



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 27 November 2017



Action points from last Officials' Meeting

Out of scope

Hydrogen	MBIE to prepare a plan for announcement in December (e.g. any engagement the Minister can do, press releases etc.)	Dave Darby
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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 4 December 2017



4. Regulatory Reform & Implementation and Operational Matters

Hydrogen

Comment:

Officials met with Justin Lester, Mayor of Wellington City, to inform him of the evolving development of hydrogen as a green transport fuel in NZ. Mr Lester had recently visited Japan and is keenly interested in the development of hydrogen-fuelled public transport.

Mr Lester was enthusiastic about the developments and future possibilities for Wellington infrastructure.

Officials were limited in what detail could be discussed as much of the hydrogen development story is still commercially confidential.

However, note that we anticipate a statement by the companies involved will be made in early December.

Responsible Manager: David Darby

Next Steps:

We will keep you informed and work with your office to develop key messages in advance of commercial announcements.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 11 December 2017



4. Stakeholder Issues

Hydrogen Developments - Obayashi

We understand that Obayashi Corporation and the Tuaropaki Trust signed a Memorandum of Understanding in Japan on Monday for the development of a pilot hydrogen plant in the central North Island. Tuaropaki Trust had requested a meeting via Rino Tirikatene (MP) with yourself and Hon David Parker between 11 and 14 December to discuss their project with you.

Responsible Manager: David Darby

Next Steps:

We will provide a briefing when a meeting with the Trust is confirmed.

Hydrogen Developments – Wellington City and GWRC

MBIE officials have met with the Wellington Mayor, Justin Lester, and a second time at his arrangement with the Transport General Manager and Deputy Chair of Greater Wellington Regional Council (GWRC). This meeting followed from MBIE being informed by the Tokyo embassy that the Mayor when in Japan inquired about alternative bus transport including hydrogen buses.

9(2)(b)(ii)

Responsible Manager: David Darby

Next Steps:

We will continue to assist GWRC and will provide advice should GWRC approach you or Minister Shaw next year about a hydrogen bus trail for Wellington.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 18 December 2017



3. Regulatory Reform & Implementation and Operational Matters

Consideration of the controls that apply to hydrogen production

Comment:

You have recently met with the New Zealand partner for a new joint venture that intends to build a large-scale hydrogen production plant in New Zealand.

In early 2018, MBIE's Health and Safety Policy Team and WorkSafe will be working to develop a better understanding of the potential risks associated with the commercial-scale production and use of hydrogen as a fuel and investigate whether non-regulatory instruments (e.g. guidance) or changes to the Gas Act 1992, the Gas (Safety and Measurement) Regulations 2010, or other legislative instruments (e.g. the Health and Safety at Work (Hazardous Substances) Regulations 2017) may be necessary to manage those risks, while not constraining the commercialisation of this innovation.

Officials have invited a small number of subject matter experts to attend a meeting in early February 2018 (date to be confirmed) to identify the issues and the range of options that may be required to manage the issues.

Responsible Manager: Saskia Patton, Health and Safety Policy

Next Steps:

Officials will inform you of the findings from this meeting and any policy options that may need to be tested further.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 29 January 2018



Out of scope



2. Policy Developments

Hydrogen Pilot Project with Obayashi and Tuaropaki Trust

Comment:

We understand that it is still Obayashi's plan to announce its hydrogen pilot project with the Tuaropaki Trust sometime in February 2018. 9(2)(g)(i)



Next Steps:

We will advise you when we receive notice that a public announcement will be made on the project by the developers.



2. Policy Developments

Also under consideration is a pilot project at the 2020 Olympics using New Zealand sourced 'green' hydrogen.

If Obayashi decides to proceed with this, it will require as a first step a New Zealand-Japan Government to Government MOU. Such a document was drafted last year, but was not able to be implemented before the Japanese elections in November 2017.

We understand Obayashi's chair is planning to visit New Zealand in March. MBIE would recommend that if such a visit takes place that the chair meets with the Prime Minister given the significance of the investment that Obayashi may make in New Zealand.

Responsible Manager: Andrew Hume
Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 5 February 2018



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

9(2)(g)(i)

Out of scope



**MINISTRY OF BUSINESS,
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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 5 March 2018



2. Policy Developments

Attendance at the APEC Oil and Gas Security Network Forum and stakeholder meetings on hydrogen

Comment:

MBIE is attending the 4th APEC Oil and Gas Security Network Forum in Tokyo on March 7-8.

The purpose of the forum is for APEC members to discuss and exchange knowledge on issues related to oil and gas supply security, and how to manage potential supply shortages and emergency situations. New Zealand has attended the previous three fora.

This forum is also an opportunity for New Zealand to share its recent experience with the Refinery to Auckland Pipeline outage and to learn lessons from other countries about oil and gas security.

Following the forum, we will join officials from MBIE's Science, Innovation and International branch in their meetings with Mitsui & Co. Ltd, Honda Motor Co. Ltd, and officials from the Ministry of Economy, Trade and Industry. Topics for discussion will include the commercial development of hydrogen as a fuel and the transition to a low emissions economy.

Responsible Manager: Andrew Hume

Next Steps:

For your information only.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 12 March 2018



4. Stakeholder Issues

Obayashi and Tuaropaki Trust's announcement of hydrogen pilot plant near Taupo

Comment:

Obayashi Corporation, a major Japanese construction company, and Tuaropaki Trust have announced their intention to build a pilot plant to generate hydrogen from renewable geothermal energy in New Zealand.

The pilot project involves a 1.5MW plant being constructed close to Mokai station, near Taupo. If successful, Obayashi intends to scale it up in 2025 to a 10–30MW plant. A key factor for proceeding beyond pilot project phase will be establishing a viable hydrogen transportation supply chain between New Zealand and Japan. We understand that Obayashi is still exploring a range of possible bulk hydrogen transport technologies.

6(a)

Obayashi also asked the New Zealand Government to consider signing a Memorandum of Understanding (MOU) on renewable energy with the Japanese Government.

The New Zealand Embassy in Tokyo will begin exploratory discussions on this with Japanese stakeholders soon.

We note that a draft MOU was prepared last year, but discussions on it were terminated due to the resignation of the former State Minister of Cabinet Mineyuki Fukuda (and Prime Minister Shinzō Abe's Special Envoy for Renewable Energy) after a snap election in September.

Responsible Manager: Andrew Hume

Next Steps:

We will provide you with further updates on the pilot project and the progress in negotiating a MOU on renewable energy with Japanese officials.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 7 May 2018



Action points from last Officials' Meeting

Item	Actions	Status
Out of scope		
Hydrogen	The Minister has requested that MBIE <ul style="list-style-type: none">• Ensure we are keeping up to date with RSI colleagues on their developments.• Provide briefing of updates.	Ongoing

Out of scope



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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 9 July 2018



2. Policy Developments

Zero Carbon Bill public consultation

Comment:

We attended the Zero Carbon Bill public consultation in Invercargill on 28 June to support the Ministry for the Environment on any energy related questions. Minister Shaw has been attending the majority of the public meetings but was unable to attend in Invercargill. About 60 members of the general public attended, and the response was largely positive.

There was a question regarding hydrogen research but not any questions relevant to your portfolios. Questions were generally focused on the 2050 targets, emissions budgets and the Climate Change Commission.

Responsible Manager: Andrew Hume

Next Steps:

For your information only.

Out of scope



3. Regulatory Reform & Implementation and Operational Matters

Energy and Resources meetings in United Kingdom

Out of scope

Officials also met with Arup, an independent firm of consultants and technical specialists that is taking a lead role in developing London's nascent hydrogen economy. We learnt about the opportunities and challenges facing this new industry.

