MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Shane Jones	**Portfolio**	Resources
Title of Cabinet paper	Regulating hydrogen resources through the Natural Environment Bill framework	**Date to be published**	3 November 2026

List of documents that have been proactively released		
Date	**Title**	**Author**
8 September 2026	Regulating hydrogen resources through the Natural Environment Bill framework	Office of Minister for Resources
16 September 2026	Regulating hydrogen resources through the Natural Environment Bill framework ECO-26-MIN-0181 Minute	Cabinet Office
8 September 2026	Regulatory Analysis Summary - Regulating hydrogen resources	MBIE
16 July 2026	BRIEFING-REQ-0034749 Regulating white and orange hydrogen resources	MBIE
November 2025	Enabling the Regulation of Natural and Orange Hydrogen: Policy Direction	Office of Minister for Resources
19 November 2025	Enabling the Regulation of Natural and Orange Hydrogen: Policy Direction ECO-25-MIN-0193 Minute	Cabinet Office

Information redacted **YES**

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Some information has been redacted for the reasons of privacy of natural persons and legal professional privilege.

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Regulatory Analysis Summary: Policy direction on regulation of white and orange hydrogen

Decision sought	**In-principle** Cabinet agreement to a regulatory framework for white and orange hydrogen resources
Agency responsible	Ministry of Business, Innovation and Employment
Portfolio Minister(s)	Minister for Resources
Date finalised	22/07/2026
Ministry for Regulation ID number	REG-2329

Brief description of the Minister's regulatory proposal (preferred option)

The Minister proposes, in principle, to regulate the extraction of white and orange hydrogen through the proposed Natural Environment Act (NEA), with authorisations capable of providing exclusive access. This will require amendments to the Crown Minerals Act 1991 to exclude hydrogen as a mineral for the purposes of the Act and clarify its application to Crown owned minerals used to produce orange hydrogen. Following in-principle agreement, and the passing of the Natural Environment Bill (NEB), further detailed policy decisions will be taken to Cabinet on what specific changes will be required.

Summary of the problem definition

There is industry interest in developing and extracting white and orange hydrogen resources in New Zealand. However, investment is constrained by two key issues:

- uncertainty regarding ownership rights for hydrogen, given its form as a gas that can move across property boundaries, and
- uncertainty regarding the regulatory framework governing subsurface hydrogen development and extraction.

Until these are resolved, developers have indicated they are unwilling to invest in hydrogen development, meaning a potentially valuable industry with potential to reduce emissions from hydrogen production in line with the Hydrogen Action Plan, could be lost to New Zealand.

Summary of options considered for addressing the problem

The RAS considers retaining the status quo, regulating white and orange hydrogen under the Crown Minerals Act without asserting Crown ownership of all hydrogen, and regulating white and orange hydrogen through the proposed NEA framework on an exclusive-access basis.

Is the Minister's preferred option in the Cabinet paper the same as the preferred option in the RAS?

Yes.

Summary of the main benefits of the Minister's preferred option

A single framework under the NEA would improve regulatory and investment certainty, better manage competing access to resources, and enable potential energy, emissions-reduction and economic benefits.

Summary of the main costs of the Minister's preferred option

The proposal would create implementation and administration costs and may impair existing property interests and Māori rights and interests. The scale of these impacts depends on detailed policy design on allocation, compensation and benefit-sharing settings, (Cabinet decisions to be taken at a later date).

Does the RAS indicate that the benefits of the Minister's preferred option are likely to outweigh the costs?

This cannot yet be determined. The preferred direction is expected to improve regulatory certainty at relatively limited administrative cost, but its overall net benefits depend on resource viability and detailed allocation, property-rights and compensation settings.

Have any potential inconsistencies with the principles of responsible regulation in the Regulatory Standards Act been identified in relation to the Minister's preferred option?

Yes. The proposal may impair property rights by limiting owners' control, exclusivity or financial benefit from hydrogen resources. Whether any inconsistency is justified will depend on proportionality and the final compensation and allocation settings.

Limitations and constraints on analysis

Condensed timeframes	Yes	Constrained option set	Yes
Legislative constraints	No	Data and evidence gaps	Yes
Ministerial direction	Yes	Other	No
Limited public consultation	No		

Summary of limitations and constraints on analysis

Condensed timeframes – Timeframes allowed assessment of the high-level regulatory direction, but not detailed allocation, compensation, institutional or implementation settings.

Ministerial direction & constrained option set – Cabinet directed officials not to consider vesting ownership of all white and orange hydrogen in the Crown, constraining the available options.

Data and evidence gaps – The location, scale and commercial viability of New Zealand's white and orange hydrogen resources are uncertain, limiting quantification of benefits, costs and distributional impacts.

What are the implications of these limitations and constraints, and what has been done – or will be done – to mitigate and manage them?

The analysis supports an in-principle decision only. Detailed design, further engagement and supplementary regulatory analysis will be completed ahead of final policy decisions.

I am satisfied that, given the available evidence, this RAS represents a reasonable view of the likely costs, benefits and impact of the preferred option.

Responsible Manager(s) signature: 

Lena MacCarthy
Manager, Resource Policy
22/07/2026

Quality Assurance Statement	
Reviewing Agency: MBIE	**QA rating:** Partially meets

Panel Comment:

The Panel consider that the information and impact analysis summarised in the RAS partially meets the Quality Assurance criteria. The Panel noted that the RAS only seeks in principle decisions from Cabinet and that the scope of options is constrained by prior Cabinet decisions and guidance from the Legislative Design Advisory Committee. The RAS would benefit from improved options analysis that more concisely and clearly describes the options, trade-offs, and issues to be addressed by future a detailed policy decisions; and from estimates of the quantified costs or benefits of the preferred option. Noting this limitation, the Panel considers the RAS provides sufficient information for Ministers to make an in-principle decision.

