MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Dr Megan Woods	**Portfolio**	Energy and Resources
Title of Cabinet paper	Accelerating Renewable Energy and Energy Efficiency: Release of Discussion Document	**Date to be published**	2 March 2020

List of documents that have been proactively released		
Date	**Title**	**Author**
5 December 2020	*Accelerating Renewable Energy and Energy Efficiency: Release of Discussion Document*	*Office of the Minister of Energy and Resources*
5 December 2020	*ENV-19-MIN-00712*	*Cabinet Environment, Energy and Climate Committee*

Information redacted **YES / NO**

Any information redacted in this document is redacted in accordance with MBIE's policy on Proactive Release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Some information has been withheld to maintain the constitutional conventions for the time being which protect the confidentiality of advice tendered by Ministers of the Crown and Officials.

IN CONFIDENCE

Office of the Minister of Energy and Resources

Chair, Cabinet Economic Development Committee

Consultation on the discussion paper – Accelerating renewable energy and energy efficiency

Proposal

1. This paper seeks agreement to release for public consultation the attached discussion paper, *Accelerating renewable energy and energy efficiency*, which is a part of my Renewable Energy Strategy work programme.

Executive Summary

2. The reduction of energy-related emissions is critical to achieving New Zealand's climate goals of net-zero carbon economy by 2050 and an emissions reduction target under the Paris Agreement of 30 per cent below 2005 levels by 2030.

3. The policy work developed in the attached discussion paper, *Accelerating renewable energy and energy efficiency*, explores options to address barriers to reducing energy emissions and to encourage early actions that will underpin the energy sector's transition to a low emissions economy.

4. This paper also examines options in response to recommendations made in the Productivity Commission's *Low Emissions Economy* report, and the Interim Climate Change Committee's (ICCC) *Accelerated Electrification* report.

5. The discussion paper. *Accelerating renewable energy and energy efficiency* is composed of two parts, corresponding to the two parts of the Renewable Energy Strategy work programme:

   Part A: Encouraging energy efficiency and the uptake of renewable fuels in industry

   Part B: Accelerating renewable electricity generation and infrastructure

6. A preferred package of options to enable the energy transition has not yet been identified. In parallel with this work, the Government is also making changes to the New Zealand Emissions Trading Scheme (NZ-ETS), and is reviewing the resource management system. Government will need to take stakeholder feedback, as well as related work programmes into account to help inform the design and sequencing of a preferred policy package.

Background

7. The Government has a goal to transform New Zealand's economy into a more productive, sustainable and inclusive economy that improves the well-being and living standards of all New Zealanders.

8. Sitting beneath this overarching goal are a number of goals for a just transition to a low-emissions economy. These include a target in the Climate Change Response (Zero Carbon) Amendment Act, to reduce all greenhouse gases (except biogenic methane) to net-zero by 2050, an emissions reduction target under the Paris Agreement of 30 per cent by 2030, and an aspirational goal of 100 per cent renewable electricity by 2035.[1]

9. The Government responses to the Productivity Commission's *Low Emissions Economy* report, and the ICCC report form the basis of the cross-government work programme on climate change and energy.

10. In addition, feedback on the Ministry of Business, Innovation and Employment's (MBIE) and the Energy Efficiency and Conservation Authority's (EECA) technical paper, *Process Heat in New Zealand: Opportunities and barriers to lowering emissions,* has informed the attached discussion paper *Accelerating renewable energy and energy efficiency.* This discussion document brings together options and analysis relating to two work streams in my Renewable Energy Strategy work programme - reducing emissions from process heat and accelerating renewable energy uptake.

The energy transition

11. The reduction of energy-related emissions is critical to achieving New Zealand's climate change goals. The NZ-ETS is the key mechanism to reduce energy emissions.

12. Technically and economically viable opportunities to reduce energy-related emissions and facilitate the adoption of clean energy technologies are available now. However, businesses and investors currently face a number of barriers that hinder the uptake of clean energy technologies and other cost-effective measures to reduce emissions.

13. Unnecessary regulatory, informational and cost barriers should be removed to unlock abatement opportunities and encourage rapid uptake of low-emissions technologies. Regulation and policies, working alongside the NZ-ETS, can help to address current market failures, deploy mitigation technologies, and support behavioural change.

