MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Shane Jones	**Portfolio**	Resources
Title of Cabinet paper	Regulatory Proposals for Natural and Orange Hydrogen Development: Release of Discussion Document	**Date to be published**	24 June 2025

List of documents that have been proactively released		
Date	**Title**	**Author**
1 May 2025	Regulatory Proposals for Natural and Orange Hydrogen Development: Release of Discussion Document	Office of Minister for Resources
7 May 2025	Regulatory Proposals for Natural and Orange Hydrogen Development: Release of Discussion Document ECO-25-MIN-0062 Minute of Decision	Cabinet Office

Information redacted **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.

Note the discussion document attached to the Cabinet paper is being withheld as it has already been publicly released.

In Confidence

Office of the Minister for Resources

Cabinet Economic Policy Committee

Regulatory proposals for natural and orange hydrogen development: Release of discussion document

Proposal

1 This paper seeks agreement to release a discussion document on regulatory proposals for natural and orange hydrogen development for public consultation (attached at Appendix 1).

Relation to government priorities

2 The proposal supports the Coalition Agreement commitment between the National Party and New Zealand First to ‘ensure the government's energy settings allow for the exploration of natural geological hydrogen in New Zealand, to maximise future energy resilience’.

3 This commitment is also reflected under the Government’s Hydrogen Action Plan that was released in December 2024. The Minerals Strategy for New Zealand to 2040 that was released in January 2025 also outlined the Government’s commitment to review regulatory settings for new resources such as natural hydrogen.

Executive summary

4 Hydrogen is an attractive energy source as it has a wide range of applications, and it produces zero carbon emissions when it is used in a fuel cell to generate electricity (e.g. hydrogen fuel cell vehicles) and combusted for heat and energy. While hydrogen itself is clean when burned, its carbon footprint depends on how it is produced. Natural and orange hydrogen are gaining interest worldwide, as they potentially have lower production costs and carbon emissions to produce than other types of hydrogen. As a potential new resource and energy source, natural and orange hydrogen could unlock opportunities for economic growth and energy security and resilience.

5 There is interest in natural and orange hydrogen development in New Zealand and having a clear and certain regulatory framework, including clarity around if and how the *Crown Minerals Act 1991* (CMA) applies, is key to encourage investment.

6 As the exploration and development of natural and orange hydrogen is an emerging industry, I see value in publicly consulting on the regulatory approach and how to best provide regulatory certainty. This will ensure we get regulatory settings right. The Ministry of Business, Innovation and

Employment (MBIE) has developed a discussion document which I am seeking Cabinet agreement to release in May 2025 for approximately a six-week consultation period. Following public consultation and analysis of submissions, I will report back to Cabinet on final regulatory proposals in the second half of 2025.

Introduction

7 Hydrogen is the lightest and most abundant element in the universe. It can carry and store energy like a battery. This energy can then be used to produce electricity through a fuel cell to power machines or combusted for heat and energy. It has a wide range of applications in sectors ranging from electricity generation, industrial processes, and fuel for heavy transport. Hydrogen does not produce carbon emissions when it is used in a fuel cell or combusted.[1]

8 Hydrogen can be produced through a range of methods. To date, New Zealand mostly produces grey hydrogen using fossils fuels which results in high carbon emissions. Green hydrogen is produced using renewable energy and is currently being trialled and deployed in New Zealand at a small scale as a low-carbon fuel.

9 New Zealand has prospects for natural hydrogen (also known as white, gold, native and geological hydrogen) and orange hydrogen which is the focus of the proposal in this paper.

10 Natural hydrogen is generated naturally through various mineral sources and pathways in the earth's crust. These minerals can be found along much of the length of New Zealand. The science and evidence of natural hydrogen in New Zealand is still emerging and it is not clear whether significant natural hydrogen reservoirs exist under New Zealand. But New Zealand does have the minerals that offer the possibility of natural hydrogen accumulations, as well as those required for engineered orange hydrogen.

11 Orange hydrogen is generated by pumping water and carbon dioxide into particular minerals to stimulate hydrogen gas creation. This process can also permanently sequester carbon dioxide at the same time. The reaction to generate hydrogen can occur underground or in a production facility. The focus of this paper and the discussion document is on orange hydrogen being stimulated below ground with human intervention, with or without carbon sequestration.[2]

Enabling natural and orange hydrogen development could contribute to New Zealand's economic growth and energy security and resilience

12 A secure and affordable supply of energy is critical for our economy, our regions and our people. It is important that the Government continues to add

[1] Like any combustion process, hydrogen combustion can lead to nitrogen oxide emissions, but technologies and methods exists to help mitigate this.
[2] This is because there is already a clear regulatory pathway to mine magnesium and iron rich minerals if an above ground orange hydrogen production facility is planned.

to the energy mix to maximise future energy resilience. As a potential new resource and energy source, natural and orange hydrogen could unlock opportunities across New Zealand, if it is able to be developed in commercial quantities. Specifically, it could:

12.1 reduce emissions in hard-to-electrify industries (e.g. steel, cement, chemical production, and heavy air, sea and some land transport activities)

12.2 maintain and build high-value economic activity and employment by creating a new industry with export potential

12.3 support energy security and reliability by reducing the demand for imported fossil fuels, help to smooth energy demand and supply mismatches across time, and improve resilience to energy supply interruptions.

