



## COVERSHEET

<b>Minister</b>	Hon Dr Megan Woods	<b>Portfolio</b>	Minister of Energy and Resources
<b>Name of paper</b>	Proposed response to Interim Climate Change Committee recommendations on accelerated electrification.	<b>Date of issue</b>	16 July 2019

<b>List of documents that have been proactively released</b>		
<b>Date</b>	<b>Title</b>	<b>Author</b>
1/7/2019	<i>Proposed response to Interim Climate Change Committee recommendations on accelerated electrification.</i>	<i>Mark Pickup</i>
1/7/2019	<i>CAB-19-MIN-0334</i>	<i>Cabinet Office</i>
	<i>MBIE recommends the proactive release of the Cabinet paper and supporting documents with some information withheld consistent with the following sections of the Official Information Act 1982:</i>  <i>➤ Confidential advice to Government - Section 9(2)(f)(iv).</i>	<i>Ministry of Business, Innovation and Employment</i>

### **Information withheld**

Some parts of this information release are not appropriate to be released and, if requested, would be withheld under the Official Information Act 1982 (the Act). Where this is the case, the relevant sections of the Act that would apply have been identified and are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

<b>Section of the Act</b>	<b>Reason for withholding</b>
<i>Section 9(2)(f) (iv)</i>	<i>Confidential advice to Government.</i>

In Confidence

Office of the Minister of Energy and Resources

Office of the Minister for the Environment

Chair, Cabinet Environment, Energy and Climate Committee

## **PROPOSED RESPONSE TO INTERIM CLIMATE CHANGE COMMITTEE RECOMMENDATIONS ON ACCELERATED ELECTRIFICATION**

### **Proposal**

1. I seek agreement on the responses outlined in this paper to the Interim Climate Change Committee (ICCC) report on Accelerated Electrification. These responses will form the Government's response to this ICCC report.
2. The Government's response to a number of the ICCC's recommendations will be taken forward as part of my proposed renewable energy strategy work programme, which I have outlined in a companion paper that should be considered alongside this paper.

### **Executive Summary**

3. This paper outlines the proposed government response to the ICCC recommendations.
4. The majority of the recommendations are consistent with Government policy and work already underway. These can easily be incorporated into, or used to support, the work programmes outlined in my proposed renewable energy strategy, which is being considered alongside this paper.
5. There are a small number of recommendations that will require further investigative work. Some will be incorporated into existing work programmes such as work on process heat as part of my proposed renewable energy strategy, and others will require their own future work programmes, such as investigating recommendations on pumped hydro storage.
6. In all such cases I propose we direct relevant agencies to report back to Ministers after investigations are carried out.

### **Background**

7. Government has agreed to set a 2050 target and put in place institutional arrangements to enable New Zealand to develop clear and stable climate change policies. This will contribute to the global effort under the Paris agreement to limit the global average temperature increase to 1.5 degrees Celsius above pre-industrial levels. As a part of the institutional arrangements, a Climate Change

Commission is proposed to be set up to provide independent expert advice and monitoring of progress towards government's 2050 target.

8. Ahead of the set up of a Climate Change Commission, the ICCC was set up in 2018 to make progress on approaches to key climate change issues. In particular, one of the issues that the Government requested the ICCC to provide advice on was planning for a transition to 100 per cent renewable electricity by 2035, taking into account the objective of minimising emissions from electricity generation, together with security of supply and affordability for consumers.
9. The ICCC has now reported back its advice in its report Accelerated Electrification. This Cabinet paper provides an initial response to this advice and the specific recommendations made by the ICCC.
10. The ICCC modelling showed that under a 'business as usual' scenario New Zealand is likely to reach an average of 93 per cent renewable electricity by 2035, with more wind, solar and geothermal built, and batteries deployed.
11. The ICCC modelling also showed that it is technically feasible to reach 100 per cent renewable electricity by overbuilding with known and foreseeable technology.