14. Additionally, early actions to encourage the supply and use of clean energy technologies will help provide certainty for investors and to manage a transition to ensure that it is just and inclusive. If new long-lived emissions-intensive assets are built, there is a risk that these could become stranded assets. Delayed action on emissions reduction could also require us to make steeper reductions in the future, which could increase the costs of transitioning to a low emissions economy.

1 Subject to five yearly assessments to ensure that security of supply and affordability of electricity are well-managed.

Accelerating renewable energy and energy efficiency

15. The discussion paper, *Accelerating renewable energy and energy efficiency* is composed of two parts, corresponding to the two parts of the Renewable Energy Strategy work programme:

    Part A: Encouraging energy efficiency and the uptake of renewable fuels in industry

    Part B: Accelerating renewable electricity generation and infrastructure

16. Each section of the discussion paper considers options to address specific barriers. The options identified in the discussion paper comprise of a mix of measures to support short, medium and long-term outcomes in the energy transition.

17. A preferred package of options has not yet been identified. In parallel with this work, the Government is also making changes to the NZ-ETS, and is reviewing the resource management system. Government will need to take stakeholder feedback, as well as related work programmes, into account to help inform the design and sequencing of a preferred policy package.

18. Further, if and when policy decisions are taken there is a need for additional care over the content of announcements as these may have a material impact on publicly traded firms.

Part A: Encouraging energy efficiency and the uptake of renewables in industry

19. Changing how industry uses energy will be a crucial component of New Zealand's transition to a productive, low emissions economy. Six areas have been identified for feedback in Part A. These are:

    19.1. Addressing information failures

    19.2. Development markets for bioenergy and direct geothermal use

    19.3. Innovating and building capacity

    19.4. Phasing out fossil fuels in process heat

    19.5. Boosting investment in renewable energy efficiency and renewable energy technologies

    19.6. Cost recovery mechanisms

Section 1: Addressing information failures

20. The discussion document seeks feedback on a proposed option to put in place Corporate Energy Transition Plans (CETPs) (option 1.1) as a key first step in enabling industry to transition to a low emissions economy. CETPs would create a mandatory requirement on industry to report their energy use and emissions, undertake periodic energy audits, and publish their plans to reduce emissions to 2050. This option increases transparency and enables firms to plan their transition and act according to their specific circumstances. There will be compliance costs, but

they are not expected to be significant for large users relative to some of the other options in the discussion paper.

21. In the future, the emissions reporting and energy audit obligations under the CETPs could be a key input for informing the development of emissions budgets. As well as informing the design of future policies, the CETPs would enable more effective design and measurement of existing and proposed policies.

22. An electrification information package and feasibility studies (option 1.2) aim to provide clear and reliable information on the electrification process for industrial sites. This option could be progressed without public consultation, however I believe consultation will be beneficial to inform how a package could be designed to deliver the maximum benefit to industry.

23. Benchmarking in food processing (option 1.3) would identify sites that are underperforming in energy efficiency and emissions intensity and would compare them to the top performing sites within the sector. This option could be developed without consultation, however the CETPs could inform a more effective benchmarking programme and it should be considered alongside that option.

Section 2: Developing markets for bioenergy and direct geothermal use

24. I propose to consult on developing a users' guide on the application of the National Environmental Standards for Air Quality to Wood Energy (option 2.1). This could make it easier for businesses to obtain resource consents for wood energy facilities.

25. This is the only proposal developed in this section. At this stage, we are not proposing any additional discrete options to support the development of biomass and geothermal heat markets. Instead the section outlines how bioenergy and geothermal supply barriers can be addressed through existing and emerging government initiatives such as the Industry Transformation Plans for forestry and wood processing. The consultation will seek further information from stakeholders on how they believe these initiatives will impact the supply and demand of biomass and geothermal energy.

Section 3: Innovating and building capacity

26. The discussion paper seeks feedback on an option to expand EECA's grants for technology demonstration (option 3.1). Expansion of these activities could help to de-risk a wider range of energy technologies, improve the familiarity of new technologies with engineers and energy consultants, and help overcome embryonic markets for clean energy services and technologies. Constitutional conventions [redacted]

27. Low-carbon roadmaps for emissions-intensive highly integrated[2] industries (option 3.2) would look to create a partnership between government and these industries,

2 Industries, where the use of heat tends to be tightly integrated with its manufacturing process, have technologies that are built into the plant for the duration of its life. These in-built technologies are highly bespoke, embedded into a plant and tend to be specific to a given industrial process. Examples of industries in New Zealand with inbuilt technologies include chemicals, petrochemicals, cement, aluminium and steel. These industries are also characterised as being single-plant and highly process heat-intensive. For this category, there are typically only limited opportunities to switch to different technologies without re-building the plant.

such as steel manufacturing, on industrial decarbonisation. Opportunities to decarbonise these industries in the short-medium term are limited. I consider this option as an exploratory measure to investigate the long-term opportunities and challenges of such industries in a low emissions economy. Consultation is necessary to inform the viability and the design of this approach.