Section 1: Diagnosing the policy problem

What is the policy problem?

1. Significant quantities of hydrogen are consumed in New Zealand to produce ammonia and fertiliser, and other chemicals (such as methanol). This hydrogen is derived from natural gas - releasing significant emissions in the process. Lower-emissions hydrogen has the potential to reduce our emissions from these processes and other hard to electrify sectors, such as steelmaking. In November 2024, the Government published its Hydrogen Action Plan, which seeks to unlock private investment in hydrogen.[1]
2. New Zealand's Interim Hydrogen Roadmap was published in 2023. Its most conservative base-case modelling forecast hydrogen demand of 210,000 tonnes per year by 2035.[2] This is an approximately-billion-dollar market, which would require significant investments in renewable energy, carbon capture and storage, or geological sources of hydrogen.
3. There are two geological sources of hydrogen which are not fossil fuel derived. White hydrogen occurs naturally under the earth's surface.[3] Orange hydrogen is generated through a process of pumping water and carbon dioxide into particular minerals to stimulate hydrogen gas creation.[4] Interest in both forms is growing worldwide, as white and orange hydrogen production may have lower carbon emissions or energy intensity. The white and orange hydrogen industries, like other forms of commercial hydrogen, are an emerging industry facing technological and regulatory hurdles to become established.
4. New Zealand possesses geological formations that may support both white hydrogen reservoirs and orange hydrogen production. However, despite industry interest, investment remains constrained by two key issues:
    - uncertainty regarding ownership rights for hydrogen, and
    - uncertainty regarding the regulatory framework governing subsurface hydrogen development and extraction.

Ownership rights

5. White hydrogen occurs as a highly mobile gas and can occur underground in a way that crosses property boundaries – making ownership difficult to determine. Additionally, it is likely not possible for developers to identify relevant white hydrogen owners prior to exploration, as the extent of any reservoirs would not be defined until after exploration has taken place and a resource has been defined.
6. Legal professional privilege

[1] Hydrogen Action Plan.pdf
[2] https://www.mbie.govt.nz/dmsdocument/26911-interim-hydrogen-roadmap-pdf pp 37-38.
[3] White hydrogen (H_2) is distinct from hydrocarbons, such as natural gas or methane (CH_4), but white hydrogen may occur concurrently with hydrocarbons.
[4] Orange hydrogen can also be produced above ground through processing extracted rock. Throughout this document, orange hydrogen refers only to hydrogen that is stimulated below ground by human intervention.

7. Legal professional privilege [redacted]

8. Orange hydrogen also has the same issue, when produced underground. This is because it is likely to co-mingle with white hydrogen and it becomes impossible to distinguish between the two.

Regulatory uncertainty

9. There is currently significant uncertainty on what regulatory regime applies to the exploration and mining of white hydrogen, and the production of orange hydrogen. It is not clear whether approvals are required under the Crown Minerals Act 1991 (CMA), if the hydrogen is Crown-owned, or if approvals under the Resource Management Act 1991 (RMA) are sufficient.

10. The CMA sets out the regulatory regime to enable the Crown to allocate rights to prospect for, explore for, and mine Crown owned minerals. Under the CMA, gold, silver, petroleum and uranium in their natural state are always Crown owned, no matter where they exist (there are referred to as 'statute minerals').

11. Beyond statute minerals, the Crown also generally owns all minerals in the territorial sea and has vested rights in minerals in the Exclusive Economic Zone and the continental shelf. Minerals in their natural state are also owned by the Crown if they exist in or under Crown land, or if they are on or under privately owned land that is subject to a mineral reservation in favour of the Crown. CMA permits on their own do not provide the right to prospect, explore or mine the mineral – access agreements with the landowner and requirements under other regimes, including resource consents under the Resource Management Act 1991 (RMA), are also required.

12. Minerals that are not Crown owned are owned privately (usually by the landowner) and fall outside of the CMA, but may still require consents under the RMA to develop.

13. Legal professional privilege [redacted]

14. Legal professional privilege [redacted]

15. With growing interest in hydrogen, several applications have been made under the CMA for permits with the clear objective of prospecting for white hydrogen or the minerals required to create orange hydrogen. However, the CMA was not developed with hydrogen in mind, and no permits have been explicitly granted for white hydrogen due to uncertainty over whether it is captured by the Crown minerals regime.

16. In addition to unclear ownership of white and orange hydrogen, it is also possible that hydrocarbons would also be extracted alongside hydrogen. Hydrocarbons are included in

the definition of petroleum and are regulated under the CMA. There is a lack of clarity regarding how the CMA might apply when petroleum is co-mingled with hydrogen.

Change is necessary to provide regulatory clarity and investment certainty

17. Until these issues are resolved, developers have indicated they are unwilling to invest in hydrogen development, meaning a potentially valuable industry with potential to reduce emissions from hydrogen production in line with the Hydrogen Action Plan, could be lost to New Zealand.

18. Further, the lack of clarity of who owns white hydrogen raises a risk of legal challenge, from property owners who may claim ownership of the resource. The inability to identify relevant resource owners before exploration has taken place (with respect to white hydrogen), means the issue cannot be addressed by the sector without regulatory clarification.

International comparisons

19. Some jurisdictions have integrated white hydrogen development into existing extractive legislative frameworks, to provide regulatory certainty to developers.[5] Four Australian states/territories have regulated white hydrogen by either integrating it into their definition of petroleum (Northern Territory) or including it as a regulated substance under existing petroleum legislation and regulation (South Australia, Western Australia and Tasmania). This approach acknowledges that hydrogen development uses similar exploration and production techniques to petroleum.