13 Adding natural and orange hydrogen to the energy system mix could support New Zealand to transition to a low-emissions economy and contribute to economic growth, energy security and resilience.

A clear and certain regulatory approach for development is vital for encouraging investment

14 Globally, natural hydrogen has been overlooked in the past due to the misconception that it rarely occurs naturally. As a result, regulatory frameworks for extractive mineral activities have not been designed with natural or orange hydrogen in mind.

15 Putting a clear, certain and appropriate regulatory regime in place is vital to encourage investment and enable development. I am aware of industry interest in natural and orange hydrogen development in New Zealand and that having a clear and certain regulatory pathway and clarity around if and how the CMA applies, is key to encourage investment.

Consultation on regulatory proposals for natural and orange hydrogen will ensure we get settings right

16 As the exploration and development of natural and orange hydrogen is an emerging industry, I see value in publicly consulting on the regulatory approach for it. This will ensure we get regulatory settings right. Public consultation will enable us to seek feedback from industry, iwi/Māori groups, the scientific community, environmental groups, local authorities and the general public on the proposals, benefits, risks, unintended consequences, and solutions to inform next steps.

Overview of the discussion document

17 The discussion document includes an introductory section covering what natural and orange hydrogen are and why enabling development is important. The second section covers the scope of the current legislative framework for minerals development in New Zealand, why providing a clear and certain

regulatory pathway is necessary for development and policy objectives for this work. It also covers how other countries (particularly Australia) are regulating natural and orange hydrogen, and related work in the Energy portfolio for an enabling framework for carbon capture.

18 The third section covers two high level proposals for feedback, which are:

18.1 Including hydrogen in the definition of a mineral under the CMA to regulate it as a mineral. This would mean that, where mineral rights are privately owned (or owned by iwi under a customary marine title) then the owner would have control over its development. Where mineral rights are held by the Crown, the right to access the minerals would be allocated under the CMA. Other regulatory requirements (e.g. environmental resource consents) would apply in both circumstances.

18.2 Excluding hydrogen in the definition of a mineral under the CMA and regulating it as a non-mineral natural resource. This would mean that (by default) hydrogen is allocated, and its effects managed primarily through the Resource Management Act 1991 (RMA) or a new allocation regime could be developed outside the RMA. This approach would allow hydrogen to be developed with a wider focus than the purpose of the CMA (e.g. reducing New Zealand's emissions and improving energy security and resilience).

19 Discussion on the likely impacts of the two proposals are presented in the discussion document, including Treaty implications and the advantages and disadvantages of each proposal. It also acknowledges the RMA reforms taking place currently. The discussion document seeks feedback on specific questions related to the proposals and if there are alternative ideas or options that may be better suited to enable development of this emerging resource.

20 The discussion document explicitly states that the Government is not considering state ownership of all hydrogen in its natural state (i.e. nationalisation).

21 The intention of the discussion document is not to narrow options that may surface following consultation, and a full range of feasible options will be considered following feedback from public consultation.

22 Following consultation, MBIE will analyse the submissions and undertake further work to confirm issues and develop final options for regulating natural and orange hydrogen.

23 I will report back to Cabinet on final options in the second half of 2025.

Treaty of Waitangi considerations

24 While it is not fully known whether iwi and hapū have interests in natural and orange hydrogen specifically, it is known that exploration and extraction of resources are matters iwi and hapū often have strong views on due to their special relationship with the whenua. Some iwi and hapū may see the

development of a hydrogen industry in New Zealand of benefit to them and their community, by providing employment, commercial partnership opportunities and developing carbon zero energy.

25 In line with MBIE's Treaty settlement commitments[3], MBIE has begun early engagement on the policy topic to understand iwi interests in hydrogen and views on allocations rights. Further information about this engagement is provided under the consultation section of this paper.

Natural Resources and Environmental Management Inquiry

26 On 10 September 2024, the Natural Resources and Environmental Management Inquiry (Wai 3450) was initiated by the Waitangi Tribunal to inquire into claims concerning natural resources and environmental management issues. In addition to other topics, the work on hydrogen falls within the scope of this inquiry and updates on this work will be provided to the Waitangi Tribunal in due course.

Cost-of-living Implications

27 There are no direct cost-of-living implications associated with the release of the discussion document.

Financial Implications

28 There are no direct financial implications to the Crown from this paper. Any financial and economic implications of proposed regulatory change following public consultation will be outlined as required.