Out of scope

Responsible Manager: David Darby

Out of scope



3. Regulatory Reform & Implementation and Operational Matters

Out of scope

Hiringa Energy grant from PGI for hydrogen project

Acting PM Winston Peters is due to announce on 12 July a grant of \$950,000 to Hiringa Energy from the Provincial Growth Fund and its partners to support their development of hydrogen infrastructure to enable a zero emission energy future in the Taranaki.

The funding will be used to scope the engineering and design of up to two hydrogen generation facilities, up to four mobile compressed hydrogen storage and distribution containers, and up to three hydrogen refuelling stations.

ERM officials reviewed the application from an energy perspective and advised the PGF that the application seemed robust and relevant to New Zealand's objectives for a low carbon and 100 per cent electricity future. 9(2)(g)(i)

ERM and other parts of MBIE are currently developing a hydrogen strategy, as discussed earlier with you, to assist this work and the interest of other stakeholders going forward.

Responsible Manager: Andrew Hume

Next Steps:

For your information only.



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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 16 July 2018



Action points from last Officials' Meeting

Item	Actions	Status
Out of scope		
Hydrogen paper	MBIE to explore government opportunities for developing a hydrogen economy.	In progress



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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 3 September 2018



1. Policy Developments

Out of scope

Other Hydrogen Initiatives

Comment:

We met with the newly appointed Chair of the recently established New Zealand Hydrogen Association. MBIE has been working with industry to establish this new Hydrogen industry association to coordinate across industry, research/academic and government interests in hydrogen. The organisation has evolved from the Southland-based hydrogen consortium into a more national organisation and is in the early stages of developing its operating model and work programme.

MBIE along with EECA, Contact Energy, Meridian Energy PowerCo and First Gas jointly commissioned research into hydrogen's commercial potential in New Zealand. We expect this report by the end of September.

MBIE is working on a short paper as a hydrogen vision for New Zealand. The intention of this document is to outline the role that hydrogen can play in the New Zealand economy and how it can assist our goal for a low carbon future and provide renewable energy potentially for export. 9(2)(g)(i)

Responsible Manager: Andrew Hume

Next Steps:

We will inform you of developments as this new association establishes itself. There may be an opportunity for you to welcome the setup of this new group and the contribution it can make to a zero carbon future when you address the Asia Pacific Energy Leaders' Summit.

We expect to have the draft hydrogen vision for you by late September in time for it to be finalised should it be needed for the Hydrogen Ministerial in Japan in late October if you attend.



2. Regulatory Reform & Implementation and Operational Matters

Invitation to attend Hydrogen Energy Ministerial Meeting in Tokyo, Japan

Comment:

You have been invited to attend the Hydrogen Energy Ministerial Meeting in Tokyo, on October 23rd, 2018. The Japanese Embassy in Wellington, and the Japanese Ministry of Economy, Trade and Industry (METI) has written via the First Secretary indicating that it is waiting on a response to this invitation with urgency. Officials recommend that you attend.

The Ministerial Meeting aims to promote cooperation on research, development and deployment of hydrogen technologies across the participating countries. In particular it aims to promote collaboration to evaluate, communicate, and then educate the public on the potential of hydrogen to reduce CO2 emissions and other pollutants. It also aims to work towards the development of a global hydrogen infrastructure supply chain, and to establish globally consistent safety standards.

To date, Ministers of Energy for Japan, Poland, Norway, Brunei Darussalam, Australia, South Africa and Qatar have confirmed their attendance.

The Ministerial Meeting presents a good opportunity to sign a bilateral agreement with the Japanese government, to cooperate on the development of hydrogen.

A trip to Japan for this meeting may be undertaken as a single-destination trip, or as part of a wider trip to Norway and Denmark. Note there is potential for alignment and/or overlap with a hydrogen-focused trip Europe being led by Venture Taranaki and the H2 Taranaki initiative. Parliamentary Under-Secretary for Regional Economic Development, Fletcher Tabuteau has been invited to join the H2 Taranaki led trip.

Responsible Managers: David Darby & Andrew Hume

Next Steps:

For your information only.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 10 September 2018



Action points from last Officials' Meeting

Item	Actions	Status
Out of scope		
Hydrogen	Update on Tuaropaki Trust's Taupo hydrogen plant construction	In progress

Out of scope



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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 24 September 2018



Energy and Resources
Weekly Officials' Meeting Agenda
11:35am – 12:05pm Monday 24 September 2018

Item	Subject	Person	Oral Item / Paper	Action Required (Decision / Inform / Noting / Discussion)
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Out of scope

2.	Hydrogen	Mark Pickup	Oral	Discussion
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Out of scope



**MINISTRY OF BUSINESS,
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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 1 October 2018



Action points from last Officials' Meeting

Item	Actions	Name	Status
Out of scope			
Hydrogen	You confirmed you would like to see the press release on the Hydrogen Association. MBIE will set up a call for you with the CEO of the Tuaropaki Trust ahead of your Japan trip. MBIE will confirm the extent of interest in hydrogen from Ballance.	Mark Pickup	In progress

Out of scope



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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 8 October 2018



Action points from last Officials' Meeting 24 September 2018

Item	Actions	Status
Out of scope		
Hydrogen	You confirmed you would like to see the press release on the hydrogen association. Minister's Office will set up a call with the CEO of the Tuaropaki Trust ahead of the Japan trip. MBIE will confirm the extent of interest in hydrogen from Ballance.	In Progress

Out of scope



**MINISTRY OF BUSINESS,
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IN CONFIDENCE



Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 05 November 2018



Action points from last Officials' Meeting			
Item	Actions	Name	Status
Green Hydrogen road map	<ul style="list-style-type: none">• Minister confirmed she'd like the hydrogen roadmap prioritised• It should present NZ as a leader of green hydrogen	Andrew Hume	New Priority Project

Out of scope



Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	Officials are accelerating work towards a hydrogen strategy, building on the existing work on a vision, and firming up our evidence base. We have begun to establish new internal governance structures, with input anticipated from our Science and Innovation, Just Transitions Unit, and Economic Development teams. We are also continuing to work with industry to identify barriers to investment, help make connections, and facilitate the development of industry-good type activities. This includes a recent MBIE/NZTE hosted hydrogen workshop which is covered in more detail later in this report.	Starting

Out of scope





3. Other agency collaboration

Roundtable event – Accelerating hydrogen projects [IN CONFIDENCE]

NZTE

Comment:

On Wednesday October 30th, MBIE's Energy and Resource Markets branch and NZTE jointly hosted a roundtable discussion on the status of hydrogen developments in New Zealand, with representatives from three regional economic development agencies, and five key companies.

The meeting was well attended and there was enthusiastic and robust discussion. Representatives shared updates on the status of their projects and the challenges they are facing, identified common obstacles and goals, and discussed opportunities for collaboration and alignment between projects. They also provided feedback on what more government could be doing to help develop a commercially viable hydrogen sector.

Attendance at the meeting included Venture Taranaki Trust, Hiringa Energy, Auckland Tourism, Events and Economic Development (ATEED, Ports of Auckland, Auckland International Airport, Priority One, First Gas and New Zealand Hydrogen Association. Dr Linda Wright also provided an update on behalf of Venture Southland.

Apologies were received from Tuaropaki Trust, Obayashi, Auckland Transport, KiwiRail and the Provincial Growth Fund.

