop" measures is a good use of its resources.
22. Is there a case for either vertical separation measures (generation from retail) or horizontal market separation measures (amending the geographic footprint of any gentailer) and, if so, what is this?
No. **Vertical separation** has been thoroughly considered on multiple occasions and the conclusion is consistently that it would not be in the interests of consumers. The 2009 Ministerial Review concluded that vertical integration was beneficial to consumers and highlighted the criticality of a liquid contracts market in mitigating the downsides of vertical integration. The Labour-led Government's own Electricity Price Review found that vertical integration can provide significant benefit to consumers, supports new generation being built to support New Zealand's low carbon future, and that improvements to contract markets can mitigate any concerns while retailing the consumer benefits of vertical integration. MDAG's options paper did not identify any problem that vertical separation would address.[7] The Electricity Authority rejected vertical separation in its review of wholesale market competition and noted that internal transfer prices of generator retailers are transparent and "the methodologies suggest that, in principle, any participant could replicate the internal transfer prices that gentailers apply."[8] These findings are consistent with the academic literature, as reviewed by Dr Richard Meade.[9] It is surprising that MBIE is again asking this question, despite the wealth of evidence that vertical separation would detriment consumers. Meridian considered vertical integration to be an efficient business model that delivers benefits to consumers. There is nothing preventing smaller retailers investing in generation to realise the same benefits for consumers. **Horizontal separation** was rejected in the MDAG options paper as "there are few opportunities for further physical disaggregation of the hydro generation base without splitting ownership of closely related stations on river chains. Such splits could lead to coordination difficulties."[10] Meridian adds that horizontal separation would be disruptive to generation investment (critical during the transition as electricity demand increases) and there would be significant challenges in fairly pricing any reallocated assets.
23. Are measures needed to improve liquidity in contract markets and/or to 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?
Nothing in addition to what the Electricity Authority has already implemented or is already considering.

[6] https://www.ea.govt.nz/documents/2243/Promoting-competition-in-the-wholesale-electricity-market.pdf
[7] https://www.ea.govt.nz/documents/1006/MDAG_-_Price_discovery_in_a_renewables-based_electricity_system_-_options_paper.pdf
[8] https://www.ea.govt.nz/documents/3017/Decision_paper_promoting_competition_through_the_transition.pdf
[9] https://www.cognitus.co.nz/_files/ugd/022795_90a6a69bdaca4de9b752db7798bf2a2d.pdf
[10] https://www.ea.govt.nz/documents/1006/MDAG_-_Price_discovery_in_a_renewables-based_electricity_system_-_options_paper.pdf

24. 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)?
No.
25. What extra measures around electricity market competition, if any, do you think the government should explore or develop?
None. Ongoing consideration by the regulator is comprehensive and the actions taken to date have been sensible. The involvement of MBIE only increases regulatory uncertainty and undermines existing processes.
26. 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. As the issue paper notes, establishing a single buyer model in New Zealand would be an extreme measure and it is not clear what problem it would seek to address. The design and implementation complexity would be immense, and it would be extremely detrimental to generation investment and therefore the ability of the power system to accommodate demand growth and emissions reductions through electrification. In our opinion, a single buyer would replace the market with something more akin to the New Zealand Electricity Department of the 1970s with taxpayers taking on the risks associated with generation investment and politicians making pricing, investment, and operational decisions often with poor outcomes like shortages or costly over procurement. It would raise sovereign risk concerns for existing generators as well as potential investors. We are not sure it is constructive to consider this option, even for completeness.

Networks for the future

Chapter 7: A transmission system for growth

Meridian agrees that we are entering a period of greater transmission investment need, and that the regulatory regime needs to enable the required investment. We also agree that the Commerce Commission's Input Methodologies Review is the appropriate vehicle to consider whether the investment test remain suitable for the future. Transpower's desire for more uninhibited investment must be balanced against the increased costs to consumers that would result. The Commission is well placed to strike an appropriate balance.

Meridian's primary concern is that the required increase in network investment and resulting costs to consumers are well signalled and smoothed over time so that end consumers do not face price shocks. While electricity retailers have the contractual relationships with their customers, we also see roles for network companies and the Commission to publicly signal these cost increases well in advance.

