MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Measures for transition to an expanded and highly renewable electricity system

29 August 2023

Electricity Generation, Infrastructure and Markets Policy

Energy and Resource Markets Branch

Ministry of Business, Innovation and Employment

New Zealand Government

Agenda

- Issues paper: *Measures for transition to an expanded and highly renewable electricity system* aka the 'Electricity Market Measures'
  - Context
  - Overview of each part, key issues covered and measures considered
  - Next Steps
- Discussion Document: *Implementing a ban on new fossil-fuel baseload electricity generation*
  - Context
  - Key issues covered and questions asked
  - Next Steps
- Questions

Energy Strategy and the wider energy transition work programme

Energy strategy	Phase 1: Exploring what's possible	Discussion paper	Phase 2: Charting the path	Final Energy Strategy

Offshore Renewable Energy *Advice on regulatory regime for offshore renewables*	**Mid 2023** Regulatory regime consultation		**2024** Working on legislation	
Gas Transition Plan (GTP) *Answers particular questions regarding role of gas in the broader energy system*	**Mid 2023** GTP consultation	**Late 2023** GTP released		
Hydrogen Roadmap *Outline government priorities and the potential role of hydrogen as part of the broader energy transition*	**Mid 2023** Interim Hydrogen Roadmap released			**End 2024** Final Hydrogen roadmap released
Electricity Market Measures (EMM) *Identification of measures to support reliable and affordable electricity supply through the transition*	**Mid 2023** EMM consultation			
Equitable Transitions Strategy *Ensuring transition to a low-emissions future is fair and inclusive*	**Mid 2023** Draft strategy released		**Mid 2024** Final strategy	
NZ Battery Project *Evaluating renewable technologies to address New Zealand's dry year electricity problem*	**Mid 2023** Cabinet report back			**End 2024** Detailed Business Case
National Policy Statement Renewable Electricity *Strengthening government direction for consenting renewable electricity infrastructure*	**April 2023** Consultation released	**2023** NPS changes in force		

Context – an action in the Emissions Reduction Plan

- The Emissions Reduction Plan contained an action to:

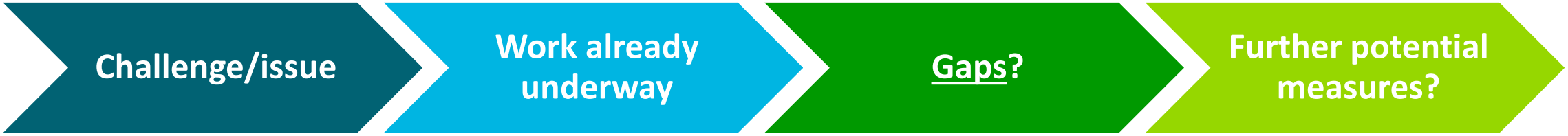
  *"Investigate the need for **electricity market measures** by 2024 that support affordable and reliable electricity supply while accelerating the transition to a highly renewable electricity system. "*

- We need to get the settings right for affordable and reliable electrification to meet our climate change goals, emissions targets and international commitments.

- This is an issues paper and does not propose policy interventions. We are seeking feedback on if we have correctly identified and articulated issues, and which measures should be further considered.

Approach to developing EMM paper

- This paper complements and/or builds upon a range of work across government agencies related to the energy transition.



- Other current MBIE energy consultations
- New Zealand Battery Project
- Commerce Commission review of input methodologies
- Electricity Authority consultation on regulatory settings for distribution networks

- Electricity consultation on ensuring an orderly thermal transition
- Electricity Authority/System Operator Future Security and Resilience Project
- MBIE and MfE work on strengthening national direction on renewable electricity generation and electricity transmission.

And more…….

An expanded and highly renewable electricity system

		The part covers:
Part 1	**Growing Renewable Generation**	Ensuring sufficient renewable generation is built and that fossil fuel generation will be replaced in a way that maintains security, reliability and affordability, including ensuring sufficient firm capacity during transition. Also considers the role of large-scale flexibility to provide demand response.
Part 2	**Competitive Markets**	Competition issues that may arise in the electricity market during the transition away from fossil fuels and increasing reliance on hydro with storage for firm capacity.
Part 3	**Networks for the Future**	How we ensure sufficient transmission and distribution investment to support a larger share of renewable electricity generation and greater reliance on electricity. Includes considering whether regulator objectives adequately reflect government sustainability goals.
Part 4	**Responsive Demand and Smarter Systems**	Issues relating to increased distributed flexibility including opportunities to utilise smarter systems that will improve electricity system reliability, resilience, and affordability.
Part 5	**Whole of System Considerations**	Whether there is a role for more coordination across the electricity system as a whole, and reviews the need for prioritisation by government.

