



## COVERSHEET

<b>Minister</b>	Hon Dr Megan Woods	<b>Portfolio</b>	Minister of Energy and Resources
<b>Title of Cabinet paper</b>	Release of the hydrogen green paper: A vision for hydrogen in New Zealand	<b>Date to be published</b>	6 December 2019

<b>List of documents that have been proactively released</b>		
<b>Date</b>	<b>Title</b>	<b>Author</b>
3/04/2019	Release of the hydrogen green paper: A vision for hydrogen in New Zealand	<i>Office of the Minister of Energy and Resources</i>
3/04/2019	<i>DEV-19-MIN-0060</i>	<i>Cabinet Economic Development Committee</i>
	<i>Ministry of Business, Innovation and Employment (MBIE) recommends the proactive release of the Cabinet paper, Release of the Hydrogen Green Paper: A Vision for Hydrogen in New Zealand and the corresponding Minute of Decision, with no redactions.</i>	<i>MBIE</i>

### Information redacted

**YES / NO** [select one]

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.

In Confidence

Office of the Minister of Energy and Resources

Chair, Cabinet Economic Development Committee

## **RELEASE OF THE HYDROGEN GREEN PAPER: A VISION FOR HYDROGEN IN NEW ZEALAND**

### **Proposal**

1. This paper asks Cabinet to note the approach I have taken to developing a hydrogen green paper.
2. This paper also seeks agreement from Cabinet to delegate authority to me, in consultation with the Minister of Economic Development, to release the hydrogen green paper around the time of the Just Transitions Summit on 9 and 10 May 2019.

### **Background**

3. Hydrogen has the potential to play a significant role in New Zealand's energy system. Hydrogen offers a flexible and clean approach to energy for New Zealand. In the domestic market, hydrogen could potentially heat our buildings, power our vehicles, supply our industrial processes and increase energy system resilience. These applications represent opportunities to create jobs while lowering our CO2 emissions and enhancing our energy system.
4. Internationally, demand for hydrogen is set to increase substantially over the coming decades. Countries like Japan that import most of their energy in the form of coal, oil and natural gas need cleaner energy to meet their CO2 emissions reduction targets. Therefore, Japan, South Korea, United Kingdom, Germany, France and China have invested heavily in hydrogen research, development and demonstration projects, and in some cases, national strategies.
5. Organisations in the New Zealand domestic market are investing in hydrogen. For example, Ports of Auckland has committed to building a hydrogen production and refuelling facility. The company, along with its project partners Auckland Council, KiwiRail and Auckland Transport will invest in hydrogen fuel cell vehicles as part of the project. Similarly, Tuaropaki Trust has partnered with Japanese multinational Obayashi Corporation to construct a pilot hydrogen production facility using geothermal electricity. This indicates that New Zealand firms are seeing the potential and opportunities for hydrogen in our future economy.
6. The market ecosystem for production and use of hydrogen is in its infancy, and the New Zealand specific evidence base for policy making is not yet well developed. Therefore, it would be beneficial for the Government to engage New Zealanders in a conversation about the potential for building a hydrogen economy and about exploring the opportunities for hydrogen in our energy system.
7. As such, I directed the Ministry of Business, Innovation and Employment (MBIE) to develop a hydrogen green paper for New Zealand.

### **Approach for developing a hydrogen green paper**

8. MBIE has contracted ARUP ([www.arup.com](http://www.arup.com)), a multinational professional services firm which provides engineering, design, planning, project management and consulting services to

explore the current and future economic opportunities for hydrogen. ARUP specialises in the energy sector, working with clients to shape a better world through the efficient, affordable and sustainable sourcing of energy.