It is also critical that new renewable generation and new large electricity loads are able to connect to the transmission network in a timely fashion. The number of new connection enquiries has sharply increased, and management of these enquires will be challenging. Transpower will need to expand its resources to manage the increased enquiry volume while avoiding delays to projects.

We also agree that the grid needs to be resilient for future events, such as natural disasters, extreme weather events, and geopolitical risks. However, gold-plated resilience comes at significant costs to consumers. In Meridian's opinion, the resilience investments proposed by Transpower for RCP4 appear broadly prudent and will be complemented by the Commerce Commission's quality standards and ongoing work by the Electricity Authority on their Future Security and Resilience project. Any additional resiliency requirements coming from central government would need to carefully consider the costs.

Consultation questions
27. Do you consider that the balance of risks between investing too late and too early in electricity transmission may have changed, compared to historically? If so, why?
Yes. Given the likelihood of increasing electricity demand the risks and consequences of under-investment are now higher than before and demand is more likely to quickly catch up with any over-investment. What

is less clear to Meridian is whether any consequential changes to the regulatory regime are required. Our tentative view at this stage is that existing mechanisms are capable of enabling the increased investment.
28. Are there any additional actions needed to ensure enough focus and investment on maintaining a resilient grid?
No.

Chapter 8: Distribution networks for growth

Significant increases in the level of investment in distribution networks will be required to support electrification and integrate distributed energy resources. The issues paper identifies the four key concerns that have been raised with the existing regulation of electricity distribution networks:

- Network investment model to support energy transition.
- Removing barriers to connection for new demand (such as industrial decarbonisation and public EV chargers)
- Cost allocation to support network investment ahead of immediate need.
- Pricing signals to provide efficient use of networks.

Each of these concerns are discussed below. In general, Meridian considers the Electricity and Commerce Commission to be well placed to address these concerns.

Network investment model to support the energy transition

In Meridian's opinion, the Commerce Commission is best placed to consider any concerns regarding the network investment model through the Input Methodologies Review. The draft decision appears to include a range of flexibility mechanisms to enable reconsideration of investment allowances within a regulatory control period if electricity demand changes relative to forecasts.

Removing barriers to connection for new demand

Meridian strongly supports the removal of barriers to connection for new demand. Existing barriers include:

- Connection costs, which lack transparency and vary significantly across the 29 network regions as well as within regions often with little or no explanation.
- Connection processes and timeframes.
- Visibility of network capacity and congestion.

Each of the 29 electricity distribution businesses (EDBs) has their own pricing and processes. For a nationwide retailer such as Meridian, this means that for almost every connection project, we need to work through a bespoke process with the relevant EDB. Drive Electric's recent submission to the Electricity Authority demonstrates the very wide range of pricing and practices among the EDBs. One example shows that an anonymised EV charge point operator organising connection quotes experienced wait times for quotes that ranged from one day to 208 days. The submission also contains an example of variation in pricing for 160-amp connections that ranged from $127 to $169,700.[11] This exceptionally wide range in both price and timing is very challenging for customers looking to connect. We discuss distribution pricing further below.

The challenges are exacerbated by the lack of visibility over network capacity and constraints which can mean identifying low cost sites for new connections can be a laborious back and forward process with a network asking for details about various potential sites. We strongly support recent proposals from the Authority and the Commerce Commission to make GIS data and information about capacity in different areas much more open access for access seekers. Currently, trying to establish whether there is capacity in a particular location can result in thousands of dollars in fees, per request and per location. Costs can quickly add up if multiple requests are needed. This is also very inefficient for both access seekers and distributors. Meridian also strongly supports the idea to allow for a larger pool of approved providers, through which access seekers could directly contract for work. As noted earlier, quotes for works can vary widely among distributors, and we think that this idea would inject some positive competitive pressures and help to keep prices reasonable.

Meridian also supports the development of a dedicated access regime for new connections, similar to part 6 of the Code.

Cost allocation and pricing signals

Meridian sees the last two concerns in the issues paper as connected and overlapping. Both could be addressed by regulation of distribution pricing by the Electricity Authority.