Part 1 – Growing Renewable Generation

Chapter 2

Accelerating supply of renewables

Challenge/ issue	• Price risk for investors in baseload renewables • Regulatory and market uncertainties could be hindering investment in new renewable generation
Further potential measures	• Support the development of new renewable generation through financial support mechanisms including power purchase agreements, renewable certificate obligations, contracts for differences and feed-in tariffs.
Questions	• Are any extra measures needed to support new renewable generation during the transition? • If yes what sort of tools or policies should be considered? • 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?

Chapter 3

Ensuring sufficient firm capacity during transition

Challenge/ issue	• Currently fossil fuel plants are critical to provide 'firm' support to the market when intermittent renewables are unavailable and hydro inflows are low • Majority of existing fossil fuelled plant will retire over the next few decades • Ensure adequate dispatchable capacity to meet demand in a reliable and affordable system
Further potential measures	• Support the development of new firm capacity such as developing a 'capacity market' or similar schemes.
Questions	• Are any extra measures needed to support new or existing firm capacity? • If yes what sort of tools or policies should be considered? • If you don't think further measures are needed now to support new or existing firm capacity, are there any situations which might change your mind? When and why might this be?

Chapter 4

Managing slow start fossil fuel capacity during the transition

Challenge/ issue	• Fossil fuel plant closure without adequate replacement may lead to higher security of supply risks.
Further potential measures	• Support the retention of existing large fossil fuelled plant until they are not needed. • Minimum notice periods for fossil fuelled plant retirement.
Questions	• Are any extra measures needed to support existing large fossil fuelled plant? • If yes what sort of tools or policies should be considered? • If you don't think further measures are needed now to support existing large fossil fuelled plant, are there any situations which might change your mind? When and why might this be?

Chapter 5

The role of large-scale flexibility

Challenge/ issue	• Encourage and incentivise large scale industrial users to provide demand response flexibility back to the market to reduce peak demand and provide firming.
Further potential measures	• Provide better information to support investment decisions about incorporating distributed flexibility in new/upgraded infrastructure • Support and enable large consumers to smooth volatile revenues from distributed flexibility • Support more readily accessible demand side response for all participants
Questions	• What types of commercial arrangements for demand response are working well to support industrial demand response? • What new measures could be developed to encourage large industrial users, distributors and/or retailers to support large-scale flexibility?

Part 2 – Competitive Markets

Chapter 6

Workable competitive electricity markets

Challenge/ issue	• Increasing market concentration of dispatchable generation providers as the use of fossil fuel generation reduces • Reducing competition could adversely affect electricity prices and reliability
Further potential measures	• Support for conduct or structural measures, including: o horizontal separation of generators with significant market share in flexible hydro storage o regulated access pricing for flexibility services o central procurement of new and existing flexible resources.
Questions	• Is the prospect of increased concentration in flexible generation the key competition issue? • Should structural measures be considered as a backstop? Which ones? • How can competition in retail markets be improved?

Part 3 – Networks for the Future

Chapter 7

A Transmission system for growth

Challenge/ issue	• Significant investment in transmissions assets is required to connect new renewable generation and expand the electricity system to enable electrification • Increasing need for climate change resilience and dependence on electricity for energy needs.
Further potential measures	• More central government direction to regulators on government's emissions reduction objectives • Renewable energy zones to coordinate transmission and generation investment.
Questions	• 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? • Are there any additional actions needed to ensure enough focus and investment on maintaining a resilient national grid?

Chapter 8

Distribution networks for growth

Challenge/ issue	• Significant investment in distribution assets is required for an expanded and highly renewable electricity system • Is the regulatory system agile enough to respond • Is it too hard and expensive to connect new load (public EV chargers, process heat electrification)
Further potential measures	• Optimise local planning to maximise benefits for consumers through distribution level 'Renewable Energy Zone' or alternative bottom-up regional system planning
Questions	• Are our regulatory settings sufficiently agile in a world where significant new investment and new network connections will be needed? • Are there changes to 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? • Are measures needed to enable distribution networks to support new connections such as industrial load and EV chargers?

Chapter 9

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

Challenge/ issue	• Review whether statutory objectives for energy system regulators are too rigid to accommodate policy priorities such as decarbonisation.
Further potential measures	• Support the development of a regulatory system for investment in transmission and distribution, that provides for decarbonisation e.g issuing a Government Policy Statement.
Questions	• Will the existing statutory objectives of the Electricity Authority and Commerce Commission adequately support key objectives for energy transition? Is the lack of an explicit climate change or emissions reduction objective creating a barrier for the energy transition? • Is there a case for the government to issue a Government Policy Statement to regulators? If so, what do you think this will achieve?