20. However, these international examples vary from the options in this RAS, in that most jurisdictions that have incorporated white hydrogen into their existing legislative frameworks have also asserted complete state ownership of the resource.

What objectives are sought in relation to the policy problem?

21. The policy objective is to develop fit for purpose regulatory settings that enable the efficient, effective and responsible development of white and orange hydrogen. The regulatory settings should provide investment and regulatory certainty to developers, while taking into account the Crown's Treaty of Waitangi | Te Tiriti o Waitangi partners, and stakeholders, such as consent authorities and property owners.

22. This RAS supports Cabinet's in-principle decisions on the options available to achieve the policy objective, including the key trade-offs between them.

What external consultation has been undertaken?

23. In May 2025, Cabinet approved the release of a discussion document on regulatory proposals for white and orange hydrogen development [ECO-25-MIN-0062]. The Government consulted on the discussion document between May and July 2025. It sought feedback on two key regulatory options:

    - include hydrogen in the definition of a mineral to regulate it as a mineral under the CMA (without vesting ownership of all hydrogen with the Crown), and
    - exclude hydrogen in the definition of a mineral under the CMA and regulate it as a non-mineral natural resource either under the RMA or through bespoke legislation.

[5] For example, France, Spain, the Philippines and some Australian states.

24. In line with commitments under Crown Minerals Protocols, the Ministry of Business, Innovation and Employment (MBIE) also undertook early engagement with iwi and hapū ahead of the release of the discussion document.
25. 28 submissions were received on the discussion document. At a high level, feedback was that:
    - Hydrogen is a mobile gas that can cross property boundaries. This could result in disputes around ownership when it was extracted, which creates uncertainty for investment decisions.
    - The majority (21) of submitters (particularly industry) supported regulating white and orange hydrogen under the CMA, but given the challenges of ownership, some of this support was prefaced with the need for Crown ownership of all hydrogen (ie make hydrogen a statute mineral). The discussion document specifically excluded this as an option, but it was noted by several submitters as necessary for the option of the CMA to be workable in practice.
    - Treaty partners were more supportive of a bespoke approach that recognises Māori proprietary rights and interests and environmental stewardship, and largely opposed CMA regulation and the implication of Crown ownership, citing historical injustices, Treaty breaches and the need for co-governance.
26. Further consultation has not been undertaken but will be addressed as part of detailed policy work.

Section 2: Assessing options to address the policy problem

What criteria will be used to compare options with the status quo?

27. The following considerations are relevant for assessing options for meeting the policy objective:
    - Effective – whether the option effectively enables responsible hydrogen development and provides investment certainty
    - Efficient – how simple and efficient the option is for developers and the regulator, including costs, time and capability
    - Treaty of Waitangi – whether the option is consistent with the principles of the Treaty of Waitangi and upholds Māori rights and interests
    - Property rights – impact on private property rights is proportionate to the public and private interest in providing certainty to developers
    - Alignment – whether the option aligns with how similar resources are regulated in New Zealand

What scope will options be considered within?

28. This RAS supports an in-principle decision on the preferred regulatory framework for white and orange hydrogen. This can indicate the intended direction to the sector. It assesses whether there is a reasonable basis to proceed with the proposed high-level direction, rather than the detailed design of the framework. Further regulatory analysis will

accompany subsequent advice on allocation, property rights, compensation, Treaty rights and interests, institutional responsibilities, and implementation settings.

29. The options in this RAS have been constrained by direction from Cabinet in November 2025, and advice provided by the Legislation Design and Advisory Committee (LDAC).

Cabinet direction in November 2025

30. After considering the feedback from consultation, the Minister for Resources took a paper to Cabinet in November 2025 seeking agreement to consider vesting ownership of all white and orange hydrogen in the Crown.[6] The paper recommended regulating all white and orange hydrogen under the CMA, regardless of where it is located, and addressing the challenges of ownership through making white and orange hydrogen statute minerals (similar to petroleum, that has comparable ability to move across property boundaries).

31. Cabinet noted that industry submitters were largely supportive of regulating white and orange hydrogen under the CMA, and that industry feedback supported vesting ownership of all white and orange hydrogen in the Crown. They also noted that iwi and hapū submissions were largely opposed to regulating white and orange hydrogen under the CMA, preferring a bespoke regime. Cabinet agreed to continue exploring regulating white and orange hydrogen through the CMA, the RMA, or bespoke legislation, without vesting ownership of white and orange hydrogen in the Crown, including investigating an option for the Crown to have exclusive management and use rights akin to geothermal resources [ECO-25-MIN-0193]. This Cabinet decision not to vest ownership of the hydrogen resources in the Crown has significant impact on options design (for example, how the CMA may apply, which is based on the principle of Crown ownership).

Legislative Design Advisory Committee (LDAC) advice

32. In February 2026, Ministry for the Environment officials met with LDAC to discuss the development of a Carbon Storage Bill – the purpose of which is to set out a regulatory framework for carbon capture and storage. MBIE officials were also invited to attend, given the link between carbon capture and storage and the production of orange hydrogen (which can also provide for sequestering carbon permanently). Both the proposed carbon capture and storage regulatory regime and a potential hydrogen regulatory regime also face similar challenges in terms of whether it is preferable to amend existing legislation to account for a new activity, or to establish bespoke legislation.

33. LDAC considered that the benefits of having stand-alone legislation (rather than simply amending existing legislation to deal with the specific policy issues needed) are likely outweighed by the risks. Their advice stated “LDAC cautions therefore against legislating a stand-alone regime or bespoke solutions rather than relying on, or amending, the existing law to deal with the particular policy issue needed. This is particularly the case if a stand-alone regime would largely duplicate processes or legal requirements already dealt with by other regimes of general application.”