Meridian's view is that there is a need for much more standardisation in pricing. We think that this would drive efficiencies for retailers by significantly reducing the cost to serve and

[11] Drive Electric's submission, pp 13-14, 15 August 2023.

ultimately reducing costs to consumers. We have been supportive of the Authority's move towards a more regulated approach to distribution pricing (rather than the voluntary pricing principles and scorecards currently used). We appreciated that different EDBs may face different challenges, which would make fully standardised pricing difficult. However, in our view, it should be possible to develop a standardised set of cost building blocks or a standardised pricing toolbox which each distributor could deploy to suit their situation, or to limit the things that drive variation such as different capital contribution policies. Such an approach could also provide a nationally standardised method for distributors to manage first mover disadvantage and allocate the costs of any anticipatory investments.

Without a level of standardisation, each of the 29 EDBs could implement different pricing reform, with each having unique and complex pricing schedules. The end result is the potential for delays and inefficiencies in new connections, and difficulties for retailers in packaging up simple and effective plans for customers in a way that can be marketed nationally. We are concerned that without more prescriptive regulation the EDBs will not be in a position to make the changes needed to assist with the energy transition.

The consultation also notes that pricing signals also have the potential to drive more efficient use of networks, and that retailers can and should play a role in incentivising customers to adapt. Meridian currently offers several plans across both our brands with non-uniform tariffs, but uptake is relatively low. Our view is that increased EV uptake will be the point at which more consumers will be willing and interested in changing their usage behaviour, provided that it is convenient and meets their needs. Retailers operate in a highly competitive market, which provides positive pressure to offer the best services to customers and to carefully manage input costs. Retailers can and will adapt to what customers want.

Consultation questions
29. Do you agree we have identified the biggest issues with existing regulation of electricity distribution networks?
Yes. However, in addition we note that there have long been concerns about the number and scale of distribution networks in a country the size of New Zealand. This creates inefficiencies and leads to capability and capacity concerns with some of the smaller networks. The energy transition will require changes to network operating models, and adoption of new technologies and ways of working. This is proving to be challenging for some EDBs.

30. Are there pressing issues related to the electricity distribution system where you think new measures should be looked at, aside from those highlighted in this document? How would you prioritise resolving these issues to best enable the energy transition?
For the most part the Electricity Authority and Commerce Commission are well placed to address the identified concerns. One additional measure that could be considered is a Distribution System Operator (DSO) model in New Zealand. We discuss this in more detail in our response to chapter 10.
31. Are the issues raised by electricity distributors in terms of how they are regulated real barriers to efficient network investment? Please give reasons for your answer. Is there enough scope to address these issues with the current ways distributors are regulated? If not, what steps would you suggest to address these issues?
Meridian's view is that the Commerce Commission is well placed to address concerns with the current investment settings and has already proposed a range of flexibility mechanisms to allow networks to adapt to the changing environment.
32. Are there other regulatory or practical barriers to efficient network investment by electricity distributors that should be thought about for the future?
Not that we are aware of.
33. What are your views on the connection costs electricity distributors charge for accessing their networks? Are connection costs unnecessarily high and not reflective of underlying costs, or not? If they are, why do you think this is occurring?
As noted in the body of our submission, we are aware of examples of very wide ranges of connection costs. It is difficult for us to say whether they reflect the underlying costs given the lack of transparency and variance in pricing methodologies. Variable capital contribution policies do seem to be increasing connection prices beyond costs in some cases.
34. If you think there are issues with the cost of connecting to distribution networks, how can government deliver solutions to these issues?
Meridian supports the Authority taking a more prescriptive approach to the regulation of distribution pricing in general, including pricing approaches for connection costs. We think there would be considerable efficiency benefits for parties seeking access to networks, which would ultimately be passed on to consumers.
35. Would applying the pricing principles in Part 6 of the Code to new load connections help with any connection challenges faced by public EV chargers and process heat customers? Are there other approaches that could be better?
Meridian would like to see more mandated pricing methodologies and tool rather than high level principles. The Authority already has distribution pricing principles that apply generally, including for new connections, but these are variably applied by EDBs.
36. Are there any challenges with connecting distributed generation (rather than load customers) to distribution networks?
Not that we are aware of. This may be due to the scale of generation and fewer projects relative to say EV charging infrastructure.