*"The modelling also shows that it is technically feasible to achieve 100% renewable electricity by 'overbuilding'. This means building additional renewable generation like wind and solar to cover dry years, and substantially increasing battery storage and demand response<sup>1</sup>."*

12. However, the ICCC concludes that achieving this comes at too high a cost:

*"Going from 99% to 100% renewable electricity by overbuilding would avoid only 0.3 Mt CO<sub>2</sub>e of emissions at a cost of over \$1,200 per tonne of CO<sub>2</sub>e avoided. It is also likely to result in much higher electricity prices than in the business as usual future<sup>2</sup>."*

13. What drives this conclusion is the need to manage New Zealand's dry year hydro shortage risk, as well as the need to cope with daily periods of low supply from wind and solar photovoltaic generation, and periods of peak demand. The paper makes specific recommendations on this issue that will be discussed later.
14. The ICCC report therefore recommended that, instead of pursuing the last few per cent of renewable electricity, the focus in the energy sector should be on electrifying transport and process heat, as this would achieve a larger reduction in emissions.
15. The ICCC's specific recommendations are divided into six sections. This Cabinet paper addresses the recommendations from each section in turn.

## 100 percent renewable electricity

<b>Recommendation 1:</b>
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1 Accelerated Electrification, ICCC, 2019, page 6.

2 Accelerated Electrification, ICCC, 2019, page 6.

The Committee recommends that the Government:

- a) Prioritises the ambitious electrification of transport and process heat over pursuing 100% renewable electricity by 2035 in a normal hydrological year because this could result in greater greenhouse gas emissions savings while keeping electricity prices affordable.
- b) Investigates the potential for pumped hydro storage to eliminate the use of fossil fuels in the electricity system.

### **Rec 1 (a) 100 per cent renewable electricity**

16. Our current government policy is to reach 100 per cent renewable electricity in a normal hydrological year by 2035, and ICCC advice was sought on planning to meet this goal.
17. As noted above, the ICCC report suggests that we are likely to reach higher levels of renewable electricity, but that as the percentage increases, the emissions abatement cost increases significantly. For example, moving from 99 per cent to 100 per cent renewable electricity is estimated to cost \$1,200 per tonne of CO<sub>2</sub>e. The ICCC also noted that the wholesale cost of electricity progressively rises with higher levels of renewables, with a significant jump moving from 99 per cent to 100 per cent.
18. The ICCC recommended that the Government should instead concentrate on using electrification to lower process heat and transport emissions. This is because switching to electricity in the transport and process heat sectors can lead to significant emissions reductions. If these sectors electrify, even though the level of emissions in the electricity system may not decrease, there will still be a significant net decrease in emissions.
19. The ICCC produced an 'accelerated electrification' modelling scenario that increased electricity demand to reflect a much greater level of electrification of process heat and transport. The results show that while emissions in the electricity sector could increase by about 3.6 Mt CO<sub>2</sub>e per year by 2035, this would be more than offset by emissions reductions in transport and process heat of 6.4 Mt CO<sub>2</sub>e and 2.6 Mt CO<sub>2</sub>e per year respectively. The result is a net emissions reduction of 5.4 Mt CO<sub>2</sub>e per year.
20. Avoiding electricity cost increases will therefore be important for encouraging other sectors of the economy to decarbonise through switching to electricity.
21. I propose that we acknowledge the ICCC's recommendation that the government concentrate on using electrification to lower process heat and transport emissions. In the short term, electrification can lead to significant emissions reductions.
22. I also propose that we retain our policy of 100 percent renewable electricity as an aspirational goal, to focus on in the longer term as we head closer to 2035. I note that moving toward this goal will require a focus on innovation and technology change in order to bring down the costs of meeting daily and seasonal demand peak challenges.

23. Government is laying the groundwork to assist in achieving this aspirational goal through its work to accelerate deployment of renewables, and through funding initiatives and institutions such as the Advanced Energy Technology Platform and New Energy Development Centre.

