

Submission on *Measures for Transition to an Expanded and Highly Renewable Electricity System*

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Release of information

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Responses to questions

Part 1: Growing Renewable Generation

Are any extra measures needed to support new renewable generation during the transition?

1. Please keep in mind existing investment incentives through the energy-only market and the ETS, and also available risk management products. Any new measures should add to (and not undermine or distort) investment that could occur without the measures.

Lodestone Energy is a 100% New Zealand-owned and privately funded energy company dedicated to developing utility-scale solar projects. It is a relatively new entrant into the New Zealand electricity market being founded in 2019 and currently has 3 solar farms under construction with another 2 planned for construction over the next 2 years. The first utility scale solar farm is due to be generating in early November 2023.

Lodestone Energy's mission is to contribute to New Zealand's emissions reduction targets through building and operating utility scale renewable energy assets using the best available technology.

The New Zealand market is one of the most advanced market-based electricity markets in the world. It has been structured to send long term location signals of the value of electricity and the rules to integrate solar are open and transparent. This has enabled Lodestone Energy to enter the market and obtain funding to build a capital program to develop more than 190MW(DC) of new renewable energy through utility scale solar projects.

While Lodestone Energy has faced some challenges being a new entrant to the electricity market and the building of new renewable generation, it has been able to find solutions that enable building and operating new generation commercially viable.

Lodestone Energy is only one of a number of new entrants building new renewable generation in New Zealand. Institutional investors like Blackrock have indicated that there is an appetite to fund the build out of climate infrastructure across the country's energy system. To enable this to happen investors need confidence and consistency in the regulatory environment.

The development of new renewable generation built at pace will ultimately lead to greater affordability through supply balance and market pressures. Working together, the sector and Government can create change that is actionable and lasting which will enable continued investment in new renewable generation.

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?

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?

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?

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?

Lodestone Energy agrees that as the transition to electrification accelerates there will be a growing need for more renewable energy and the ability to support this with dispatchable generation or electricity. In parallel there is significant development and advancement in battery energy storage technology which, in the near term, will enable the implementation of BESS to become economic.

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.

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?

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?

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?

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?

11. Are there any issues or potential issues relating to gas supply availability during electricity system transition that you would like to comment on?

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?

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?

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?

15. What types of commercial arrangements for demand response are you aware of that are working well to support industrial demand response?

16. What new measures could be developed to encourage large industrial users, distributors and/or retailers to support large-scale flexibility?

17. Do you have any views on additional mechanisms that could be developed to provide more information and certainty to industry participants?

Part 2: Competitive Markets

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?

Flexible generation can be provided in many forms and coupled with the ability to manage demand there are a number of opportunities to be explored. The wholesale electricity market needs to continue to provide the signals and opportunities which will enable investment in technology and innovative products to meet the demands of flexible energy generation and consumption.

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

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?

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

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

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?

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)?

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

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?

Part 3: Networks for the Future

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?

The ability to identify capacity in the transmission and distribution networks is paramount to enable development of new generation. There are a number of challenges to this currently where the thresholds to reserve access to distribution and transmission are relatively low and hence there are a number of 'reservations' which may never eventuate. This makes it harder to identify where future capacity needs to be built and makes it harder to access where capacity already does exist.

28. Are there any additional actions needed to ensure enough focus and investment on maintaining a resilient national grid?

Lodestone Energy supports the need to do detailed analysis on a whole of system view to identify where investment is needed in transmission and distribution rather than in a piece meal fashion.

29. Do you agree we have identified the biggest issues with existing regulation of electricity distribution networks?

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?

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?

32. Are there other regulatory or practical barriers to efficient network investment by electricity distributors that should be thought about for the future?

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?
34. If you think there are issues with the cost of connecting to distribution networks, how can government deliver solutions to these issues?
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?
36. Are there any challenges with connecting distributed generation (rather than load customers) to distribution networks?
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?
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?
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?
40. Will the existing statutory objectives of the Electricity Authority and Commerce Commission adequately support key objectives for 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?
42. Should the Electricity Authority and/or the Commerce Commission have other new objectives set out in law and, if so, which and why?

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 and/or through a Government Policy Statement (GPS)?

If you answered yes to question 43, please explain why and indicate:

44.

- 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.

Part 4: Responsive Demand and Smarter Systems

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?

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?

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?

48. Could co-funding for procurement of non-network services help address barriers to uptake of non-network solutions (NNS) by electricity distributors?

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?

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?

51. Do you think government should provide innovation funding for automated device registration? If not, what would best ensure smart devices are made visible?

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?

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?

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?

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?

56. Is a regulatory review of critical data availability needed? If so, what issues should be looked at in the review?

Part 5: Whole-of-system considerations

57. What measures do you consider the government should prioritise to support the transition?

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.

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?

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

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

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?

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?

General Comments:

Lodestone Energy supports the discussion on measures required for the transition to an expanded and highly renewable electricity system. The outcomes need to ensure the wholesale electricity market continues to operate in a way that provides signals and incentives to deliver to the goals of decarbonising Aotearoa.

Investors require certainty and consistency over time to be able to confidently fund long term investments in infrastructure. Industry participants and government working together to identify the most effective actions will enable a faster transition to support the growing need for an expanded renewable electricity system.