Section 4: Phasing out fossil fuels in process heat

28. The ICCC's, *Accelerated Electrification* report, recommended that the Government strongly encourages the phase out of fossil fuels in process heat. Two options for consideration in this section respond to this recommendation.

29. Both options have the potential to interfere with NZ-ETS prices and could force higher cost abatement in the economy. The two options are: introducing a ban on new coal-fired boilers for low and medium temperature requirements (option 5.1), and requiring existing coal-fired process heat equipment supplying end-use temperature requirements below 100°C to be phased out by 2030 (option 5.2).

30. These options have been included for consultation because even if the NZ-ETS price rises to levels sufficient to drive significant change, it will likely take some time for prices to have a material impact on emissions reductions in the industrial sector.[3]

31. It is difficult to assess the likelihood of there being new investment in long-lived emissions-intensive assets (e.g. new coal plants). However, there is a possibility for new investment in coal plant, especially in the South Island. Such investments would lock in additional emissions for the coming decades, negating abatement efforts.

Section 5: Boosting investment in energy efficiency and renewable energy technologies

32. This section seeks feedback on the role of complementary measures to the NZ-ETS to accelerate investment in energy efficiency and renewable energy technologies in industry.

33. Submitters on the process heat technical paper indicated that a major barrier to the implementation of energy projects in industry is competition for capital and access to capital. Even when energy projects are privately profitable, they can remain unimplemented as other more attractive, easily quantifiable, or essential to core business projects are prioritised. As such, a gap exists between the carbon price that would make a project profitable and the price that would make a project a priority for implementation.

34. This section is a high level discussion on ways to address this gap through either regulation or incentives. It does not identify specific proposals; rather I am seeking feedback and gathering further information on the types of levers that could be used.

35. Due to the nature of these approaches (i.e. the scale of investments by government and/or industry likely required), they need to be carefully considered alongside broader government decisions on NZ-ETS settings, the role of complementary

3 For example, previous settings within the NZ ETS have led to considerably more NZUs accumulating in private accounts than is needed for participants to meet their obligations. This has resulted in an oversupplied scheme with a large 'stockpile' of NZUs.

measures to the NZ-ETS, other proposals in this paper, and the pace and pathways required to meet domestic emission reduction targets.

36. At this stage, I do not recommend any regulation or incentives to drive investment in low emissions energy technologies are further developed. Changes to the NZ-ETS, and other options discussed in this paper should be considered as first steps to drive changes in industrial energy use.

Section 6: Cost recovery mechanisms

37. In order to scale up efforts to achieve the Government's process heat outcomes, additional funds will be required to implement some options. I propose to examine whether a levy on coal consumers is appropriate to fund implementation of any proposals agreed by Cabinet. Inclusion of the option to levy coal consumption is important if Government considers this as an option to increase funds.

Part B: Accelerating renewable electricity generation and infrastructure

38. Part B of the discussion document outlines a range of options to address barriers and accelerate investment in renewable energy. Areas of focus include:

    38.1. Enabling development of renewable electricity generation under the Resource Management Act 1991

    38.2. Supporting renewable electricity generation investment

    38.3. Local and community energy engagement

    38.4. Connecting to the national grid

    38.5. Local network connections and trading arrangements

Section 7: Enabling development of renewable electricity generation under the Resource Management Act 1991

39. In this section, working with the Minister for the Environment, I propose to seek feedback on amending the National Policy Statement for Renewable Electricity Generation (NPSREG) (option 7.1) for example, to outline what specific policies could be included in the NPSREG to facilitate renewable energy projects. This is in line with Cabinet's decision on the response to the ICCC's, *Accelerated Electrification* report, that workable policy options be identified to revise the NPSREG to be more directive, and also to consider the development of a National Environmental Standard on renewable electricity [CAB-19-MIN-0334 refers].