**Rec 1 (b) pumped hydro**

24. The ICCC recommends the investigation of pumped hydro storage<sup>3</sup> to meet dry year, intermittency and peak capacity requirements.
25. The ICCC considered pumped hydro storage along with several other options to displace fossil fuel generation, including hydrogen, biomass, large-scale demand interruption, and “overbuilt” renewable generation (through the 100 per cent renewable scenario).
26. It found that “no single solution stands out as a clear candidate to replace the relatively low-cost, flexible and low-emissions service that natural gas can provide to the electricity system”<sup>4</sup>, but of the options considered, pumped hydro had the lowest marginal cost of emissions abatement.
27. New Zealand has a number of sites where both large and small pumped storage schemes could be contemplated. The ICCC based its analysis on a scheme that has been previously investigated at Lake Onslow in Southland, sizing it to hold 5,000 GWh<sup>5</sup> of storage. This would involve diverting water from the Clutha River, and the construction of a dam, tunnels and a 1,000 MW hydro station.
28. In addition to this scheme there are a number of smaller schemes that could be contemplated, ranging in size from a few to several hundred GWh of storage.
29. My view is that while some of these schemes may be technically feasible, it is by no means clear that they would be undertaken. I note:
- 29.1. Given the high cost of pumped storage, generators in a market system will not be able to build any of these schemes without significant government support (the ICCC estimated that the cost of the Onslow scheme could be up to \$4 billion<sup>6</sup>, noting this is uncertain).
- 29.2. Many of the schemes will involve significant trade-offs with environmental goals, as they would require the flooding of large volumes of land.
- 29.3. Given that these proposals would have freshwater implications such as mixing of waters or diversion from natural flow, attention would also need to be paid to the commitments within Te Tiriti o Waitangi, settlement legislation, and other forms of statutory obligation or non-statutory agreements with iwi/Māori relating to freshwater management.

3 The common form of pumped storage is the pumping of water that has been utilised by a dam, back uphill to the reservoir or headwaters of the dam, to enable the water to be reutilised. Alternative schemes may divert water into large holding lakes or reservoirs that are only used in special circumstances.

4 Accelerated Electrification, ICCC, 2019, page 70.

5 Gigawatt hours

6 Based on an updated estimate from 2006

30. Nevertheless, I see some merit in the ICC's recommendation to investigate pumped hydro options in a more comprehensive way. Any such investigation would need to consider environmental, social and cultural implications of pumped hydro options, not just their technical and economic effects.
31. I propose to report back by the end of 2019 on who would be an appropriate agency or agencies to undertake this investigation and by when and at what cost.

### Accelerated electrification

#### Recommendation 2:

The Committee recommends that the Government:

- a) Sets a target to reduce emissions from transport by at least 6 Mt CO<sub>2</sub>e in the year 2035 relative to current levels and, without delay, introduces policies to achieve this target.
- c) Ensures that New Zealand does not become a dumping ground for fossil-fuelled vehicles.
- d) Proactively enables low-emissions mobility for low-income and rural households.

32. There are a number of government programmes underway that are intended to reduce vehicle emissions. These include:
- 32.1. **Low Emissions Vehicles Contestable Fund:** This fund supports projects that encourage innovation and investment in electric and other low emissions vehicles in New Zealand, as transport is responsible for about 18 per cent of our total annual greenhouse gas emissions. It is one way the Government is helping to accelerate the uptake of electric vehicles (EVs) and other low emission vehicles. The fund offers up to \$7 million a year to co-fund projects with private and public sector partners in areas where commercial returns are not yet strong enough to justify full private investment.
  - 32.2. **Interagency working group on EV charging:** Officials have formed an interagency working group to specifically look at EV charging issues for both public and private charging infrastructure, and the impacts on the electricity grid.
  - 32.3. **Government Procurement of low emissions vehicles:** Ensuring that the emissions profile of the government fleet is sinking over time to reach the Government's goal of transitioning the government fleet, where practicable, to zero emission by 2025/26 is a priority work programme.