Responsible Manager: Andrew Hume

Next Steps:

We will update you on the key messages from industry.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 10 December 2018



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

Overview of decisions required

Item	Decision required	Decision	Pg. #
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Out of scope

NZ Hydrogen Association	Would you like officials to arrange a meeting with Linda Wright of the Hydrogen Association?	Y/N	6
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Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	MBIE is working on developing this Strategy and will update you as we reach key milestones.	In progress

Out of scope



3. Regulatory Reform & Implementation and Operational Matters

Out of scope

NZ Hydrogen Association

Comment:

A meeting was held with Queenstown-based Linda Wright, CEO of the NZ Hydrogen Association. The HA has gained significant momentum, and now has ~20 members with Toyota and Gallagher Fuel Systems being the most recent additions. 9(2)(b)(ii)

Ms Wright is also maintaining a focus on the role of hydrogen in providing zero-emission tourist transport in Milford Sound as a global showcase for NZ. Ms Wright has recently presented at the Hydrogen Council (HC) of the World Economic Forum to introduce NZ as a new regional association, and an invitation has been issued for NZ to attend the next HC meeting in Davos in January 2019. A meeting with Ms Wright would be useful to provide you with an overview of the many moving parts in the NZ hydrogen story.

Responsible Manager: David Darby

Next Steps:

Do you wish officials to arrange a meeting with Linda Wright of the Hydrogen Association?

Hydrogen in Ports of Auckland

Comment:

On Tuesday 4 December 2018 Ports of Auckland (POAL) announced it intends to build a hydrogen production and refuelling facility at its Waitematā port. The project, which is supported by Auckland Council, Auckland Transport and KiwiRail, aligns with Ports of Auckland's ambitious target to be a zero emissions port by

Next Steps:

We will update you in the Weekly Report as this project proceeds.



3. Regulatory Reform & Implementation and Operational Matters

2040. POAL has identified hydrogen as the fuel for heavy equipment like tugs and straddle carriers. The partners will also invest in hydrogen fuel cell vehicles such as port equipment, buses and cars as part of the project.

MBIE officials are working with POAL to identify regulatory hurdles to developing hydrogen infrastructure, and potential solutions. We are also connecting POAL to other NZ and overseas organisations that have expertise and skills in the hydrogen supply chain

Responsible Manager: David Darby

Out of scope



Energy and Resources
Weekly Officials' Meeting Agenda
4.40pm-5.25pm WEDNESDAY 13 FEBRUARY 2019

Item	Subject	Person	Oral Item / Paper	Action Required
Out of scope				
3.	Green Hydrogen Strategy white paper	Andrew Hume	Paper 2140 18-19	Discussion

Out of scope



Action points from last Officials' Meeting

Out of scope

Hydrogen report	Provide draft report for Minister's reading over summer.	Mark Pickup	Complete
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Out of scope





Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	We sent you a briefing on 8 February to update you on our progress.	We will discuss this with you at our weekly meeting on Monday 11 February.

Out of scope



2. Policy Developments

Inter-agency consultation on changes to the Gas Act 1992

Comment:

On 11 November 2018, you agreed for MBIE to draft a discussion document on potential changes to the Gas Act 1992 (the Act). We have now developed a draft discussion document. We intend to seek feedback from other government agencies and the Gas Industry Company (GIC) before providing a final draft to your office.

The draft discussion document seeks stakeholder views on potential issues with the Act for emerging technologies and alternative fuels (such as hydrogen) alongside two targeted changes to the Act.

We are interested in stakeholder views on how fit-for-purpose the Act is for emerging technologies and fuels. This aligns well with MBIE's other work on the development of a hydrogen economy in New Zealand as Hydrogen falls within the definition of a gas under the Act.

The two targeted changes to the Act that we are seeking feedback on in the discussion document are:

- Creating regulation making powers for greater information disclosure and in particular the flow of information during situations where the gas supply is or will become constrained.
- Changes to the penalties that govern the gas industry, to ensure that the Act provides strong incentives for compliance.

Provided you are comfortable with this approach, we will send the document out on 11 February 2019 and provide you with a final draft discussion document and associated Cabinet paper at the end of February.

Responsible Manager: Sarah Stevenson

Next Steps:

MBIE intends to send the draft discussion document to other agencies and the GIC on 11 February 2019.

We will incorporate agency feedback and provide you with a final draft discussion document and associated Cabinet paper by the end of February.

Out of scope



2. Policy Developments

Out of scope

Clean Energy Ministerial preparation meeting in Santiago, Chile

Comment:

The Clean Energy Ministerial (CEM) is a high-level global forum to promote policies and programs that advance the deployment of clean energy technology. The Tenth Clean Energy Ministerial (CEM10) will be hosted by Canada, in Vancouver, during the week of 27 May 2019.

At your request, New Zealand applied to join the CEM, and New Zealand's membership was approved in December. We will have observer status for the first year, consistent with standard practise.

Officials attended a preparation meeting for CEM10 in Santiago, Chile from 28th – 30th January 2019. Presentations included an update from the Secretariat, progress reports from member countries and from work streams, and discussion on funding and technical collaboration.

Officials also discussed a new CEM hydrogen work stream, which will focus on hydrogen for transportation, manufacturing, heat & power generation and storage in industrial applications and how it integrates with communities. Emergence of a global value chain for hydrogen will also be a key consideration for the initiative, which will be launched at CEM10 in Vancouver in May.

Officials also held a side meeting with the Mission Innovation Secretariat, which has a focus on accelerating clean energy R&D

Next Steps:

Canada will issue an official invitation to attend CEM10 in Vancouver, in May 2019.



2. Policy Developments

investment into existing or new technologies. The fourth annual Mission Innovation (MI4) will be held alongside CEM10 in Vancouver in May.

Our official also met with officials from the Chilean Ministry of Energy to discuss cooperation on electric vehicles, hydrogen and clean energy policy.

Responsible Manager: Suzannah Toulmin (Acting)

Out of scope



Upcoming Meetings, Events and Announcements

Upcoming meetings:

Meeting with / Purpose	Time
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Out of scope

Thursday 14 February	
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Dr Linda Wright, Hydrogen Association <i>Officials attending:</i> <ul style="list-style-type: none">▪ <i>Miranda Birchler, Suzannah Toulmin</i>	10.50-11.20
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Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 18 FEBRUARY 2019



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

Hydrogen Green paper	Provide a draft Cabinet paper. MBIE to begin public comms on next steps.	Andrew Hume	In progress
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Out of scope

Priority Projects

Item	Actions	Status
Green Hydrogen Vision	<p>In accordance with our briefing to you dated 8 February, we are preparing a draft Ministerial media release for your office. We recommend this release be distributed on Tuesday 19 February. This is the day you will present to the BusinessNZ Energy Council, and the day before an MBIE official (Mark Pickup) will be presenting at the hydrogen conference in Rotorua.</p> <p>We are organising two workshops with key external stakeholders in early March, one in Auckland and one in Rotorua. We have also organised printing of the hydrogen vision document. Following</p>	On track.



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	<p>discussions with you, we are confident that a high-quality product can be delivered at the Just Transitions Summit in Taranaki on 9 May 2019, and we recommend release at this event.</p>	
Electricity price review	<p>The panel had its second meeting on 14 February. The main item of discussion was the upcoming stakeholder workshops during the submission period of the options paper.</p> <p>The Review is looking to publish the options paper later this week, pending Cabinet approval. The Review will seek submissions on the options paper until 22 March 2019.</p>	On track
Tranche 2 Review of the CMA (including Petroleum and Minerals Resource Strategy)	<p>Strategy: We will produce a revised Strategy for you to circulate with relevant Ministers following your agreement for a Strategy that: (1) covers a 10 year period; (2) includes Petroleum AND Minerals and (3) includes actions to implement the Strategy.</p> <p>We are also producing a draft engagement plan and approach for your feedback.</p> <p>Tranche 2: We provided a briefing (2285 18-19) on the potential scope, principles and objectives of the CMA Review, including potential key issues for consideration. We are now awaiting your feedback while we continue analysis into the issues.</p>	<p>Strategy: In progress</p> <p>Tranche 2: Awaiting your feedback and continuing analysis into the issues.</p>
Fuel Supply Security in New Zealand	<p>The Auckland Fuel Supply Disruption Inquiry is underway. MBIE provided an initial briefing to inquiry members at their induction day on 23 January. The inquiry's report is due at the end of June 2019.</p> <p>MBIE and MCDEM have prepared a draft National Fuel Emergency Plan and will invite feedback on it from fuel companies and the civil defence emergency management sector during February and March. We intend to finalise the plan in light of any recommendations from the</p>	On track



3. Stakeholder issues

Out of scope

5. Other agency collaboration

Out of scope

Regulation for New Zealand's hydrogen sector

Comment:

Officials hosted a cross-government workshop with regulatory agencies to identify potential barriers to the development of hydrogen projects. Representatives from New Zealand Transport Agency, Ministry for the Environment, WorkSafe, New Zealand

Next Steps:

For your information only.