34. LDAC also advised creating an entirely new regulatory regime can introduce additional complexity for both regulators and users, risks duplicating functions already provided for in existing frameworks and introducing unintended differences between them.

[6] When seeking Cabinet agreement, the Minister for Resources sought to treat white and orange hydrogen under one regime. This preference is carried through each of the options within this RAS, given the similarities of both being extracted from underground, and the likelihood of white hydrogen being intermingled with orange hydrogen on extraction.

35. Following this advice, we do not consider bespoke legislation (as agreed by Cabinet as an option for consideration) for white and orange hydrogen development is appropriate. This may change depending upon further direction from Ministers and Cabinet.

What options are being considered?

36. Following Cabinet direction in November 2025 and LDAC advice in February 2026, we have considered three options:
    - Option One – Status Quo / Counterfactual
    - Option Two – Regulate white and orange hydrogen as minerals under the CMA, without vesting ownership of hydrogen in the Crown
    - Option Three - Regulate white and orange hydrogen under the proposed Natural Environment Act (NEA) framework on an exclusive access basis.[7]
37. A deregulation option (beyond the status quo) has not been considered, due to the potential adverse effects of white and orange hydrogen production on the environment, property owners (including private, iwi/hapū, and the Crown) through unclear rights and obligations, and the potential for legal disputes amongst parties. A deregulation option would therefore not address the identified problem and would continue to stifle development.

Option One – Status Quo / Counterfactual

38. Legal professional privilege Orange hydrogen is not captured by the CMA regime, as it is a processed mineral, ie not in its natural state.
39. As a result, the regulator is not currently granting any permits for white hydrogen specifically. Permits for minerals used to produce orange hydrogen are being granted – but there is no ability, without a law change, to grant a permit to enable the production of orange hydrogen.
40. Orange hydrogen development could technically progress currently, through resource consents under the RMA (or EEZ Act if in territorial sea). Given the risk of legal challenge based upon ownership (and the mingling of white and orange hydrogen), no commercial development is underway.

Option Two – Regulate white and orange hydrogen as minerals under the CMA without vesting ownership of hydrogen in the Crown

41. This option would amend the CMA so that hydrogen is regulated as a mineral under that Act, without vesting ownership of hydrogen in the Crown.

White hydrogen

42. For white hydrogen this would mean:

[7] This paper refers to the Natural Environment Act (NEA) framework; we note that the Natural Environment Bill has not been enacted as of July 2026, but the Government intends to pass the legislation prior to the General Election in November 2026.

- where white hydrogen is owned by the Crown (ie it is under Crown land, in the exclusive economic zone or territorial sea, or otherwise reserved to the Crown), the right to develop it would be allocated under the CMA
- where white hydrogen is privately owned or owned by iwi, the owner would have control over its development.

43. Under both scenarios , environmental consents under the RMA or Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 will be required, as well as landowner approval (for resource access and surface operations).

44. However, this option does not address the issue of ownership where reservoirs cross Crown owned and privately owned land. In these cases, there could be claims of ownership of the extracted hydrogen from neighbouring landowners (including both private landowners and the Crown). Additionally, the need for a permit under the CMA could be circumvented if extracting from privately owned land, which may provide access to Crown owned hydrogen without the necessary permits. There would be no ability to provide exclusivity, as another developer could access the same reservoir from private land (subject to agreement with the landowner and any relevant resource consents).

45. To resolve these issues would require expanding the CMA to apply rules for accessing white hydrogen from private land (ie privately owned hydrogen), if the reservoir also crossed Crown owned land. This would be a significant change to the conceptual underpinning of the CMA, which is only concerned with minerals owned by the Crown and ensuring a fair financial return from them, and may be contrary to Cabinet's direction not to vest ownership of privately owned hydrogen in the Crown. There are also significant practical challenges with identifying the extent to which reservoirs cross land boundaries, as doing so would require significant exploratory work.

Orange hydrogen

46. Orange hydrogen is treated in a similar way to white hydrogen, without making changes to ownership (managed under the CMA if Crown owned, or by the private owner if privately owned). There are benefits to regulating both white and orange hydrogen under the one regime; both involve similar processes, risks and infrastructure, and stimulated orange hydrogen would likely be co-mingled with white hydrogen, and impossible to differentiate. A unified regulatory regime would address this issue.

47. However, to regulate orange hydrogen under the CMA would also require a significant change to the regime. The CMA currently regulates the prospecting, exploration and mining of Crown owned minerals in their *natural state;*[8] including orange hydrogen, which is a processed mineral, would be a significant expansion of the definition of minerals.

48. The ownership and exclusivity issues that apply to white hydrogen, discussed in paragraph 44 also apply to orange hydrogen. While the minerals for orange hydrogen are not mobile, orange hydrogen may mingle with white hydrogen. Mineral owners could agree to give a developer exclusive access, but this would not resolve issues caused by co-mingling.

49. Regulating white and orange hydrogen under the CMA could provide for simpler regulation of projects which extract gases contaminated with petroleum, which is already regulated as a statute mineral under the CMA.

[8] There are some exceptions to the "naturally occurring" approach of the CMA, such as underground coal gasification (a process combusting underground coal seams to produce syngas), gas storage and gas hydrates though these are defined as petroleum and so are always Crown owned.

Treaty impacts

50. Māori have rights and interests in relation to the protection, management and development of natural resources. These interests are grounded in Article 2 of the Treaty of Waitangi and affirmed through Treaty settlements and specific legislation.