### **Recommendation 2 (a) vehicle emissions target**

33. I note that the Climate Change Response (Zero Carbon) Amendment Bill (the Bill), currently being considered by Parliament, outlines a requirement that emissions reductions plans be set by Government to respond to emissions budgets. The Bill outlines that these plans must include sector-specific policies to reduce emissions and increase removals, and a multi-sector strategy to meet emissions budgets and improve the ability of those sectors to adapt to the effects of climate change. Setting sector specific policies in the plans will require government to consider what level of emissions reductions is expected from different sectors in the economy.
34. I propose that, rather than setting a specific target for emissions reductions in the transport sector, we address this recommendation by noting that sector-specific policies to reduce emissions are required to be included in the emissions reductions plan prepared by government to respond to emissions budgets.
35. More generally, I note that the Bill does not currently provide for emissions budgets to include consideration of sector specific emissions reduction targets. This is because sector-based targets can reduce flexibility to meet a target, and could lead to a risk that some sectors are required to reduce emissions at a faster rate and higher cost than reductions across an overall emissions budget. A single emissions budget allows greater flexibility to achieve an overall target across sectors.
36. If government were to investigate the possibility of sector specific targets at later date, advice could be sought from the Climate Change Commission on this issue. The Bill provides the ability for the Minister of Climate Change to request the Climate Change Commission to provide advice on issues such as whether there is a need for sector-based targets.

### **Recommendation 2 (b) dumping of fossil fuelled vehicles**

37. I recommend that the Government agrees that there is a need for policies to help ensure New Zealand does not become a dumping ground for fossil-fuelled vehicles and note that Cabinet has agreed to consult on a vehicle fuel efficiency standard and a feebate scheme as possible options to mitigate this risk [CAB-19-Min-0287 refers].

### **Recommendation 2 (c) low emissions vehicles for low income households**

38. I recommend that the Government agrees and supports an investigation into gaps that may emerge as New Zealand transitions to low-emission vehicles, and identifies how low-income and rural households may be impacted and possible mitigations. The Ministry of Transport (MoT) should be the lead agency on this work. Within this area, other agencies will sometimes lead. For example, work on a social vehicle leasing scheme is being led by the Ministry of Business, Innovation and Employment (MBIE).
39. Additionally, I note that wider work to consider distributional impacts of policies to address climate change is underway. Treasury, MBIE, the Ministry of Primary Industries (MPI), and the Ministry for the Environment (MfE) have been instructed by Cabinet to work collaboratively on advice to look at the expected distributional

impacts of possible higher carbon prices over time, and potential policy options to mitigate impacts.

**Recommendation 3:**

The Committee recommends that the Government strongly encourages the phase out of fossil fuels in process heat by:

- a) Deterring the development of any new fossil fuel process heat.
- e) Setting a clearly defined timetable to phase out fossil fuels in existing process heat, with the phase out of coal as a priority.
- f) Reducing regulatory barriers relating to electrification.

- 40. Based on its modelling of an ambitious electrification future, the ICCC recommends that the Government prioritise the accelerated electrification of transport and process heat because this could result in greater greenhouse gas emissions savings while keeping electricity prices affordable.
- 41. The ICCC looked at electrification in situations where process heat can be cost-effectively switched to electricity, such as space and water heating and food processing. The ICCC also noted that some types of process heat are more challenging to electrify than other types. Users of high temperature process heat have more limited fuel switching opportunities. For these situations, combusting biomass for steam requirements may be a possibility. However, availability is location-specific, and supply chains are presently undeveloped and may face development difficulties.

**Recommendation 3 (a) to 3 (c) process heat**

- 42. Recommendation 3 is well aligned to the work my officials are developing on process heat as a part of my proposed renewable energy strategy work programme. This work is progressing, with further work to come from officials on options relating to reducing process heat emissions. As this work is yet to come, we are not at this stage able to provide specific details on how we might address these recommendations.
- 43. I therefore recommend that we welcome the ICCC's recommendations and link these to my forthcoming policy work on process heat to be consulted on later this year.
- 44. Subsequent to this consultation I will bring specific proposals to Cabinet, which will respond to both the ICCC and Productivity Commission recommendations on process heat.