5. Other agency collaboration

Trade and Enterprise and MBIE's Innovation Policy team attended. Apologies were received from Maritime New Zealand, Ministry of Transport and MBIE's Energy Safety Policy team.

The group shared knowledge on projects currently underway, identified some of the standards, regulations, consents and certifications that may apply to hydrogen projects, and considered whether New Zealand's current legislative and regulatory framework are hydrogen-ready, or if exemptions or changes will be necessary for existing projects to advance.

Officials agreed next steps, including mapping the full legislative and regulatory framework for hydrogen. This work would help to identify regulatory gaps, and steps that may need to be taken to close the gaps. The outcomes of this work will feed into the development of New Zealand's Green Hydrogen Strategy. The group has agreed to meet regularly and keep communication channels open.

Responsible Manager: Suzannah Toulmin (Acting)



Energy and Resources
Weekly Officials' Meeting Agenda
11.15am-12.00pm WEDNESDAY 27 FEBRUARY 2019

Item	Subject	Person	Oral Item / Paper	Action Required
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Out of scope

4.	Hydrogen Green Paper	Andrew Hume	Paper: 2592 18-19 Paper: 2593 18-19	Discussion
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Out of scope



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

Priority Projects

Item	Actions	Status
Green hydrogen vision paper	<p>MBIE have provided you with a draft Cabinet paper for your review, to submit to DEV Cabinet Committee that seeks Cabinet approval to delegate the release of the green hydrogen vision paper to you, in consultation with Minister Parker.</p> <p>We have invited key external stakeholders to two workshops - one in Auckland on 7 March and one in Christchurch on 8 March. These workshops will be facilitated by Arup and MBIE officials will also attend.</p> <p>We are considering how to best consult with iwi.</p> <p>Arup and the interagency officials working group are working towards a mid to late April sign out by you, in consultation with Minister Parker. We have spoken to your office about finding a time in your and Minister Parker's diaries in April to discuss the draft green hydrogen vision paper.</p>	<p>On track for release at the Just Transitions Summit on 9 May.</p>

Out of scope



2. Stakeholder Issues

Meeting with Ports of Auckland and KiwiRail

Comment:


An official (Mark Pickup) joined a meeting on 5 February in Auckland with KiwiRail, Ports of Auckland with advisors present from Arup (advisors on our hydrogen vision) and Alstom (German manufacturing company).

This meeting discussed future low carbon transport options for KiwiRail such as the potential for hydrogen trains which Alstom are

Next Steps:

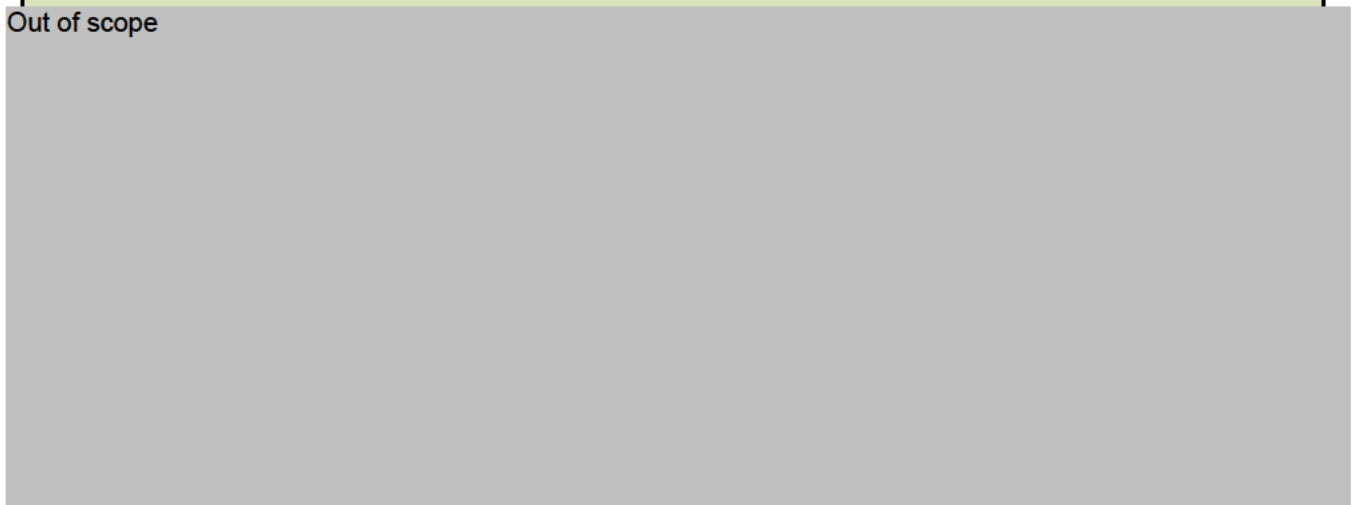
We will incorporate these views into the hydrogen vision and advise you of further developments with Kiwirail.

9(2)(b)(ii)



Responsible Manager: Andrew Hume

Out of scope





Energy and Resources
Weekly Officials' Meeting Agenda
09.45am-10.30am MONDAY 11 MARCH 2019

Item	Subject	Person	Oral Item / Paper	Action Required
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Out of scope

5.	Green Hydrogen Workshops	Mark Pickup	Oral	Discussion
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Out of scope



Action points from last Officials' Meeting

Item	Actions	Name	Status
Out of scope			

Priority Projects

Item	Actions	Status
Hydrogen green paper	<p>MBIE with support from Arup has held the first two of four hydrogen stakeholder workshops in Wellington and Auckland. Workshops will be held in Christchurch on Friday 8 March and New Plymouth on Thursday 14 March.</p> <p>Those attending the workshops include energy sector businesses, research institutions, government agencies, local government development agencies (Priority One from Tauranga, and Venture Taranaki) and other interested groups. The two workshops were viewed as a valuable exercise by MBIE to explore a range of views on the potential for hydrogen in New Zealand's energy system.</p> <p>The viewpoints included were from those who see an exciting future for hydrogen in the energy space, as well as those who are more sceptical about the potential role it may play.</p> <p>These differences of opinions are exactly why these workshops are being held – to get insights from a variety of standpoints which will be important as the green paper is prepared.</p>	On track

Out of scope



4. Stakeholder Issues

Discussion with Ports of Auckland on gaps in regulations relating to hydrogen

Comment:

MBIE Officials hosted a meeting with Ports of Auckland Ltd (POAL) and Minister Ellison to discuss potential regulatory impediments to POAL's proposed hydrogen development. Representatives from Ministry of Transport and New Zealand Transport Authority also attended the meeting.

POAL and Minister Ellison are keen to ensure that their project complies with all relevant regulations and standards, and is concerned that a lack of clarity on standards may slow down its project. It highlighted a number of areas of particular concern, including definitions under the Gas Act, and Alternative Fuel Standards and vehicle certification under the Land Transport Act (LTA).

NZTA said that with consultation and on a case-by-case basis, exemptions may be used to overcome some of the short-term regulatory barriers, provided that vehicles meet safety expectations and a number of other tests under the law. POAL also had questions regarding the applicability of Road User Charges and the Regional Fuel Tax.