Part 4 – Responsive Demand and Smarter Systems

Chapter 10

Increasing distributed flexibility

Challenge/ issue	• Uptake of distributed flexibility is currently low compared to the opportunity • Lack of distributed flexibility co-ordination and cross sector collaboration to maximise the benefits.
Further potential measures	• Support co-ordinated action (trials) to increase market access for distributed flexibility • Encourage network owners to explore non-network solutions to manage network congestion and offset network upgrades • Support consumer energy resources through smart device standards, cybersecurity regulation and access to data • Accelerate the uptake of pricing that rewards flexibility • Support investment in distributed battery storage to improve local resilience and provide firming capacity.
Questions	• How can government best support the sector to maximise value from distributed flexibility across the electricity system and for consumers directly? (Which of the measures above are useful?)

Part 5 – Whole of System Considerations

Chapter 11

Setting priorities and improving coordination

Challenge/ issue	• Prioritise government efforts to support the energy transition • Review the need for new and more formal coordination mechanisms or system roles as the electricity system transitions (as part of the broader energy transition).
Further potential measures	• Renewable Energy Zones to coordinate generation, transmission (and/or distribution) investment • Generation opportunities report produced by MBIE, as recommended by the Electricity Authority
Questions	• What should be the government's priorities for action to support the electricity system's transition? • Is there a need for greater formal co-ordination of planning of the electricity system as a whole? • Is there an ideal balance across reliability and affordability of the electricity system?

Next Steps

- Our team is available to answer questions or discuss specific issues. Please contact electricitymarkets@mbie.govt.nz
- Written submissions close on 2 November 2023
- Feedback on the Electricity Market Measures Issues Paper will help identify and prioritise what measures could or should be considered to support the electricity system transition
- Submissions received will also support the development of the New Zealand Energy Strategy

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Discussion Document – Implementing a ban on new fossil-fuel baseload electricity generation

29 August 2023

Electricity Generation, Infrastructure and Markets Policy

Energy and Resource Markets Branch

Ministry of Business, Innovation and Employment

New Zealand Government

Context – an action in the Emissions Reduction Plan

- The Emissions Reduction Plan contained an action to:

  "ban new fossil-fuel baseload electricity generation to send a clear message that this has no future in Aotearoa"

- This action is not intended to ban new fossil-fuelled 'peaking' plants. Nor is the action intended to impact the operations of existing baseload and peaking fossil-fuel electricity generation plants.

- This discussion document seeks feedback on the design and implementation of a ban on new fossil-fuel baseload electricity generation – not on the policy itself.

Approach to the discussion document

- The overall objective of the ban is to eliminate the risk of new baseload fossil-fuel electricity generation being added to New Zealand's electricity supply, which would be counter to New Zealand's climate change objectives, in a way which does not undermine our security of supply.

- The Electricity (Renewable Preference) Amendment Act 2008 – which introduced (old) Part 6A of the Electricity Act 1992 – provides a useful reference point in designing the ban on new fossil-fuel baseload electricity generation.

- MBIE has identified key issues for consideration and feedback on the design of the ban. This list of issues is not exhaustive – we welcome any other feedback or suggestions.

- Starting point is a ban – we will then consider whether any exemptions are necessary, for example, for security of supply purposes.

Key questions posed

- Do you think that there should be an exemption for new baseload electricity generation plant that uses **blended fuels** (i.e., a mix of fossil-fuel and renewable fuel)?
- Do you think that there should be an exemption for new fossil-fuelled **co-generation plants**?
- Do you think there should be an exemption for new fossil-fuel baseload electricity generation plant with **carbon capture, usage, and storage (CCUS)**?
- Do you think there should be an exemption for the construction of new fossil-fuel baseload generation plants, based on **security of supply reasons**?
- What impact do you think a ban on new fossil-fuel baseload electricity generation will have on **fossil gas field development**?

Next Steps

- Our team is available to answer questions, or for discussions on specific issues. Please contact electricitymarkets@mbie.govt.nz
- Written submissions close on 2 November 2023
- Feedback will be used to inform final government policy decisions on the design and implementation of the ban.
- Further steps after that, including introducing a Bill into Parliament to progress a ban on new fossil-fuel baseload electricity generation will depend on government legislative priorities.

Thank you.

Questions (please add your questions to the Q&A function)

Ministry of Business, Innovation & Employment
15 Stout Street, PO Box 1473,
Wellington 6140, New Zealand.
www.mbie.govt.nz