**Valuing hydropower**

**Recommendation 4:**

The Committee recommends that the Government ensures the value of existing hydro generation to New Zealand's climate change objectives is given sufficient weight when decisions

about freshwater are made, including by:

- a) Strengthening and clarifying national direction on making trade-offs between hydro generation and freshwater objectives across National Policy Statements.
- g) Working collaboratively with iwi/Māori to co-design solutions so that rights and interests in freshwater are resolved within the context of the Māori-Crown partnership

45. The ICCC report comments that, while hydropower is vital to the New Zealand electricity system, pressures are mounting to improve water quality, allocate water across competing uses, and restore “over-allocated” water bodies.
46. Resolving these pressures could see more water being required to flow down rivers in efforts to balance the competing demands for water use, as well as to improve the health of waterways.
47. If these changes happen it could adversely affect storage and system flexibility, as well as reduce the total capacity of hydro generation. Prior modelling of scenarios done for MfE and MPI in 2015 indicated that significantly reduced hydro inflows would reduce hydro generation, resulting in increased costs and increased emissions; whereas smaller changes had lower impacts, mainly affecting individual generators.

***Recommendation 4 (a) strengthening national direction***

48. I recommend we agree with this recommendation, as it reflects work currently underway.
49. The Water Taskforce, based at the Ministry for the Environment, is currently working on the Essential Freshwater work programme. Part of this work programme is specifically looking to strengthen and clarify national direction on the trade-offs between hydro-generation and freshwater objectives.
50. I agree with the ICCC that there is currently an unhelpful ambiguity present within the National Policy Statement on Freshwater Management (NPSFM) as it is unclear whether or not waterbodies containing hydroelectric generation infrastructure will be allowed to have freshwater objectives set below national bottom lines for water quality. I understand MfE will be consulting on an option to resolve this ambiguity in relation to the NPSFM as part of the larger freshwater consultation later this year..

***Recommendation 4 (b) collaboration with iwi/Māori***

51. Māori have identified a range of issues they wish to advance to address their rights and interests in freshwater. These include matters like: rights in decision-making, a stronger role in the management of water resources, users of water resources paying for that use (and the associated distribution of any resulting revenue), and the allocation of privileges to use water resources.
52. The Water Taskforce is currently in the process of developing possible new regimes for allocation of water resources, though at this stage the taskforce is focussing on an allocation system dealing with the discharge of nutrients (specifically nitrogen).

Aspects of Māori rights and interests in freshwater are inseparable from allocation decisions.

53. MfE propose to consult on various possible approaches to allocation later in 2019.
54. I recommend we respond to recommendation 4 (b) noting that Government will continue to work collaboratively with iwi/Māori in the possible development of new regimes for allocation.

### Providing for development of wind generation at scale

#### **Recommendation 5:**

The Committee recommends that the Government provides for the development of wind generation and its associated transmission and distribution infrastructure at scale by:

- a) Revising the National Policy Statement for Renewable Electricity Generation to resolve issues relating to lapsing and varying consents, and re-powering existing wind farms.
- h) Developing National Environmental Standards to enable timely consenting of wind generation, both large and small, and transmission and distribution infrastructure. This should include proactively identifying which types of landscapes are likely to be particularly suitable for wind infrastructure.

55. As with the previous recommendations on hydro-power, these recommendations align with the policy issues that we are examining in relation to the Resource Management Act 1991 (RMA).
56. Similar recommendations were also made in the Productivity Commission's *Low-emissions economy* report.
57. MBIE has been examining issues relating to renewable generation development and the RMA, including examining the performance of the National Policy Statement for Renewable Electricity Generation (NPSREG), and considering whether to undertake development of a National Environmental Standard on renewable electricity generation.
58. I support the ICCC recommendations and recommend that we respond by noting that officials will identify workable policy options to revise the NPSREG to be more directive, and also will consider the development of National Environmental Standards on renewable electricity.
59. This policy work will be led by MBIE but will have resourcing implications across both MBIE and MfE.
60. I am advised revising the NPSREG could cost approximately \$1 million and could be delivered in 24 months. This estimate is based on other national direction processes and covers the costs of additional staff and the necessary stakeholder consultation and other administrative processes. However, cost and time can range significantly depending on the options pursued and evidence required.

61.