37. Are there different cost allocation models addressing first mover disadvantage (when connecting to distribution networks) which the Electricity Authority should explore, potentially in conjunction with the Commerce Commission?
We think that there is merit in exploring alternative models, however, a similar approach to first mover disadvantage as that taken under the transmission pricing methodology would be appropriate.
38. Should the Electricity Authority look at more prescriptive regulation of electricity distributors' pricing? What key things would need to be looked at and included in more prescriptive pricing regulation?
Meridian strongly supports more prescriptive regulation of distribution pricing.
39. Do current arrangements support enough co-ordination between the Electricity Authority and the Commerce Commission when regulating electricity distributors? If not, what actions do you think should be taken to provide appropriate co-ordination?
Yes.

Chapter 9: Is the government's sustainability objective adequately reflected for market regulators?

Meridian does not support adding a sustainability objective for the main energy regulators. Although sustainability is incredibly important, we are not convinced that additional legal objectives for economic regulators are a good way to drive the change that is needed.

Additional objectives, including a sustainability objective, have been considered many times, and in the main, mostly rejected in favour of simplicity. The 2009 review of electricity looked at the legal objectives of the (then) Electricity Commission and found that the complex layer of objectives (including "principal objectives" and "specific outcomes") was not working. The end result was a much-simplified set of objectives for the Electricity Authority:

> *"…to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."*[12]

In 2019 the Electricity Price Review considered adding additional objectives relating to environmental goals. However, the review found that although there could be benefits to adding these as objectives, it could also "…pull them in too many directions, require difficult trade-offs between competing objectives and blur their accountability. This is the very reason the Authority's statutory objectives were narrowed as a result of the 2009 review."[13]

[12] Section 15(1) of the Electricity Industry Act 2010.
[13] Pages 31-32, Electricity Price Review Options Paper for discussion.

Sustainability goals are already consistent with the existing objectives – for example, an efficient, competitive, and reliable electricity system (which the Electricity Authority promotes under its statutory objective) will enable electrification and therefore emissions reductions.

Finally, sustainability objectives are best promoted through other mechanisms, for example environmental and climate change legislation and regulation, consenting frameworks, emissions pricing, and other emissions reduction policies.

Consultation questions
40. Will the existing statutory objectives of the Electricity Authority and Commerce Commission adequately support key objectives for the energy transition?
Yes. Meridian's view is that the statutory objectives of the Authority and the Commission are appropriate for their roles as market regulators and should remain in their current state. We are not convinced that adding more statutory objectives will result in better regulation of the energy transition.
41. Should the Electricity Authority and/or the Commerce Commission have explicit objectives relating to emissions reduction targets and plans set out in law? If so, • **should those objectives be required to have equal weight to their existing objectives set in law?** • **why and how might those objectives affect the regulators' activities?**
This question illustrates the risk and complexity that is inherent in widening out the statutory objectives of market regulators and the tensions that could be created between objectives. The existing objectives relating to competition, efficiency, and reliability for the long term benefit of consumers are sufficient to provide the right grounds for incentivising widespread electrification. Emissions reduction objectives are given effect though the emissions trading scheme and other complementary emissions reduction policies.
42. Should the Electricity Authority and/or the Commerce Commission have other new objectives set out in law and, if so, which and why?
No, for the reasons outlined above.
43. Is there a case for central government to direct the Commerce Commission, when dealing with Electricity Distributors and Transpower, to take account of climate change objectives by amending the Commerce Act 1986 and/or through a Government Policy Statement (GPS)?
No.
44. If you answered yes to question 43, please explain why and indicate: • **What measures should be used to provide direction to the Commerce Commission and what specific issues should be addressed?** • **How would investment in electricity networks be impacted by a direction requiring more explicit consideration of climate change objectives? Please provide evidence.**
N/A.

Responsive demand and smart systems

Chapter 10: Increasing distributed flexibility

Meridian agrees that enabling distributed flexibility services will help to minimise the cost of New Zealand's transition to net zero by 2050. Distributed flexibility will play a critical role alongside large-scale demand flexibility, grid-scale batteries, and flexible hydro generation to manage demand variability and increasingly intermittent renewable generation.

Meridian supports open and competitive markets as the best way to facilitate good outcomes for consumers. Our view is that this should be the starting point for thinking about how to design the regulatory settings in order to accelerate a more flexible and resilient energy system.