40. The NPSREG is the first key step to provide stronger and clearer national direction on planning and consenting for renewable energy facilities and activities under the Resource Management Act.

41. I also propose to seek feedback on undertaking background work to assess whether and how National Environmental Standards or National Planning Standards complementary to the NPSREG could be developed.

42. Options relating to spatial planning and pre-approval of new renewable developments are also discussed in this section.

Section 8: Supporting renewable electricity generation investment

43. Options in this section outline ways in which investment in supply- and demand-side renewable electricity generation could be accelerated further. The discussion document seeks feedback on:

    43.1. The opportunity for a renewable power purchase agreement (PPA) platform in a New Zealand context to encourage electrification of process heat and the wider energy sector (option 8.1). A platform could provide information resources, a network of energy buyers and project developers, inexpensive training and advice on PPA requirements. A platform could also aggregate small loads to match with a new source of renewable electricity supply. It may also underwrite PPAs to lower the cost of electricity for new users.

    43.2. Development of markets for demand response in New Zealand, including which demand response services are important to develop, their priority for development, and the role for government in developing such markets (option 8.2). Demand response alone would not significantly increase investment in renewables, but it could encourage the uptake of emerging technologies like batteries. It also complements other options in the discussion document, and could enable greater consumer and community participation in the energy sector.

    43.3. Energy efficiency obligations on retailers and/or distributors to deploy energy efficient technologies across their customer and/or asset base (option 8.3). Such obligations would complement existing Minimum Energy Performance standards enabled under the Energy Efficiency and Conservation Act 2000. As with demand response services, we ask what priority should be given to energy efficiency and whether energy efficiency obligations would be an effective policy to deliver increased investment in energy savings technologies.

44. Regulatory and economic requirements to develop offshore wind assets in New Zealand and what priority should be given to developing an offshore wind market (option 8.4). This technology is within scope of the Transition Pathway for the Taranaki 2050 vision and could be investigated by the National New Energy Development Centre (NNEDC) in the region. The document also seeks further information on two options to determine whether they should be further progressed. These options need to be considered carefully as they have potential to interact negatively with the emissions price and could force higher cost abatement if not considered in depth alongside other government decisions on the NZ-ETS and complementary measures. They have however been included in the discussion document to allow for consideration of their merits and public feedback. These options are:

    44.1. Introducing Renewable Portfolio Standards that create a requirement for retailers and/or large electricity users (buyers) to procure a given quota of renewable electricity (option 8.5). Participants will need to prove that they

have met their quota by purchasing Renewable Electricity Certificates (RECs). RECs are allocated to eligible new renewable electricity projects and are therefore limited in supply. The quota is gradually increased incentivising new investment to ensure there are enough RECs in supply for participants to meet their RPS requirements. This option could lift the economic value of new renewables to accelerate investment. However, the option would be costly to implement and there are risks if a quota is set too high or too low.

44.2. A policy option for managed phase out of baseload thermal generation ahead of what is expected under business-as-usual (option 8.6). To manage security of supply the option proposes that thermal peaking generation is retained, and thermal baseload assets could be phased out by placing them in a 'strategic reserve' during a transitional phase until sufficient renewable capacity is built to replace them. This means these baseload assets would be remunerated for remaining operational, but would not be generating unless there is an emergency. Constitutional conventions I propose to seek stakeholder feedback and initiate a wider discussion about the best way to ensure resource adequacy as the contribution of variable renewables, like wind and solar, grows.

45. A number of other options are assessed and included for completeness at the end of this section. I am not recommending them for further investigation at this stage.

Section 9: Facilitating local and community engagement in renewable energy and energy efficiency

46. This section builds from EECA-led research into community energy in New Zealand. Some of the challenges around community energy are addressed in other parts of the discussion paper, or existing work programmes of the regulatory agencies. For example, the Electricity Authority has a number of projects relevant to connection of small scale, distributed energy.