Legislative Implications

29 There are no legislative implications of this paper. However, implementing regulatory proposals following public consultation may require amendments to the CMA and associated regulations and mineral programmes and/or the RMA.

Impact Analysis

Regulatory Impact Statement

30 As required by the Ministry for Regulation, the MBIE's quality analysis panel has reviewed the discussion document and determined that it will lead to effective consultation and enable the development of future impact analysis. Therefore, a separate regulatory impact statement (RIS) is not required at this stage. A full RIS will be completed at a later stage to inform Cabinet's final decisions on this proposal.

[3] The Crown Minerals Protocols govern the way MBIE and the Crown consult with iwi and hapū over matters such as Crown-owned minerals and permits within a defined area, and on wider policy and legislative developments related to Crown-owned minerals.

Climate Implications of Policy Assessment

31 The Climate Implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements do not apply to this policy proposal at this time, as it is in the discussion document stage. The CIPA team will be updated as the work progresses, and final decisions are made.

Population Implications

32 The release of this paper or the discussion document will not have any impacts on particular population groups.

Human Rights

33 The proposals outlined in the discussion document are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Use of external Resources

34 No external resources were used in development of policy advice contained in this paper nor the attached discussion document.

Consultation

35 The Ministry for the Environment, Department of Conservation, Te Tari Whakatau, Te Puni Kokiri, Ministry for Regulation, Treasury, Ministry of Transport, Ministry of Foreign Affairs and Trade, Department of Internal Affairs, Work Safe New Zealand, and New Zealand Trade and Enterprise were consulted. The Department of the Prime Minister and Cabinet was informed.

MBIE has undertaken early iwi engagement on natural and orange hydrogen

36 MBIE has undertaken early iwi engagement on the policy topic in line with its commitments under Crown Mineral Protocols to understand iwi interests in natural and orange hydrogen and their views on allocation rights. MBIE met with Ngāti Kuia, Ngati Mutunga, Te Uri o Hau, Te Kawerau ā Maki, Ngāti Raukawa, Ngāti Rangi, Ngāti Hauiti and Te Korowai o Wainuiārua between March to April 2025.

37 Common themes from the engagement included the need to understand the impact of hydrogen development on water use and the environment and ensuring impacts can be appropriately managed. Iwi were also interested in potential economic development opportunities from hydrogen but outlined that the Treaty, customary rights and interests and Treaty settlement commitments need to be upheld in the design of a regulatory approach. Iwi were interested in ensuring policy settings are fit for purpose for New Zealand’s unique context, particularly as the science of natural and orange hydrogen is still emerging.

38 MBIE intends to undertake iwi engagement during the public consultation period with any iwi and hapu interested in engaging further on this work.

Communications

39 The discussion document will be published on MBIE's website and consultation will be open over approximately a six-week period between May 2025 and June 2025. This will be supported by a Ministerial press release and a communications plan.

40 In addition to inviting public submissions on the discussion paper, MBIE will engage with targeted stakeholders and Treaty partners throughout the consultation period.

Proactive Release

41 I intend to release the Cabinet paper proactively within 30 business days.

Recommendations

The Minister for Resources recommends that the Economic Policy Committee:

1 **note** that the Coalition Agreement between the National Party and the New Zealand First party contains a commitment to 'ensure the government's energy settings allow for the exploration of natural geological hydrogen in New Zealand, to maximise future energy resilience';

2 **note** that enabling natural and orange hydrogen development could contribute to New Zealand's economic growth and energy security and resilience and that a clear and certain regulatory approach is vital for encouraging investment;

3 **note** that the discussion document states that the Government is not considering state ownership (i.e. nationalisation) of all hydrogen in its natural state;

4 **note** the two high level options that are being presented in the discussion document for feedback are:

4.1 Including hydrogen in the definition of a mineral under the CMA to regulate it as a mineral;

4.2 Excluding hydrogen in the definition of a mineral under the CMA and regulating it as a non-mineral natural resource (e.g. through the RMA);

5 **note** the intention of the discussion document is not to narrow options that may surface during consultation, and a full range of feasible options will be considered following feedback from public consultation;

6 **note** in addition to other topics, the work on hydrogen falls within the scope of the Natural Resources and Environmental Management Kaupapa Inquiry by the Waitangi Tribunal and updates on this work will be provided to them;

7 **note** that the Regulatory Impact Assessment requirements have been met for the discussion document;

8 **approve** the release of the discussion document on regulatory proposals for natural and orange hydrogen development for approximately a six-week period from May – June 2024;

9 **authorise** the Minister for Resources to make minor graphical, proofing, and technical amendments to the discussion document prior to public consultation;

10 **invite** the Minister for Resources to report back to Cabinet with a final regulatory approach to natural and orange hydrogen in the second half 2025.

Authorised for lodgement.

Hon Shane Jones

Minister for Resources

Appendices

Appendix 1: Discussion Document: Regulatory proposals for natural and orange hydrogen development