51. The following rights and interests are relevant to hydrogen:

    - Māori landowners – Māori and iwi may own hydrogen as landowners, or orange hydrogen pursuant to commercial contracts
    - Customary interests – Māori may have customary interests in white hydrogen, for example as a corollary of Māori customary title of land which contains hydrogen (and related to previous Waitangi Tribunal claims regarding petroleum)
    - Customary marine title – under the Marine and Coastal Area (Takutai Moana) Act 2011 customary marine title holders own minerals (other than statute minerals) within their areas, which may include white hydrogen
    - Treaty settlement legislation – some existing and developing Treaty settlements vest all minerals (other than statute minerals) back to iwi with land, which may include white hydrogen.[9]

52. Any rights and interests for white and orange hydrogen would be impacted if any permits are granted to extract the hydrogen. The CMA currently has processes in place (detailed in the Minerals Programmes[10]) on how the principles of the Treaty of Waitangi are considered within permitting decisions. Existing practices of consultation with iwi and hapū, that focus on the impacts on iwi and hapū directly affected by permitting decisions (ie where the permitting area is within their rohe) would apply for any white or orange hydrogen permits. The mobile nature of white hydrogen may make it difficult to identify all relevant parties before exploration begins, limiting the effectiveness of consultation, representing a risk of legal disputes.

Consultation feedback

53. Submissions from iwi and hapū emphasised the need for any regulatory regime to uphold Treaty of Waitangi and existing Treaty settlements. Key themes from the submissions included opposition to extractive models– four out of the six iwi submitters oppose regulation under the CMA due to its history of marginalising Māori in resource governance.

54. Many submitters (particularly industry) supported regulating white and orange hydrogen under the CMA, but given the challenges of ownership, much of this industry support was prefaced with the need for Crown ownership of all hydrogen (ie make hydrogen a statute mineral). The discussion document specifically excluded this as an option, but it was noted by several submitters as necessary for the option of the CMA to be workable in practice.

Option Three - Regulate white and orange hydrogen under the NEA framework on an exclusive access basis [Minister's preferred option]

55. This option would provide white and orange hydrogen be regulated under the proposed replacement resource management regime by:

[9] Ngāti Pūkenga Claims Settlement Act 2017; Ngāi Tai ki Tāmaki Claims Settlement Act 2018; Pare Hauraki Collective Redress Bill.

[10] Secondary legislation that set out how the Minister and Chief Executive will exercise powers conferred on them by the CMA, and how they will interpret and apply specific provisions in the CMA or associated regulations.

- amending the NEA (once passed and its final design is confirmed) and any other relevant legislation, to provide for the take, tapping and use of white and orange hydrogen in a manner similar to geothermal resources
- providing that authorisations for white and orange hydrogen be capable of being granted on an exclusive access basis, to provide investment certainty
- amending the CMA to clarify that hydrogen is not a mineral under that Act, and
- amending the CMA to clarify how it applies when orange hydrogen is stimulated from minerals (rocks) that are regulated under the CMA, for example, for the purpose of royalties.

56. This option meets the scope and preference of not vesting ownership of white and orange hydrogen in the Crown, while providing for investment certainty through exclusive allocation where appropriate, and having a unified regulatory regime per the Minister's preference.

How geothermal resources are regulated under the RMA

57. The resource management system manages the interface between human activity and the natural environment, and access to natural resources, including the ability to take and discharge freshwater and the management of competing uses.

58. The RMA also provides for the taking, use and discharge of geothermal resources. Like white hydrogen, geothermal resources are mobile resources occurring in large reservoirs, crossing multiple land parcels.

59. The Geothermal Energy Act 1953 (GEA) gave the Crown the sole right to "take, tap, use and apply" geothermal energy. It also gave the Crown the ability to require that private parties apply for permission to leverage this sole Crown right, which may involve rent collection.

60. Legal professional privilege

61. The RMA consent regime replaced the regime under the GEA. There is currently no specific allocation method for geothermal resources under the RMA – consents are issued on a first-in, first-served basis. In section 354, the RMA preserves the Crown's sole right to "tap, take, use and apply" geothermal energy.

62. This is being continued under clause 223 the Natural Environment Bill, and clause 327 of the Bill clarifies that the Act does not create or transfer any proprietary right or interest or extinguish or determine any customary right or interest that may exist in freshwater or geothermal resources. Regional Councils have responsibility for allocating the use of geothermal water and freshwater (including heat or energy).

A similar system could be applied to white and orange hydrogen, with modifications to provide exclusive allocation

63. We consider that, while there are trade-offs and risks (expanded below), a similar approach to the allocation of geothermal resources could be adopted for white and orange hydrogen under the proposed NEA. Doing so is well aligned with the purpose of the proposed NEA (to

[11] The Waitangi Tribunal found that Māori had rights of a proprietary nature in geothermal resources and freshwater in *The Stage 1 Report on the National Freshwater and Geothermal Resources Claim* (WAI 2358, 2012).

provide a framework for the protection, use and development of natural resources) and, as currently drafted, it provides for a range of consenting approaches which could support the proposed objective (such as competing applications for a limited resource).

How exclusive allocation may operate

64. It is anticipated that an allocation mechanism would be prescribed at a national level and implemented through regulations under the NEA. A consent authority (as is the case under the GEA) would be responsible for applying the allocation process in practice, including through allocating access to individual reservoirs and/or providing priority access to developers which identify deposits. These mechanisms could be designed in accordance with relevant sections of the NEA, or through bespoke sections.[12]

Ensuring effectiveness of this approach

65. The policy intention is that access to the hydrogen allocated under the approval would be on an exclusive rights basis (ie only the approval holder may access the resource). However, Legal professional privilege further changes might be needed to give sufficient certainty to potential investors. Two options are identified if it is later determined that this is needed. One is for legislation to vest in the Crown the sole right to "take, tap, use and apply" white hydrogen, as was done in respect of geothermal under the GEA (described in para 59).