9. MBIE and ARUP are developing a vision for hydrogen in New Zealand, in the form of a green paper with questions seeking stakeholder feedback. The paper will provide a broad vision that covers the scope of its potential and frames the discussion for its integration into a subsequent green hydrogen strategy. The paper will also provide a solid platform for seeking feedback from stakeholders about the challenges and opportunities for building a hydrogen economy in New Zealand.
10. This work will also feed into a wider renewable energy strategy for New Zealand. A two-stage process like this would enable stakeholders to engage in the process, and ensure any Government action is well supported and consistent with market direction.
11. This two-stage process is also consistent with the approach taken by Australia, which published a white paper in August 2018 called *Hydrogen for Australia's future* and has subsequently commissioned the development of a hydrogen strategy by the end of this year.
12. At the interagency level, a working group with officials from the Ministry of Foreign Affairs and Trade, the Ministry of Transport, the Ministry of Environment and Worksafe, have been working with ARUP and MBIE on developing the green paper by providing input and feedback on work that ARUP produce. From within MBIE there are representatives from the Science and Innovation, Energy Markets, Resource Markets and Just Transitions policy teams.
13. A steering group of senior MBIE leaders has also been established to oversee and provide guidance for the developmental process.
14. I have attached as Annex 1 a near final draft table of contents for the green paper, with a description of the topics to be included in each section, and I welcome your feedback on this.

## Risks

15. MBIE and ARUP have identified one key risk, about timing, which is explained below.

Risk	Description	Mitigation
Timing	Some stakeholders may view the strategy as “picking winners”, without a strong evidence base. There is a risk that the government could be seen to be leaping to solutions, before the development of a broader renewable energy strategy.	<p>MBIE held four stakeholder workshops to help inform the development of the green paper.</p> <p>Instead of leaping to solutions, the green paper for hydrogen in New Zealand will seek feedback from the public and will feed into a broader renewable energy strategy.</p> <p>There will be strong emphasis on stakeholder engagement and officials from MBIE will continue to collaborate and consult as they develop a subsequent renewable energy strategy, following the release of the green paper.</p>

## **Consultation with Stakeholders**

16. MBIE held four workshops with key stakeholders to help inform the development of the green paper. The first workshop was held in Wellington on 6 March, the second in Auckland on 7 March, the third in Christchurch on 8 March and the fourth in New Plymouth on 14 March. The stakeholders invited include energy-sector businesses, research institutions, government agencies, local government and some iwi. MBIE proposes broader engagement with iwi as part of the transition to a low emissions economy.

## **Timing of release**

17. The hydrogen green paper is scheduled for release at or soon after the Just Transitions Summit in New Plymouth on 9 and 10 May 2019.
18. To achieve this timing, I recommend that Cabinet agree to delegate authority to me, in consultation with the Minister of Economic Development, to release the final hydrogen green paper at or soon after the Just Transitions Summit.
19. The green paper, once released for public consultation, will seek feedback on the vision for hydrogen in New Zealand through a number of questions.

## **Financial Implications**

20. There are no financial implications associated with releasing the hydrogen green paper other than the cost of ARUP's work and publishing the green paper.

## **Legislative Implications**

21. There are no legislative implications associated with the release of this hydrogen green paper.
22. Subsequent stages of the review may identify options for solutions that mean there are regulatory issues that need adjusting. If this is the case, they will be addressed in future Cabinet papers.

## **Regulatory Impact Analysis**

23. Regulatory impact analysis requirements do not apply at this stage. A regulatory impact statement will be prepared when policy decisions are sought.

## **Human Rights**

24. No inconsistencies with the New Zealand Bill of Rights Act 1990 or the Human Rights Act 1993 have been identified.

## **Publicity**

25. MBIE has published some high-level information for stakeholders including their opportunities to participate in the work, on the MBIE website.
26. MBIE will prepare a full communication plan, key messages, reactive Q&A's and other material, as required, for the release of the green paper.

## Next Steps

27. MBIE will work with ARUP to complete the hydrogen green paper around the time of the Just Transitions Summit on 9 and 10 May 2019.

## Recommendations

The Minister of Energy and Resources recommends that the Committee:

1. **Note** the approach I have taken to developing a hydrogen green paper which is scheduled for release around the time of the Just Transitions Summit in New Plymouth on 9 and 10 May 2019.
2. **Note** the near final draft table of contents for the green paper, attached as Annex 1, with a description of the topics to be included in each section, which I welcome your feedback on.
3. **Agree** to delegate authority to me, in consultation with the Minister of Economic Development, to release the final hydrogen green paper at or soon after the Just Transitions Summit.
4. **Note** that the green paper, once released for public consultation, will seek feedback on the vision for hydrogen in New Zealand through a number of questions.

## Authorised for lodgement

Hon Dr Megan Woods

Minister of Energy and Resources