There is already a lot in place to support the development of flexibility markets, for example, nodal spot prices, reserves and other ancillary services, and bilateral contracting for demand response to manage both peak and dry year risks. Meridian is an active participant in the Flex Forum. We are also developing flexibility arrangements both for large consumers and mass-market consumers. Any Meridian offerings will be competing in the market with offerings developed by other retailers and aggregators.

Meridian's view is that the main challenge for increasing flexibility is in distribution network pricing arrangements. We agree with the issues paper that in some cases, electricity distributors can lower costs for provision of services to their customers through use of distributed flexibility and there are examples of this occurring. However, networks generally appear to underutilise distributed flexibility. Although the current regulatory settings allow for networks to invest in non-network or non-traditional solutions to meet peak network needs, our experience is that some networks struggle to value flexibility and offer commercial terms to procure and reward it. This may in part be a scale and capability issue inherent in having 29 EDBs.

Distribution System Operators

Meridian sees merit in further investigation of the concept of Distribution System Operators (DSOs) to procure and dispatch flexibility resources for network management purposes. A DSO framework could be a practical step to grow distributed flexibility in New Zealand by

overcoming existing EDB scale and capability barriers. DSOs could be responsible for procurement systems to identify non-network solutions to meet known network needs. They could also manage local network conditions in real time through scheduling and dispatch of local flexibility resources. A DSO framework could enable flexible resources to be procured and dispatched more efficiently than if done individually by the 29 networks.

DSOs would be common service providers for distribution networks within their geographic jurisdiction. Network ownership would need not be affected. The number and size of DSOs would need consideration but for example there could be four DSOs, two for each island.

Funding to assist with more uptake of non-network solutions

The consultation notes that there is an existing contestable fund of $20m from Budget 2023 for "learning by doing" trials. This is a relatively low-risk approach to bring demonstration projects to market. However, it should be reviewed frequently to ensure that it is working as intended, and that the benefits exceed the costs to taxpayers. The private sector is also investing in distributed flexibility and it is important that government funding does not crowd this out or go towards projects that would have been commercial anyway without public funding. One way to potentially manage this risk would be to tailor the funding as support for networks competitively procuring non-network solutions.

Retail pricing and innovative tariffs to support more flexibility

Retailers are innovating with tariff options to support flexibility with various time of use options in market. In future we also expect retailers to develop managed appliance tariffs with discounted rates if a retailer is able to control, for example, an at home electric vehicle charger. Meridian already offers several plans with non-uniform tariffs across our two brands. However, the uptake of these plans among consumers is still low, suggesting that they are probably not quite ready for alternative tariffs, at least on a widespread basis.

We are optimistic about the role that more innovative pricing plans will play in the energy transition. Our view is that alternative tariffs will become increasingly important as EV uptake grows among consumers, and that EV owners in particular will be open to alternative charging structures and shifting their demand. Retailers operate in a highly competitive market, with pressure to innovate and offer the services that consumers demand. Consumer demand and the potential cost saving from flexibility will drive uptake

of different tariff options in the competitive retail market and retailers that do not offer what consumers want will lose market share.

Supporting the uptake of batteries (or solar PV coupled with batteries)

Distributed small-scale solar can be very expensive on a per kW basis. It is not clear to Meridian what problem subsidisation of solar and batteries would address. New Zealand has lower uptake relative to Australia because we have a largely renewable generation base already and subsidies for distributed renewable resources would only be likely to displace or defer lower-cost grid scale investments. Subsidies for solar and batteries would also have impacts on wealth distribution as the recipients of such support would likely be wealthy homeowners that can afford the substantial costs of rooftop solar and batteries.