Officials will continue to work with POAL to identify gaps in standards and regulations, and potential solutions. A workshop with POAL and a wider range of regulators (including WorkSafe, Gas Industry Company, and other relevant regulators) will be held in late March.

Responsible Manager: Suzannah Toulmin (Acting)

Next Steps:

We will keep you informed.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 18 MARCH 2019



Priority Projects

Item	Actions	Status
Hydrogen Green Paper	<p>MBIE and Arup have now hosted four workshops with key stakeholders on the vision for hydrogen in New Zealand - in Wellington, Auckland, Christchurch and New Plymouth. The New Plymouth workshop was the largest, with about 70 people registering. There was some initial confusion amongst those stakeholders about the purpose of this workshop in relation to the launch of Venture Taranaki's Hydrogen Roadmap the following day, however MBIE clarified this at the workshop.</p> <p>MBIE is still working with the interagency working group and Arup towards releasing the green paper at the Just Transition Summit. MBIE has provided your office with a draft Cabinet paper, which annexes an extended outline of the green paper, to circulate to your colleagues this week. For Cabinet to consider this paper on 8 April, you would need to lodge it with Cabinet Office by 28 March.</p>	On track for release at the Just Transitions Summit on 9-10 May. We will discuss with you next week whether we should release summaries of stakeholders' views from the workshops.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 1 APRIL 2019



Priority Projects

Item	Actions	Status
Hydrogen Green Paper	<p>MBIE has summarised the stakeholder feedback from the four workshops we held around the country, and in response to requests from stakeholders, we plan to publish a summary of the feedback at the four workshops on MBIE's website on Monday 1 April. We are providing you with this summary on Friday 29 March.</p> <p>Based on the stakeholder feedback at the workshops, and the draft outline attached to your hydrogen Cabinet paper, Arup is now developing the green paper and will be consulting with the interagency working group.</p> <p>On Thursday 28 March we provided you with a copy of outline that Arup prepared for your discussion with Minister Parker on Wednesday 3 April.</p> <p>We are still working towards a paper being ready around the Just Transitions Summit. However, for the following reasons, we now consider that the green paper may not be ready for release until slightly after the Summit on 9-10 May:</p> <ul style="list-style-type: none">• Time needed to incorporate stakeholder views from workshops,• Time needed to align final text with two reports expected later in April; the ICCC report and a confidential peer review draft of the IEA's hydrogen report to the G20.• Time needed to complete graphics and layout.	We will confirm with you soon when we expect the green paper will be ready for release.

Out of scope



Upcoming Meetings, Events and Announcements

Upcoming meetings:

Meeting with / Purpose	Time
Out of scope	
Minister Parker re Green Hydrogen <i>Officials attending:</i> <ul style="list-style-type: none">▪ <i>Mark Pickup</i>	18.00-18.30



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 15 APRIL 2019



Overview of decisions required

Item	Decision required	Due date	Decision	Pg. #
Hydrogen Green Paper	Please confirm whether you would like us to approach the Electricity Engineers' Association (EEA) about you opening or speaking at their June conference, which would an opportunity for you to release the hydrogen green paper.	Monday 15 March 2019	YES / NO	3

Out of scope

Priority Projects

Item	Actions	Status
Hydrogen Green Paper	<p>Arup is continuing to develop the green paper, and we have published an update on MBIE's website and sent a thank you email to the stakeholders who attended the workshops, with a link to the update.</p> <p>The update notes that the paper will be released for feedback in the first half of 2019. One option to consider is to release it at the Electricity Engineers' Association (EEA) conference on <i>Engineering, Technology and Innovation</i> on 25 to 27 June In Auckland.</p> <p>You could refer to the paper as being complimentary to your renewable electricity policy. We have not approached the organisers of this event to ascertain if they would welcome you opening or speaking at their event, but we think that it could provide a good and timely opportunity to release the green paper.</p>	Please confirm whether you would like us to approach the EEA about you opening or speaking at their June conference, which would an opportunity for you to release the hydrogen green paper.



4. Stakeholder Issues

Hydrogen meeting with Japanese stakeholders

Comment:

On 4 April, MBIE officials from Energy Markets Policy, Just Transitions Policy, Research and Innovation Policy, and Science and Commercial Investments met with senior members of Japanese companies Mitsubishi, Chiyoda and Mitsui. This meeting follows on from a breakfast meeting you had with these parties in Tokyo last year at the Tokyo Hydrogen Ministerial.

These companies are very interested in commercial and scientific investment opportunities for hydrogen in New Zealand. They explained some of these potential opportunities to us but stressed their need for certainty around the Government's hydrogen strategy, including a roadmap and proposed actions so they could make informed investment plans.

Responsible Manager: Andrew Hume

Next Steps:

We will update you on similar future meetings.

Out of scope



Upcoming Meetings, Events and Announcements


Upcoming meetings:

Meeting with / Purpose	Time
Monday 15 April	
E&R Weekly Officials Meeting	09.35-10.20
Out of scope	
<ul style="list-style-type: none">▪ Bob Beth and Minister Parker: Hydrogen <i>Officials attending:</i> <ul style="list-style-type: none">▪ <i>Mark Pickup, Ron Clink</i>	14.30-15.00
Out of scope	



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 29 APRIL 2019



Action points from last Officials' Meeting

Out of scope



Overview of decisions required

Item	Decision required	Due date	Decision	Pg. #
Green Hydrogen Strategy	Please confirm if your leave from House has been approved, so you can open the Electricity Engineers' Association Conference on 25 June.	Wed 1 May	Yes / No	4



Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	<p>MBIE has recently published an update on its website and sent a thank you email to those who attended the hydrogen workshops or sent feedback in by email.</p> <p>As agreed, with your office, MBIE approached the Electricity Engineers' Association (EEA) about you speaking at their conference on 25-27 June in Auckland, subject to you getting leave from the House approved to attend.</p> <p>The EEA are pleased for you to open their conference at 1.30pm on Tuesday 25 June. They have provisionally allocated up to 20 minutes for your address and this would include a question time (if you wish to take questions).</p> <p>In the meantime, Arup and the interagency hydrogen working group are continuing to work on the hydrogen green paper, so it is ready for you to release at the EEA conference.</p>	<p>The hydrogen green paper is on track for you to release at the EEA conference on 25 June.</p> <p>Please confirm as soon as possible if your leave from the House has been approved to open this conference.</p>

Out of scope



5. Other agency collaboration

Hydrogen regulators meeting with Ports of Auckland

MBIE, WorkSafe, EPA, MaritimeNZ, GIC

Comment:

MBIE convened a half-day workshop with Ports of Auckland's (POAL) hydrogen project team (POAL, MinterEllisonRuddWatts and Arup) and Central Government regulators to identify where gaps in regulations and standards could slow down POAL's hydrogen project.

Representatives from WorkSafe, Gas Industry Company, MaritimeNZ and Environmental Protection Agency, as well as members from a number of MBIE teams attended the session.

Ministry for the Environment, Ministry of Transport, New Zealand transport Agency, MBIE's Energy Safety, and Measurements and Standards teams could not attend the session but have contributed to discussions.

A number of potential issues have been identified, including with the Gas Safety Measurement Regulations (Gas Act), Fuel Standards, and with various elements of the Land Transport Act. While some of the issues could be addressed by exemption or by adopting new standards, some changes to regulations could be necessary.

The participants agreed to form three expert cross-government working groups to consider the issues more thoroughly, focusing on the Gas Act, the Land Transport Act, and Environment Regulations.

MBIE plans to host similar workshops with other hydrogen project teams, including Hiringa Energy.

Responsible Manager: Suzannah Toulmin

Next Steps:

We will keep you informed of developments.