47. I believe it is better to effectively implement these programmes, rather than create new work specific to community energy, so this section does not propose any specific options. I do, however, propose to look at:

47.1. Whether there is scope to better align the position on community energy across different agencies and regulators; and

47.2. funding a small number of community energy pilot projects – Constitutional conventions

Section 10: Connecting to the national grid

48. This section sets out issues with connecting to the national grid which could potentially slow or hold up the deployment and uptake of renewable electricity

generation or process heat electrification, risking delays in decarbonisation. It seeks feedback on options to address the following:

48.1. There is a first mover disadvantage in getting a new connection to the grid. Options to address this include: encouraging Transpower to include the economic benefits of climate change mitigation in applications for approval of major capital expenditure (option 10.1), creating mechanisms to encourage parties to develop alternative forms of cost sharing (option 10.2), or shifting some of the financial risk away from the first mover (option 10.3).

48.2. There is limited public information and access to independent data on where new generation is likely to be built, or where large demand is likely to be added. Options presented include: providing geospatial data (option 10.4), more frequent and detailed generation and demand scenarios (option 10.5), and guidance on regulatory and approval processes for connecting (option 10.6).

48.3. There is a lack of information sharing for coordinated investment. Options to enhance information sharing between relevant parties include: provide a map of potential demand and generation sources (option 10.7), and/or introduce measures to enable coordination of generation sites (option 10.8).

49. The challenge is to enable increased renewable generation and process heat demand while managing the risks of over and under-investment in the grid.

Section 11: Local network connections and trading arrangements

50. This section summarises regulatory arrangements and work underway to address barriers to connecting to the local network, issues with the arrangements for trading on the local network, and issues with pricing and cost allocation for network connections and services.

51. New generation and large potential electricity users (such as process heat sites) can connect to a local network instead of the national grid. More broadly, local network providers have a role in providing the right price signals to consumers who want to be more actively engaged in demand response. Consumers need to have access to data and to be able to offer services to the network, such as battery storage.

52. Consumers and new service providers also need to be able to access and trade on the local network to actively engage in the electricity market.

53. This section seeks views on whether enough is being done through the work programmes of the Electricity Authority and Commerce Commission to enable connections to, and trading on, the local network.

Consultation

54. The following agencies were consulted on the contents of this paper and the attached discussion paper: the Ministry for the Environment, The Treasury, Inland Revenue Department, the Ministry of Primary Industries, the Department of

Conservation, and the Energy Efficiency and Conservation Authority. The Electricity Authority and Commerce Commission were consulted on options relating to the regulatory functions of these agencies.

55. The Department of Prime Minister and Cabinet has been informed.

56. I intend to release this discussion document for public consultation, commencing in December 2019 and concluding in February 2020.

Financial Implications

57. There are no financial implications associated with releasing the discussion paper for public consultation.

Legislative Implications

58. This proposal has no legislative implications.

Impact Analysis

59. The discussion document substitutes for a Regulatory Impact Assessment. MBIE's Regulatory Impact Analysis Review Panel has reviewed the discussion document and confirms that it is likely to lead to effective consultation, and support the delivery of Regulatory Impact Analysis to support subsequent decisions.

Climate Implications of Policy Analysis

60. The Ministry for the Environment has reviewed the greenhouse gas analysis included in the discussion paper as it relates to the Climate Implications of Policy Assessment (CIPA) requirement. The discussion paper presents high level information on the likely impacts of these options, where evidence exists. The Ministry for the Environment expects that this analysis will be further refined and reported once a preferred package of options to enable the energy transition has been identified.

Human Rights

61. The proposals in this paper are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Gender Implications

62. There are no gender implications with this paper.

Disability Perspective

63. There are no disability implications with this paper.

Publicity

64. I will issue a media statement inviting the public to make submissions when I release the discussion paper for public consultation on MBIE's website. It will be supported by further information on the website and social media, and other communication

channels. The discussion paper will also be emailed to our Treaty partners, and interested stakeholders at the beginning of the consultation period.

Proactive Release

65. I intend to proactively release this paper when the discussion paper titled, "*Accelerating renewable energy and energy efficiency"* is released for public consultation, subject to any redactions consistent with the Official Information Act 1982.

Recommendations

The Minister of Energy and Resources recommends that the Committee:

1. **Agree** to the release of the attached discussion paper titled "*Accelerating renewable energy and energy efficiency"* for public consultation.

2. **Authorise** the Ministry of Business, Innovation and Employment to make minor amendments and refinements to the discussion paper prior to its release.

3. **Note** that the public consultation period is intended to commence in December 2019 and conclude in February 2020.

4. **Note** that this paper will be proactively released, subject to any appropriate redactions.

Authorised for lodgement

Hon Dr Megan Woods

Minister of Energy and Resources