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### A responsive regulatory system

#### Recommendation 6:

The Committee recommends that the Government ensures that:

- a) Regulators be required to take the objective of reducing emissions into account through mechanisms such as Government Policy Statements.
- i) The regulatory system:
  - i. Facilitates timely investment in the transmission network that optimises the development of new lines with the building of new power generation.
  - ii. Contains clear processes for approving, consenting and constructing new or upgraded electricity lines for process heat and electric vehicle infrastructure.
  - iii. Enables distributors and retailers to innovate and adapt to increasing levels of consumer-based technology.
  - iv. Enables consumers to get the right pricing signals to engage in demand response and make best use of new technologies.
- j) Barriers to distributed and off-grid renewable generation are identified and addressed, and ways to ensure communities can participate are considered.

62.

Confidential advice to Government

63. The ICCC's recommendations about timely investment and clear planning processes align with the policy I am developing on removing barriers to accelerating deployment of renewable generation.

64.

Confidential advice to Government

65. I think we can welcome all of the ICCC's recommendations on the regulatory system, but we should link them with forthcoming recommendations from the EPR and forthcoming policy decisions on renewable electricity before deciding when and how exactly to respond.

66. I will take specific proposals to Cabinet in response to both the ICCC and EPR, regulatory recommendations shortly, as part of my response to the EPR report later this year.

## **Consultation**

67. This paper has been prepared by MBIE in consultation with MfE and MoT.

## **Financial Implications**

68. Confidential advice to Government

## **Legislative Implications**

69. There are no legislative implications.

## **Impact Analysis**

70. No Regulatory Impact Statement or Cost Benefit Analysis is required as this paper does not propose any regulatory or legislative changes.

## **Human Rights**

71. This paper is consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

## **Gender Implications**

72. There are currently no gender implications.

## **Disability Perspective**

73. There are currently no disability implications.

## **Publicity**

74. I propose to make a public statement on Cabinet's agreed responses to the ICCC report on electricity.

75. The ICCC report should be released at the same time as my public statement.

## **Proactive Release**

76. I intend to release this Cabinet paper proactively in whole, within 30 business days.

## **Recommendations**

The Minister of Energy and Resources recommends that Cabinet:

### *100 per cent renewables*

1. note the ICCC 'Accelerated Electrification' report concludes that it is technically feasible to reach 100 per cent renewable electricity by overbuilding with known and foreseeable technology, but that achieving above 99 percent renewable electricity has a significant cost.

2. note the IPCC concludes that cheaper emission abatement can be achieved through concentrating on process heat and transport emissions.
3. note that the IPCC recommends prioritising the ambitious electrification of transport and process heat over pursuing 100 per cent renewable electricity by 2035 in a normal hydrological year because this could result in greater emissions savings while keeping electricity prices affordable.
4. note that a focus on lowering process heat and transport emissions through electrification will assist to reach the government's goal of net zero carbon emissions by 2050, while we continue to explore barriers to reaching 100 per cent renewable electricity.
5. agree to retain the target of 100 per cent renewable electricity in a normal hydrological year as a longer term aspirational goal.
6. note that the IPCC recommends investigating the potential for pumped hydro storage to eliminate the use of fossil fuels in the electricity system.
7. direct the Minister of Energy and Resources to report back by the end of 2019 on who would be an appropriate agency or agencies to undertake the investigation into pumped hydro, and by when and at what cost.

#### *Transport*

8. note the IPCC recommends the government sets a target to reduce emissions from transport by at least 6 Mt CO<sub>2</sub>e in the year 2035 relative to current levels and, without delay, introduces policies to achieve this target.
9. note there are already a number of government programmes underway that are intended to reduce vehicle emissions, including the Low Emissions Vehicles Contestable Fund, interagency working group on electric vehicle charging and Government Procurement of low emissions vehicles.
10. note that sector-specific policies to reduce emissions are proposed to be required in the emissions reductions plan that would be prepared to respond to emissions budgets, and that in setting these plans, government would need to consider what levels of emissions reductions are expected from different sectors of the economy.
11. note that, rather than setting a specific target for emissions reductions in the transport sector, the IPCC recommendation can be addressed through the proposed requirement for consideration of sector-specific policies in emissions reductions plans.
12. note the IPCC recommends the government ensures that New Zealand does not become a dumping ground for fossil-fuelled vehicles.
13. agree that there is a need for policies to help ensure New Zealand does not become a dumping ground for fossil-fuelled vehicles and note that Cabinet has agreed to consult on a vehicle fuel efficiency standard and a feebate scheme as possible options to mitigate this risk [DEV-19-Min-0149 refers].