Number	Name	Date received	Date due to Minister's Office (if applicable)	Date due to requestor	Relates To / Status Update
Out of scope					
1819-1506	Out of scope	15-Apr-19	-	16-May-19	Hydrogen advice and 8 Rivers project to Min. Woods Status: Gathering Information

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 6 MAY 2019



Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	The interagency working group will be working through the draft green paper with Arup over the next few weeks. We will also soon be asking your office to organise a time in June in both yourselves and Minister Parker's diaries to discuss the paper, as Cabinet approved you releasing the paper in consultation with Minister Parker.	On track for release at the Electricity Engineers Association conference on Tuesday 25 June.

Out of scope



2. Stakeholder Issues

Hydrogen in transport – Infrastructure New Zealand

Comment:

Mark Pickup, Principal Policy Advisor MBIE, addressed a meeting of Infrastructure New Zealand at the Ports of Auckland last Wednesday. The meeting was on the potential for hydrogen for transport in New Zealand and was addressed by; Tony Gibson, CE Ports of Auckland, Liz Halstead from Arup and Rosie Mercier from Ports of Auckland.

Rosie outlined the Ports of Auckland hydrogen project Out of scope

Mark covered the government's role in facilitating hydrogen development. The meeting was well attended by over 50 members of Infrastructure NZ.

Responsible Manager: Justine Cannon

Next Steps:

For your information only.

Out of scope



2. Stakeholder Issues

Presentation from Z Energy

Comment:

On 30 April 2019, a number of staff from across the Energy and Resources branch met with representatives from Z Energy. Z gave a presentation providing an overview of its operations.

Topics of conversation included Z's low-carbon initiatives including an offer to share in the near future Z's thinking on hydrogen opportunities, Out of scope

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[Redacted text block]

Responsible Manager: Jono Weir

Next Steps:

For your information only.

Out of scope

[Large redacted area]



2. Stakeholder Issues

Wind Energy Conference 2019

Out of scope



Next Steps:

For your information only.

Out of scope Dr Linda Wright, the CEO of the NZ Hydrogen Association, also gave an overview of global hydrogen technology developments and the opportunity for New Zealand.

Out of scope



Responsible Manager: Justine Cannon



Upcoming Briefings, Aide Memoires and Reports

Subject	Comment	Due date	Contact
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Out of scope

Briefing: Draft Hydrogen Green Paper	To provide you an initial draft Hydrogen Green Paper for you your review and comment	Monday 13 May 2019	Justine Cannon
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Out of scope



Departmental OIAs

Number	Name	Date received	Date due to Minister's Office (if applicable)	Date due to requestor	Relates To / Status Update
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Out of scope

1819-1506	9(2)(a)	15-Apr-19	-	16-May-19	Hydrogen advice and 8 Rivers project to Min. Woods Status: Gathering Information
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Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 20 MAY 2019



Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	MBIE has received an early draft of the green paper from Arup, which we will provide you and Minister Parker for your initial feedback. We will continue working on the draft with the interagency hydrogen working group.	On track for release at the Electricity Engineer's Association conference on 25 June 2019.

Out of scope



Upcoming Meetings, Events and Announcements

Upcoming meetings:

Meeting with / Purpose	Time
Monday 20 May	

Out of scope

Tuesday 21 May	
Hydrogen Association Workshop <i>Officials attending:</i> <ul style="list-style-type: none">• <i>Mark Pickup</i>	9.00-9.30
Kochiro Yoneda, Mitsui re Hydrogen <i>Officials attending:</i> <ul style="list-style-type: none">• <i>Andrew Hume</i>	10.00-10.30

Out of scope



Upcoming speeches & communications:

Event or announcement	Activity	Date	Speech / media release due	MBIE Contact
Event: Hydrogen Association	Workshop	22 May 2019	20 May 2019	Justine Cannon

Out of scope

Event Briefing: Inaugural Workshop of the Members of the New Zealand Hydrogen Association.	This event briefing provides the background information and logistical details for the Inaugural Workshop of the Members of the New Zealand Hydrogen Association. The Minister is scheduled to give a speech on the overview of Governments strategic vision for hydrogen in New Zealand.	20 May 2019	Justine Cannon
Briefing: Meeting with new Chief Executive of Mitsui, Mr Yoneda	This event briefing provides the background information for your meeting with the new Chief Executive of Mitsui, and his predecessor Mr Masuda.	20 May 2019	Justine Cannon



Upcoming Briefings, Aide Memoires and Reports

Subject	Comment	Due date	Contact
Briefing: First draft of the Hydrogen Green Paper	To provide you and Minister Parker with a first draft of the Hydrogen Green Paper for your review and comment.	20 May 2019	Justine Cannon

Out of scope



Departmental OIAs

Number	Name	Date received	Date due to Minister's Office (if applicable)	Date due to requestor	Relates To / Status Update
1819-1506	9(2)(a) [REDACTED]	15 Apr 19	-	16 May 19	Hydrogen advice and 8 Rivers project to Min. Woods. Status: Approval.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 3 JUNE 2019



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

Priority Projects

Item	Actions	Status
Hydrogen Green Paper	Following feedback from your office and our further review of the draft green paper, We estimate that it will be ready for you to release within the next couple of months, and we will look for a suitable	For discussion at our Officials' Meeting with you on 4 June.

Out of scope



3.Regulatory Reform & Implementation and Operational Matters

Out of scope

9(2)(b)(ii)



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 10 JUNE 2019



Action points from last Officials' Meeting

Item	Actions	Name	Status
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Out of scope

Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	We are awaiting an updated draft of the green paper from Arup, following feedback provided to them last week on the first draft. We expect to receive this draft early in the second week of June.	We will provide you the updated draft when we receive it and check it.

Out of scope



3. Regulatory Reform & Implementation and Operational Matters

Out of scope

9(2)(b)(ii)



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 17 JUNE 2019



Action points from last Officials' Meeting

Out of scope

Priority Projects

Item	Actions	Status
Hydrogen Green Paper	We expect to receive the final draft of the green paper from Arup, incorporating the graphics, on Friday 21 June. We will then check and revise it as necessary.	We expect to deliver the final draft to you Friday 12 July.

Out of scope



Out of scope

9(2)(b)(ii)



2. Regulatory Reform & Implementation and Operational Matters

Out of scope

Hyundai New Zealand unveils hydrogen-powered SUV at Fieldays

Comment:

Hyundai New Zealand has imported two hydrogen fuel cell electric vehicles to New Zealand. The Hyundai NEXO, an SUV model, was unveiled at the Mystery Creek Fieldays on Wednesday 12 June. The vehicle has a range of 605 km, a refuelling time of five minutes, and comparable performance specifications to SUVs already on New Zealand's roads. While there is no hydrogen refuelling infrastructure in New Zealand as yet, officials understand that Hyundai is working with local companies to provide a temporary solution so that the vehicles can be refuelled for demonstration purposes.

Responsible Manager: Justine Cannon

Next Steps:

For your information only.



3. Stakeholder Issues

Out of scope

Meeting with Alstom in Paris

Comment:

An MBIE official while representing New Zealand at an IEA Governing Board meeting in Paris will meet with Alstom at their Paris HQ accompanied by a MFAT Paris based Trade Commissioner. The purpose of the meeting is to discuss Alstom's future plans and timetable for developing freight and passenger hydrogen trains that would be suitable for New Zealand's narrow gauge railways.

Responsible Manager: Justine Cannon

Next Steps:

We will advise you on the outcome of the meeting upon return to New Zealand.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 06, JULY 2020



Priority Projects

Hydrogen Projects	No further update for this project this week.	In Progress.
Green Hydrogen Strategy	No further update for this project this week.	In Progress.