66. The second option is to establish a 'rule of capture' in legislation, by providing that hydrogen is owned by the statutory approval holder when the hydrogen is lawfully captured by activities undertaken under this approval. This approach would clarify ownership of hydrogen after capture without making hydrogen an unowned resource. Section 31 of the CMA provides an example of such a provision in existing legislation, albeit in a context where the resources in question are all Crown owned.[13]

67. Any of the approaches described above would mean existing owners would lose key features of ownership like financial benefits, control and exclusivity over the resource.

68. The approaches will also have implications under the Regulatory Standards Act 2025 (RSA). One of the principles of responsible regulation under the RSA is that legislation should not take or severely impair, or authorise the taking or severe impairment of, property without the consent of the owner unless there are good justifications and fair compensation.

69. This will need to be considered further as part of detailed policy design, including the overall impacts on hydrogen property interests, and any mechanisms for compensation. This will be considered as part of final policy decisions.

70. As with Option Two, it will be necessary to account for the management of interactions between hydrogen (under the NEA) and petroleum (a statute mineral under the CMA).

Treaty impacts

71. Under this option, key aspects of ownership rights regarding white and orange hydrogen may be impacted for Māori. In particular, the ability to determine how and when iwi and

[12] The recently introduced Natural Environment Bill which would replace the RMA proposes a framework for allocation methods such as auctions, tenders and comparative consenting, but a bespoke approach could also be provided for. Relevant clauses of the Natural Environment Bill for prescribing these systems may include cl. 99 Rules may allocate natural resource activity and cl. 100 Rules relating to market-based allocation process or comparative permitting process. As the Cabinet paper seeks an in-principle agreement, granular analysis of options/mechanism is not provided in this RAS.

[13] CMA section 7, "Every permit holder shall be the owner of all minerals lawfully obtained by or on behalf of the permit holder in the course of activities authorised by the permit."

hapū-owned resources are developed (or not) could be constrained. Impacts would be offset by the degree to which regulatory certainty facilitates the enjoyment of property rights (ie the development by iwi and hapū of their resources). The scale of this impact is not clear, as the technical and commercial viability of white and orange hydrogen has not been proven, and the quantum of viable resources held by post-settlement governance entities (PSGEs) and Māori are unknown.

72. Compensation settings for impacted owners of white and orange hydrogen resources will depend on the design of the regulatory system and the legal status of the resources. Supplementary analysis will further consider the consistency of specific policy options with the principles of the RSA, including section 9(b).[14]

Consultation feedback

73. Industry and scientific submitters were generally opposed to regulating hydrogen under the RMA or through a bespoke regulatory regime. Key concerns include:

    - Fragmented governance: The RMA is administered by regional councils, which may lack the technical expertise and consistency needed for hydrogen regulation.
    - Lack of tenure security: The RMA does not provide subsurface resource rights, making it unsuitable for exploration and development.
    - Regulatory uncertainty: The RMA is undergoing reform, adding complexity and risk for investors.
    - Environmental and safety risks: Without centralised oversight, hydrogen development could lead to unsafe drilling and poor environmental outcomes.

74. The discussion document was released before the replacement legislation (the Natural Environment Bill) was made public. The resource allocation regulatory options under the NEA may provide for issues raised by submitters to be addressed.

75. The majority of iwi and hapū submitters support a bespoke, Treaty-compliant regime that recognises Māori proprietary rights and interests and environmental stewardship. Submissions from iwi and hapū emphasised the need to uphold Treaty of Waitangi and existing Treaty settlements. Key themes from the submissions included:

    - support for co-governance and co-design – Māori should be involved in decision-making, benefit-sharing, and environmental oversight over hydrogen
    - recognition of mātauranga Māori – cultural knowledge must inform environmental assessments and resource management
    - allocation justice – any regime must address proprietary rights and ensure equitable access to hydrogen resources.

76. It may be possible to design an allocation and compensation regime within the NEA framework which is consistent with the principles of the Treaty of Waitangi. This will require further policy development and consultation, but the high-level in-principle decision would not be inherently inconsistent at this stage.

[14] RSA s9(b) - legislation should not unduly diminish a person's liberty, personal security, freedom of choice or action, or rights to own, use, and dispose of property, except as is necessary to provide for, or protect, any such liberty, freedom, or right of another person.

Table 1: How do the options compare with the status quo/counterfactual?