14. note the ICCC recommends the government proactively enables low-emissions mobility for low-income and rural households.
15. direct the Minister of Transport to investigate gaps that may emerge as New Zealand transitions to low-emission vehicles, and identify how low-income and rural households may be impacted and possible mitigations.

#### *Process Heat*

16. note the ICCC recommends that the government strongly encourages the phase out of fossil fuels in process heat by:
  - a. deterring the development of any new fossil fuel process heat.
  - b. setting a clearly defined timetable to phase out fossil fuels in existing process heat, with the phase out of coal as a priority.
  - c. reducing regulatory barriers relating to electrification.
17. agree to support the overarching recommendation of the ICCC to strongly encourage the phase out of fossil fuels for process heat.
18. note I expect to bring specific recommendations relating to process heat to Cabinet later this year.

#### *Hydropower*

19. note the ICCC recommends strengthening and clarifying national direction on making trade-offs between hydro generation and freshwater objectives across National Policy Statements.
20. note the Water Taskforce, based at the MfE, is currently working on the Essential Freshwater work programme, and this is specifically looking to strengthen and clarify national direction on the trade-offs between hydro-generation and freshwater objectives within the National Policy Statement on Freshwater Management.
21. agree to support the ICCC recommendation to clarify national direction on making trade-offs between hydro generation and freshwater objectives across National Policy Statements.
22. note the ICCC recommends working collaboratively with iwi/Māori to co-design solutions so that rights and interests in freshwater are resolved within the context of the Māori-Crown partnership.
23. note that Government will continue to work collaboratively with iwi/Māori to co-design solutions so that rights and interests in freshwater are appropriately considered.

## Wind

24. note the ICCC recommends revising the National Policy Statement for Renewable Electricity Generation to resolve issues relating to lapsing and varying consents, and re-powering existing wind farms.
25. note the ICCC recommends developing National Environmental Standards to enable timely consenting of wind generation, both large and small, and transmission and distribution infrastructure. This should include proactively identifying which types of landscapes are likely to be particularly suitable for wind infrastructure.
26. direct MBIE officials to identify workable policy options to revise the National Policy Statement for Renewable Electricity Generation to be more directive, and also to consider the development of a National Environmental Standard on renewable electricity.
27. note that MfE and MBIE officials advise that completing this work could cost approximately \$1 million and could be delivered within 24 months.

28. **Confidential advice to Government**

## Regulatory systems

29. note the ICCC recommends that regulators be required to take the objective of reducing emissions into account through mechanisms such as Government Policy Statements.
30. **Confidential advice to Government**

31. note the ICCC recommends that the regulatory system:

- 31.1. Facilitates timely investment in the transmission network that optimises the development of new lines with the building of new power generation.
- 31.2. Contains clear processes for approving, consenting and constructing new or upgraded electricity lines for process heat and electric vehicle infrastructure.
- 31.3. Enables distributors and retailers to innovate and adapt to increasing levels of consumer-based technology.
- 31.4. Enables consumers to get the right pricing signals to engage in demand response and make best use of new technologies.

32. note the ICCC recommends that barriers to distributed and off-grid renewable generation are identified and addressed, and ways to ensure communities can participate are considered.
33. note the ICCC's recommendations about timely investment and clear planning processes align with the policy I am developing on improving renewable electricity levels.

34. Confidential advice to Government

35. agree to accept the ICCC recommendations on regulatory systems.

36. note I will take specific proposals to Cabinet in response to both the ICCC and Electricity Price Review regulatory recommendations shortly as part of my response to the Electricity Price Review report.

Authorised for lodgement

Hon Megan Woods

Minister for Energy and Resources

Authorised for lodgement

Hon David Parker

Minister for the Environment

PROACTIVELY RELEASED