1. Policy Development

Proposed APEC project on low-carbon hydrogen standard

Comment:

In the lead-up to APEC 2021, which New Zealand will host, we are bidding for APEC funding for a project on low-carbon hydrogen standard. As part of the funding application process, we have submitted a concept note on our project to APEC's Sub-Committee on Standards and Conformance. Nine member economies, including Australia, Canada, Chile, China, Chinese Taipei, Japan, the Philippines, the Republic of Korea and the US, are co-sponsoring our proposal.

This project will involve conducting a survey and hosting a workshop to discuss the feasibility of an international standard on the production of low-carbon hydrogen, with the workshop to be held in August 2021.

Such an international standard for low-carbon hydrogen would provide a consistent benchmark for investors and markets. This could help build confidence in the environmental integrity of the source of hydrogen and encourage investment in low-carbon hydrogen in the APEC region.

Should APEC approve our project in principle in early August, we will need to submit a more detailed project proposal.

We expect to know the APEC funding outcome for our project in November.

Responsible Manager: Justin Cannon

Next Steps:

We will keep you informed of our progress in this project.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

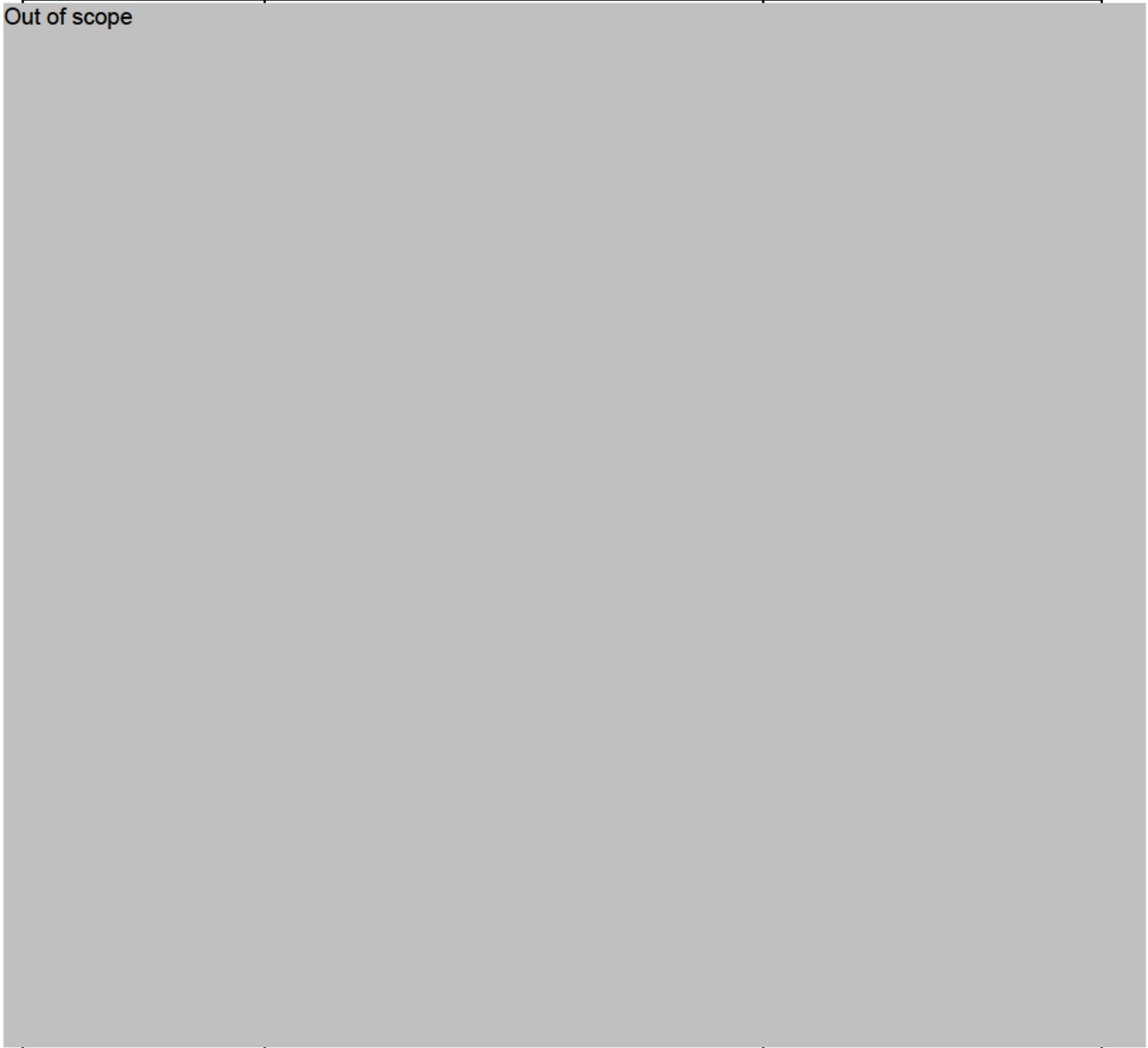
Week beginning MONDAY 24 JUNE 2019



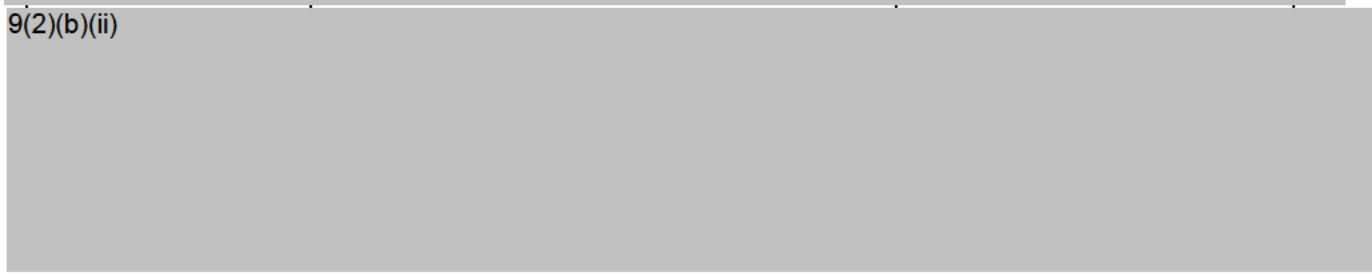
Priority Projects

Item	Actions	Status
Green Hydrogen Strategy	We expect to receive the final draft of the green paper from Arup, incorporating the graphics early next week. We will then check and revise it as necessary.	We expect to deliver the final draft to you Friday 12 July.

Out of scope



9(2)(b)(ii)





2. Stakeholder Issues

Hydrogen Regulatory meeting with Hiringa Energy

Comment:

On 18 June, MBIE hosted a workshop with project management and compliance managers from Hiringa Energy. The purpose of the workshop was for Hiringa Energy to provide a detailed overview of each of its hydrogen projects and to discuss potential regulatory gaps and barriers to those projects, with a particular focus on the Gas Act. Representatives from Gas Industry Company and WorkSafe also attended the meeting, as did MBIE officials knowledgeable about the Gas Act. A similar meeting with experts on the Land Transport Act is planned for June 26.

A number of potential barriers were identified, varying from the ability to import certified components and equipment based on international standards, the storage of hydrogen at production and refuelling sites, and commercial and safety regulations relating to the distribution of sale of hydrogen. Some of these potential barriers may be addressed through exemptions on a case-by-case basis, but others may require regulatory change. MBIE staff working on the Gas Act amendments attended the meeting, and the feedback provided will inform the next stages (post consultation) of the Gas Act amendments.