	Option One – Status Quo / Counterfactual	Option Two – Regulate white and orange hydrogen as minerals under the CMA, without vesting ownership of hydrogen in the Crown	Option Three – Regulate white and orange hydrogen under the Natural Environment Act framework on an exclusive access basis. [Minister's preferred option]
Effective – whether the option effectively enables responsible hydrogen development and provides investment certainty	**0** Legal uncertainty as to ownership status of white hydrogen and whether it is captured by the CMA meaning potential impacts on exploration activities and no permits for hydrogen being granted. Orange hydrogen under RM regime, but unclear interaction with Crown minerals (CM) regime & permits for minerals required to create hydrogen under Crown land.	**+** Provides clarity as to which regime applies, however it creates a disunified system for private and Crown-owned resources, as the CMA would only apply to hydrogen under Crown land, with status quo applying to non-Crown resources. Legal disputes may arise where reservoirs intersecting Crown land are extracted from private properties, and vice versa. Options to address issues, such as Crown ownership of all white and orange hydrogen, are out of scope.	**++** Provides a single framework regardless of where hydrogen is located. Exclusive authorisations, supported by further statutory clarification of rights after extraction, could reduce competing claims and improve investment certainty.
Efficient – how simple and efficient the option is for developers and the regulator	**0** The CMA applies to Crown-owned white hydrogen, and Crown-owned minerals to produce orange hydrogen, and the RMA applies to all white and orange hydrogen projects. There are unclear interactions between these regimes, neither of which explicitly provide for white or orange hydrogen production presently due to the mobile nature of hydrogen and co-mingling with petroleum,	**+** For Crown-owned minerals, the regime is well understood, with specialist expertise necessary and available through the regulator (due to the regulator's expertise with petroleum). This specialist expertise would not exist within consent authorities for the consideration of non-Crown mineral projects, and the consent authorities may require additional capability. Resource consents will still be required, and this would be delivered through ordinary resource management regime.	**+** Provides a single principal framework for allocating access to hydrogen. Other approvals may still be required, including land-access arrangements, environmental approvals and CMA permissions for associated minerals or petroleum. Consent authorities may also require additional capability. Decisions made by consent authorities – lack of specialist expertise but will build over time. Direction can be provided through National Policy Direction, although consent authorities may require additional capability.
Treaty of Waitangi – whether the option is consistent with the principles of the Treaty of Waitangi and upholds Māori rights and interests	**0** No permits being granted, so Treaty interests not impacted. Potential legal uncertainty for iwi and hapū owners of white and orange hydrogen resources.	**-** Treaty interests factored into decision-making in same way as all other permitting/consent decisions. But with potential for granting of permits, may result in taking of hydrogen owned by Māori (impact limited to hydrogen extracted). Not supported by feedback from iwi and hapū.	**-** Any impact limited to hydrogen extracted, with ownership of hydrogen resources in situ not impacted. It may be possible to design an exclusive allocation process to be consistent with the principles of the Treaty of Waitangi – including through compensation or royalty sharing mechanisms, subject to further policy work and consultation with Treaty partners. Regulatory certainty may facilitate iwi and hapū to exercise their right to develop their resources, should they choose.
Property rights – impact on private property rights is proportionate to the public and private interest in providing certainty to developers	**0** No permits being granted, so no impacts on property rights related to hydrogen. Potential legal uncertainty for owners of resources.	**-** White hydrogen – limited private property rights impacted, but more significant impacts if exclusive Crown ownership of hydrogen in reservoirs neighbouring Crown properties. Orange hydrogen – similar property rights impacts, if co-mingled with white hydrogen.	**--** May significantly impair existing property interests by limiting owners' control, exclusivity or financial benefit. The extent of impairment, justification and any compensation will depend on detailed design.
Alignment – whether the option aligns with how similar resources are regulated in New Zealand	**0** Current status quo	**-** Including orange hydrogen would expand the CMA to capture processed minerals, which would be a significant change for the regime. Not vesting ownership in the Crown would misalign the regime with how petroleum (another highly-mobile resource) is managed under the CMA.	**++** Aligns with how other resources that move across boundaries are regulated, including geothermal resources and freshwater. However, it may require novel provisions to address the issue of ownership.
Overall assessment	**0**	**-**	**++**

Section 3: Cost-benefit analysis

What are the additional costs and benefits of the preferred option in the Cabinet paper?

It is not possible to quantify benefits, but they may eventuate

77. There are a range of costs and benefits which could eventuate from the preferred option in the Cabinet paper, but there is a high degree of inherent uncertainty in the eventual benefits, and whether they will outweigh the one-off costs of implementation, and the ongoing costs of administering the regime.

78. Benefits are in general unable to be quantified as the production of white and orange hydrogen has not been technically or commercially proven. It is therefore not known whether regulatory reform would increase supply of hydrogen, with sufficiently large quantities, and at a sufficiently low cost, to be competitive with other options for low-emissions hydrogen.

79. However, the same uncertainties of technical and economic viability may apply to other forms of low-emissions hydrogen production, and there remains a need to find alternative sources, as part of New Zealand's emissions reduction strategy.

80. If there is substantial production of white and orange hydrogen, then this would provide benefits for the Crown (through royalty payments) or private owners (through rents) under the CMA option. Under the NEA, private owners would have the same ability to collect rents in exchange for land access, and the Crown could establish a rent or concession scheme for access to white or orange hydrogen.

Administrative costs are expected to be limited but have not been quantified

81. Initial implementation costs would include developing the allocation framework and establishing processes to administer it. These costs have not been quantified and will depend on detailed institutional and implementation settings. This would likely be similar under either the CMA or NEA option, however the burden would fall slightly differently. Regulation under the NEA would likely come at a greater cost to consent authorities, as the responsible parties for administering the consenting regime, although some administrative costs may be recovered from applicants.

82. Ongoing costs to the Crown, consent authorities and applicants have not been quantified. Resource-consenting regimes generally provide for cost recovery, but compliance, monitoring and system-stewardship functions may create costs that are not fully recovered.

Table 2: Cost-Benefit Analysis

Nature of the benefit/cost to New Zealand	Dollar value of impact (or quantified impact)	Scale of unquantifiable impact	Nature of impact – one-off or ongoing	Source of evidence
Additional benefits of the preferred option compared with taking no action				
Providing for low-emission sources of energy and chemical feedstock.	Unknown.	Potentially significant, but not technically or commercially proven. Reduction in emissions would have benefits regarding climate change.	Ongoing	Cannot be estimated due to commercial uncertainties.
Providing a return on resource potential to Crown and resource-owners	Unknown.	Unknown, and dependent on the commercialisation of white and orange hydrogen resources.	Ongoing	Royalties or compensation for Crown-owned white and orange hydrogen could be developed (but the option may preclude use of CMA settings).
Total annual benefits	Unknown.	Unknown, potentially significant for Crown, industry, and resource owners.	N/A.	
Total one-off benefits	None.	None.	N/A.	N/A.
Additional costs of the preferred option compared with taking no action				
Implementation costs	Not yet quantified.	Not yet quantified.	One-off	Implementation will take place as part of wider RMA reforms.
Ongoing administrative costs	Not yet quantified.	Not yet quantified.	Ongoing.	Anticipated that administrative charges will be levied to recover costs.
Total annual costs	Not yet quantified.	Not yet quantified.	Not yet quantified.	Administrative costs will be recovered.
Total one-off costs	Not yet quantified.	Not yet quantified.	Not yet quantified.	Implementation costs not quantified.
Net impacts compared with taking no action				
Total annual benefits minus costs	Unknown.	Unknown.	N/A	Inherently uncertain.
Total one-off benefits minus costs	Unknown.	Not yet quantified.	Not yet quantified.	As above.