Consultation questions
45. Would government setting out the future structure of a common digital energy infrastructure (to allow trading of distributed flexibility) support co-ordinated action to increase use of distributed flexibility?
This may assist with the connection of counterparties but should not be a mandated platform. We expect a range of different arrangements to emerge in the market and forcing use of a single platform would likely stifle innovation.
46. Should central government see how demonstrations and innovation to help inform how trade of flexibility evolves in the New Zealand context, before providing direction to support trade of distributed flexibility? If yes, how else could government support the sector to collaborate and invest in digitalisation now?
There is already a lot underway in New Zealand to develop distributed flexibility. It is not clear to Meridian what further role government should play. See also our comments above on the public funding allocated as part of Budget 2023.
47. Aside from work already underway, are there other areas where government should support collaboration to help grow and develop flexibility markets and improve outcomes? If yes, what areas and actions are a priority?
Meridian thinks that there is value in exploring the concept of distribution system operators (DSOs), which would procure and dispatch distributed flexibility, to support distribution network needs.
48. Could co-funding for procurement of non-network services help address barriers to uptake of non-network solutions (NNS) by electricity distributors?
This may support networks to explore and adapt to the possibility of NNS. Targeting the support to network procurement may help reduce barriers to the use of NNS and funding natural monopolies would be relatively low risk compared to the distortions that could arise through direct public funding of options in an emerging competitive market. Any funding should be designed to demonstrate the potential of NNS and should be clearly scoped as a short term demonstration fund rather than a permanent fixture.

49. Would measures to maximise existing distribution network use and provide system reliability (such as dynamic operating envelopes) help in New Zealand? If yes, what actions should be taken to support this?
Yes, this is an option that networks could consider when connecting distributed flexibility and procuring network support services through NNS. Any actions would be the responsibility of the relevant network and will vary based on network need. Aside from the potential co-finding mechanism discussed above it is not clear to Meridian what role, if any, government should play.
50. What do you think of the approaches to smart device standards and cyber security outlined in this document? Are there other issues or options that should be looked at?
Standard technology solutions would risk limiting innovation and the associated consumer benefits. Given the scale of distributed flexibility resources it is not clear to Meridian that the costs to consumers of additional cyber security requirements would be justified. At the level of retailers or aggregators the sum total of resources under their control may be more critical to security of supply. However, those parties will have strong commercial incentives to maintain high standards of cybersecurity. Failure to do so would result in loss of customers and revenue.
51. Do you think government should provide innovation funding for automated device registration? If not, what would best ensure smart devices are made visible?
It is not clear what problem this would address. Retailers and aggregators will have commercial incentives to identify flexible devices and offer services to consumers.
52. Are extra measures needed to grow use of retail tariffs that reward flexibility, so as to support investment in CER and improved consumer choice and affordability?
Meridian's view is that additional regulatory measures are not required to grow the use of retail tariffs that reward flexibility. There is already a significant market offering of non-uniform tariffs, including several offered across Meridian's own brands. Our view is that the current low uptake shows a lack of consumer demand. However, this is likely to change as EV uptake grows and consumers become more interested in changing their electricity usage patterns in return for suitable rewards. As the retail market is already very competitive, we think that it is reasonable to rely on market incentives to push retailers to offer more and better solutions to customers, in line with customer preferences.
53. Should the government consider ways to create more investment certainty for local battery storage? If so, what technology should be looked at for this?
Meridian's view is that above-market feed in tariffs or other subsidies mandated by government would not be appropriate in the New Zealand context. See our comments above in the body of this submission.
54. Should further thought be given to making upfront money accessible to all household types, at all income levels, for household battery storage or other types of CER?
No. See our comments above in the body of this submission.
55. Should government think about ways to reduce 'soft costs' (like the cost of regulations, sourcing products, and upskilling supplier staff) for installing local battery storage with solar and other forms of CER/DER storage? If so, what technology should be looked at?
This would be lower risk than other forms of support, but Meridian still queries what problem this would be trying to solve.

56. Is a regulatory review of critical data availability needed? If so, what issues should be looked at in the review?
The Electricity Authority is already looking at data access arrangements in detail and the government has also agreed to progress consumer data rights legislation to enable innovation and unlock the full value of data for consumers. While the banking sector is expected to be the first sector brought into the regime, the electricity sector would likely follow suit. We do not see a need for any further review of critical data availability at this stage.

Whole of system considerations

Chapter 11: Setting priorities and improving coordination

This chapter of the issues paper explores whether there is a case for greater formal co-ordination and planning of the electricity system as a whole. Meridian views central planning as fundamentally misguided as it overlooks the benefits to consumers that result from markets. As MDAG recently commented:[14]

> "At its core, the primary functions of a wholesale electricity market are to enable a diversity of suppliers to offer competing solutions to meet consumers' demand, and for consumers to be able to choose the solutions that best meet their needs. The end result is that better solutions should displace less efficient solutions - in both the near-term (via selecting the cheapest supply sources each half-hour) and over time (via investment decisions) - to deliver reliable electricity at least cost."

The issues paper expresses concern about "wasted investment" if there is insufficient coordination. In Meridian's opinion such concern is misplaced. It is true that not all investments will succeed but that is a natural consequence of any market and the selection process that occurs to identify the best solutions. Critically, the risks and costs of investments are borne by private investors rather than consumers.

A diverse and dynamic market is likely to be even more critical through the transition given the innovations and changes required. In Meridian's opinion, greater coordination or central planning will generally lead to inferior outcomes for consumers and a concentration of risk in a single decision-maker.

Rather than coordination or central planning, Meridian sees the role of government to be to provide:

- regulatory frameworks that enable investment; and
- price signals (such as the emissions trading scheme) or other incentives to influence private investment decisions and consumer choices in support of desired public good outcomes.

Meridian's comments on the various consultation questions in this chapter are below.

[14] https://www.ea.govt.nz/documents/1006/MDAG_-_Price_discovery_in_a_renewables-based_electricity_system_-_options_paper.pdf

Consultation questions
57. What measures do you consider the government should prioritise to support the transition?
As stated in the Executive Summary of this submission, the existing work programmes of regulators are comprehensive and should continue. The Government should allow the regulators to carry out their functions and not second guess those processes. Meridian supports the work programmes of the Electricity Authority and Commerce Commission. In Meridian's opinion, additional priority actions for the Government should include: • Resource management reforms, which are of paramount importance to the electricity industry and for the achievement of New Zealand's emissions reduction objectives. Reform ought to deliver genuine and tangible increases in the rate of consenting and reconsenting renewable electricity generation – otherwise it presents only an uncertainty and potential obstacle to emissions reduction. • Removal of the aspirational goal of 100% renewable electricity by 2030 and immediate clarity on whether the Government intends to invest directly in mega-scale dry year storage and peak capacity. These policies, while well intentioned, have had a chilling effect on private investment in peak capacity and storage (both generation and demand response). It is extremely difficult to make a business case for private investment while the threat of Government investment looms over the top. Additional peak capacity investment is needed now, not in the timeframes contemplated by the NZ Battery Project. Those policies have also been chasing the wrong target. Emissions reduction is ultimately the goal and trying to squeeze the last few emissions out of the electricity sector would come at significant cost to taxpayers and/or consumers, would not achieve significant emissions reductions for the cost, and might actually be a step backwards if it slowed electrification of the rest of the economy due to increased costs and reduced security of supply. • Demand side actions to accelerate electrification and low-cost emissions reductions, primarily in the industrial and transport sectors. The GIDI fund has been very successful at bringing forward investments to switch from fossil-fuels to electricity or biofuels for industrial process and space heating. In its absence, the pace of emissions reduction activities would slow unless the Emissions Trading Scheme settings are adjusted to further constrain unit supply, lift the expected price path, and increasingly expose industrial businesses to those prices. There are also barriers to the roll out of nation-wide EV charging infrastructure. Work by the Electricity Authority on distribution pricing reform and an access regime for new connections to distribution networks will assist but will take time to implement. In the near term there may be a role for the Government to help overcome network costs and ensure the EV charging roll-out keeps pace with EV uptake. Meridian also supports the establishment of an offshore permitting regime for renewable generation development. However, given the economics of offshore development currently, this is not an immediate priority.
58. Are there gaps in terms of information co-ordination or direction for decision-making as we transition towards an expanded and more highly renewable electricity system and meeting our emissions goals? Please provide examples of what you'd like to see in this area.
No. See Meridian's comments at the start of this chapter.
59. Are there significant advantages in adopting a REZ model, or a central planning model (like the NSW EnergyCo), to coordinate electricity transmission investment in New Zealand? Would a REZ model for local electricity distribution be an effective means of addressing first mover disadvantage with connecting to electricity distribution networks?

As Meridian stated in its submission to Transpower on the REZ concept[15], Transpower is the open access network platform provider and must be careful to remain impartial and not pick winners or deprioritise some connections or grid investments relative to others (i.e. those within REZ). Open access to the grid is a key enabler of competition and innovation in new generation development. It is not clear that Transpower is well placed or an appropriate agency to determine what are the "best" generation options. Nor for that matter is clear to us that any central decision-maker should perform this function.