Are the benefits of the preferred option in the Cabinet paper expected to exceed the costs?

83. It is unknown whether the benefits of regulating white and orange hydrogen under the replacement resource management regime on an exclusive access basis would exceed the costs of implementing the regulatory settings. This is due to inherent uncertainty in the prospectivity of the industry.

84. Implementation and ongoing administrative costs have not been quantified. Some costs may be limited by developing the regime alongside the wider resource-management reforms and through cost recovery from applicants. However, compliance, monitoring, capability and system-stewardship functions may create costs that are not fully recovered.

85. Costs for applicants will depend on the final allocation and approval processes. Developers already require environmental approvals under the status quo, but the new regime may introduce additional application or allocation requirements while reducing costs associated with regulatory and ownership uncertainty.

What are the impacts on different groups of the preferred option compared with taking no action?

86. The impact on groups will depend on the exact nature of the allocation regime as well as compensation and other settings. In general, groups will gain regulatory certainty, however the degree of impacts that result from this are not known, due to inherent uncertainty in how resources may be commercialised.

87. Feedback from industry was broadly opposed to regulating hydrogen under the RMA or a bespoke regime, but strongly in favour of ensuring regulatory certainty.

88. The majority of iwi and hapū submitters support a bespoke, Treaty-compliant regime that recognises Māori proprietary rights and interests and environmental stewardship. It may be possible to design a regime which addresses proprietary rights and ensure equitable access for iwi and hapū to hydrogen resources, within the constraints of the high-level/in-principle option outlined in the Cabinet paper.

Table 3: Distributional Analysis

Affected groups	How they are affected	Description of level of impact(s)	Source of evidence
Resource-owners (including Crown)	Regulatory certainty will enable investment in developing resources.	Unknown. The impacts will depend on the degree to which resources can be commercialised, and the allocation and compensation settings used to ensure resource-owners derive benefits.	N/A.
Iwi and hapū	Depending on the allocation framework, may have inhibited decision making in the development of iwi-owned resources. Opportunities as investors and resource owners.	Unknown. It is not known to what degree white hydrogen reservoirs, or minerals with the potential to produce orange hydrogen, coincide with iwi and hapū land. Allocation and compensation mechanisms which are yet to be designed will shape the level of impact.	N/A.
Māori (as individuals)	Opportunities as landowners, employees, or investors in hydrogen projects.	Unknown. It is not known to what scale a white or orange hydrogen industry may operate at in New Zealand. Opportunities are likely to fall proportionately to demographics or resource ownership (eg land-holdings).	N/A.
Extractive industry	Regulatory certainty would clarify the permits and consents developers need to commercialise white and orange hydrogen resources.	Significant. At present, permits are not being granted, and the lack of clarity, which leads to legal and other risks, is reported to stifle investment in white and orange hydrogen projects.	Consultation.
Hydrogen users	Production of white and orange hydrogen would provide a low-emissions source of hydrogen as a chemical feedstock.	Limited. The long-lead time to develop a white and orange hydrogen sector, and inherent uncertainty, means the proposal is unlikely to materially impact hydrogen users in the short or medium-term.	N/A.

Conclusion

Which option is the most effective, efficient, and proportionate response to the problem?

89. MBIE considers regulating white and orange hydrogen under the proposed NEA, with exclusive access rights, to be the preferred in-principle approach because it provides greater regulatory certainty than the status quo or regulation under the CMA, while being the most effective and efficient policy direction assessed.
90. While this option scores lowest on property rights, MBIE considers there is sufficient basis to continue developing this approach, with further consideration of this impact to occur during detailed design decisions - including allocation, ownership and compensation settings. Further analysis will also consider options that better align with existing property rights and the principles of the Regulatory Standards Act 2025.
91. This assessment is provisional and subject to detailed policy design and supplementary regulatory analysis.

Section 4: Delivering an option

What are the next steps for implementing the legislation?

92. As the current decisions are in principle, further policy work and regulatory analysis will be required before final policy and legislative decisions are sought. This work will identify the full range of legislative and regulatory amendments, assess detailed allocation and compensation options, and determine the institutional and implementation arrangements needed to give effect to the proposal.
93. The legislative steps, including supplementary regulatory analysis will follow to analyse gaps in the in-principle proposal, and prepare further advice for Cabinet. Implementation risks will be highlighted in more detail at that stage.
94. Following enactment, it will be necessary to amend relevant regulations to give effect to the legislation. This may include development of allocation mechanisms, amendments to National Policy Direction, and implementation through spatial plans by consent authorities.

How will the proposal be monitored, evaluated, and reviewed?

95. The Ministry for Cities, Environment, Regions and Transport and MBIE will jointly be responsible for monitoring the proposal, as the agencies responsible for the NEA and CMA. Policy effectiveness would be monitored by MBIE, through regular engagements with the extractive and energy sectors, as well as iwi and hapū.
96. Where authorisations are issued by consent authorities (councils), the NEA requires monitoring of those authorisations by those consent authorities.