Ultimately, Meridian believes that competitive markets for generation investment are in the best interests of consumers and a key tool to enable New Zealand to meet its emissions targets. In the competitive market, potential generation investors are weighing up a number of sites and the business cases for each must consider a range of factors including:

- access to land;
- ease of consenting;
- extent of civil works required;
- suitable technology options for the site and associated costs;
- quality of the renewable resource;
- expected nodal prices; and
- connection costs and any wider transmission constraints.

These are complex decisions, and every investor is competing to develop generation more efficiently and ahead of others. The result is the least-cost generation options are built in the timeliest fashion.

The scale of new generation investment required to meet emissions targets is significant – the Climate Change Commission's demonstration path indicates that around 10 TWh of new renewable generation needs to be built between now and 2035 at a cost of billions of dollars. Consumer outcomes will be improved if those investments are made efficiently.

In Meridian's opinion, while a REZ process may make network investments simpler and more efficient it would do so at the expense of efficient renewable generation investment.

First mover disadvantage issues are addressed for transmission through the transmission pricing methodology. There is no equivalent regulation of distribution pricing. In Meridian's opinion, distribution pricing regulation should be a priority consideration for the Electricity Authority and would be a superior solution to first mover disadvantage on distribution networks, compared to a REZ process.

60. Should MBIE regularly publish opportunities for generation investment to enable informed market decision-making?

The benefits of this are not clear to Meridian. Like all large generation developers, we invest significant resources into identification of the lowest cost projects. We doubt that MBIE would have the expertise to assist with this and do not see a need. There may be some benefit for developers that are new to New Zealand and have less experience of the electricity market – those parties would be better placed to comment.

61. How should the government balance the aims of sustainability, reliability and affordability as we transition to a renewable electricity system?

The current market settings are achieving a balance across the energy trilemma.

The World Energy Council's energy trilemma framework helps benchmark the performance of our energy system globally. The most recent 2022 trilemma index rankings show that the New Zealand energy sector is ranked number 8 in the world and is the only country outside of Europe and North America in the top 10. The AAA rating across security, equity, and sustainability reflects a strong balance. However, the report also

[15] https://www.transpower.co.nz/renewable-energy-zones-consultation-responses-2022

notes that despite meaningful improvements in our sustainability score over the past decade, our security score has declined.

The second of the priority actions identified by Meridian in our response to question 57 above may help to improve energy security by removing impediments investment in peaking generation and upstream fuel.

62. To what extent should wholesale, transmission, distribution or retail electricity pricing be influenced by objectives beyond the (affordability-related) efficiencies achieved by cost-reflective pricing, such as sustainability, or equity?

Sustainability objectives already influence pricing throughout the economy via the emissions trading scheme. Meridian supports the use of this tool.

Competition and efficiency already drive down costs for the long term benefit of consumers. Meridian supports the work of the Electricity Authority to consider consumer care requirements on retailers. However, that should not extend to actions to drive prices below costs to achieve social or equity objectives. Any such objectives are better achieved through taxation and social welfare policies rather than by distorting markets.

63. Are the current objectives for the system's regulators set in law (generally focusing on economic efficiency) appropriate, or should these also include more focussed objectives of equity and/or affordability?

Yes. The current statutory objectives are appropriate. As discussed in Chapter 9 of this submission, additional objectives have been considered many times, and in the main, rejected in favour of clarity of purpose. The 2009 Ministerial Review looked at the legal objectives of the (then) Electricity Commission and found that the complex layer of objectives (including "principal objectives" and "specific outcomes") was not working. The end result was a much-simplified set of objectives for the Electricity Authority:

"…to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."

In 2019 the Electricity Price Review considered adding additional objectives relating to environmental and/or fairness goals. However, the review found that although there could be benefits to adding these as objectives, it could also "…pull them in too many directions, require difficult trade-offs between competing objectives and blur their accountability. This is the very reason the Authority's statutory objectives were narrowed as a result of the 2009 review."

In Meridian's opinion, that conclusions should still stand, and it is surprising that the Government is already asking the question again.