Responsible Manager: Justine Cannon

Next Steps:

We will keep you updated on the outcomes of future meetings.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 13, JULY 2020



Priority Projects

Out of scope

Hydrogen Projects	No further update on this project.	In progress.
Green Hydrogen Strategy	The Castalia model of hydrogen supply and demand in New Zealand will be made publically available at the end of the week (17 July), or early the following week.	In progress.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 20, JULY 2020



Priority Projects

Out of scope

Hydrogen Projects	No further update on this project.	In progress.
Green Hydrogen Strategy	We are awaiting completion of Castalia's online version of the hydrogen supply and demand modelling. We now expect the model to be on the MBIE website at the end of the last week of July or in the first week of August.	In progress.



1. Stakeholder update

Out of scope

Clean Energy Ministerial (CEM)

Comment:

The CEM secretariat sought an indication last week from all CEM members whether they would attend the next CEM meeting in person in mid-September 2020 in Saudi Arabia. We have notified the CEM that you will not attend due to the proximity of the election and the need for arrivals to quarantine on return to New Zealand.

New Zealand has yet to be “formally” accepted as a full member of CEM. This was intended to happen at a CEM meeting either in Chile earlier this year or in Saudi Arabia in September, but this has been disrupted by COVID-19. We are following up with the CEM secretariat on next steps.

The CEM Hydrogen Advisory Group meet on Thursday 16 at 1400 to 1630 CEST (midnight to 02:30). An MBIE official represented New Zealand.

Responsible Manager: Justine Cannon

Next Steps:

For your information
We will inform you of steps required to achieve full NZ membership of CEM.

Japan 2020 Hydrogen Ministerial

Comment:

The Japanese government has informed MBIE that the 2020 hydrogen ministerial will be held online in October 2020 and that a formal invitation letter will be sent to you shortly.

Responsible Manager: Justine Cannon

Next Steps:

For your information.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 27, JULY 2020



Priority Projects

Out of scope

Hydrogen Projects	No further update for this project.	In progress.
Green Hydrogen Strategy	No further update for this project.	In progress.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 10, AUGUST 2020



Priority Projects

Out of scope

Hydrogen Projects	No further update on this project.	In progress.
Green Hydrogen Strategy	No further update on this project.	In progress.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 24, AUGUST 2020



Priority Projects


Out of scope

Hydrogen Projects	No updates.	In progress.
Green Hydrogen Strategy	No updates.	In progress.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 31, AUGUST 2020



Priority Projects

Out of scope



Hydrogen Projects	No updates.	In progress.
Green Hydrogen Strategy	No updates.	In progress.



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Energy and Resources Weekly Report

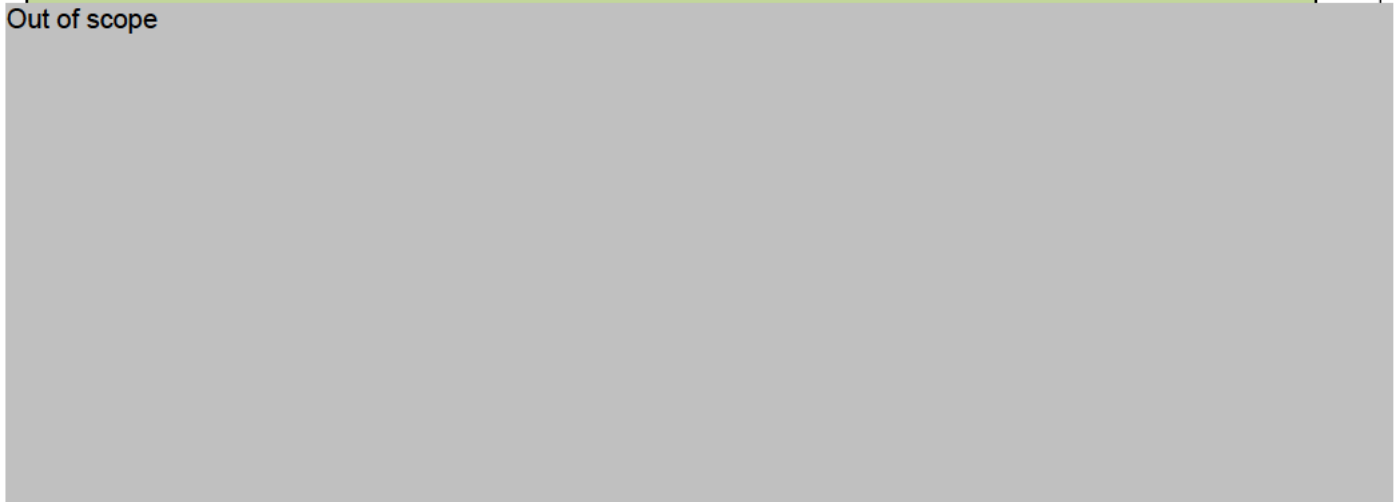
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 07, SEPTEMBER 2020



Priority Projects

Out of scope



Hydrogen Projects	No updates.	In progress.
Green Hydrogen Strategy	A public version of the model on New Zealand hydrogen supply and demand, commissioned from Castalia, is now available on the MBIE website.	In progress.

Out of scope





1. Stakeholder Update

9(2)(a)

Many APEC economies have shown a strong interest in developing hydrogen. Australia has released its national hydrogen strategy, while Chile and Canada are both developing theirs with plans to release them later this year. Canada is also developing a large hydrogen plant in Québec, which will be the world's largest.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 05, OCTOBER 2020



Out of scope



Hydrogen Projects	No updates.	In progress.
Green Hydrogen Strategy	A public version of the model on New Zealand hydrogen supply and demand, commissioned from Castalia, is now available on the MBIE website.	In progress.

Out of scope





1. Stakeholder Update

Hydrogen International Conferences

Comment:

A number of hydrogen related conferences have taken place or are imminent:

- We have received positive feedback on your speech at CEM from the secretariat and will forward the meeting report when received.
- Your pre-recorded speech for the Japan Hydrogen Ministerial on October 14 has been received in Tokyo.
- MBIE Energy and Resources GM Phillippa Fox will address the Korean 2020 International Conference on Hydrogen on October 7.
- MBIE Principal Advisor Mark Pickup and H2 Association CE Dr Linda Wright are on a panel on Energy Transition at the SETA (Smart Energy and Technology) Virtual Energy Conference in Thailand on October 14.
- MFAT has informed us that Minister Shaw was invited to speak at the Sustainable Energy Council's First Annual Asia-Pacific Hydrogen Summit, to be held 24th-26th November 2020, but MFAT understands his invite may be transferred to you.

Responsible Manager: Justine Cannon

Next Steps:

We will provide feedback on conferences as it is received.

International Hydrogen Relationships

Comment:

We are continuing to develop international hydrogen relationships:

- Negotiations are underway with the Singapore Government on a hydrogen MOU. The Singapore High Commission is brokering the discussions. A draft MOU will be prepared based on the template signed with Japan earlier.

9(2)(j)



Next Steps:

We will advise developments on each of these approaches as they develop.

Responsible Manager: Justine Cannon



1. Stakeholder Update

New Zealand Hydrogen Association AGM

Comment:

MBIE attended the NZ Hydrogen Association AGM on 24 September at Contact Energy Offices. There were a number of speakers at the event. Sir Stephen Tindall outlined his work in the clean technology area and announced he had funded the association for \$100k and urged the government to do the same. Stephen Canny of Great South spoke mostly about the Rio Tinto smelter leaving Southland and the opportunity this provided for hydrogen production. James Kilty, deputy CE of Contact Energy spoke of his conversion to hydrogen and his belief that it may be a more cost effective dry year approach than Onslow. Andrew Caseley from EECA urged companies to take responsibility from their own pockets for emissions reduction and not to rely solely on government funding. Angela Ogier of First Gas provided an update on their hydrogen injection trial and noted that in future distributed injection of green hydrogen from electrolysis into the pipeline may be more effective than gas from a central point. MBIE gave a brief update on government policy.

Responsible Manager: Justine Cannon

Next Steps:

For your information only.

Out of scope



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
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Energy and Resources Weekly Report

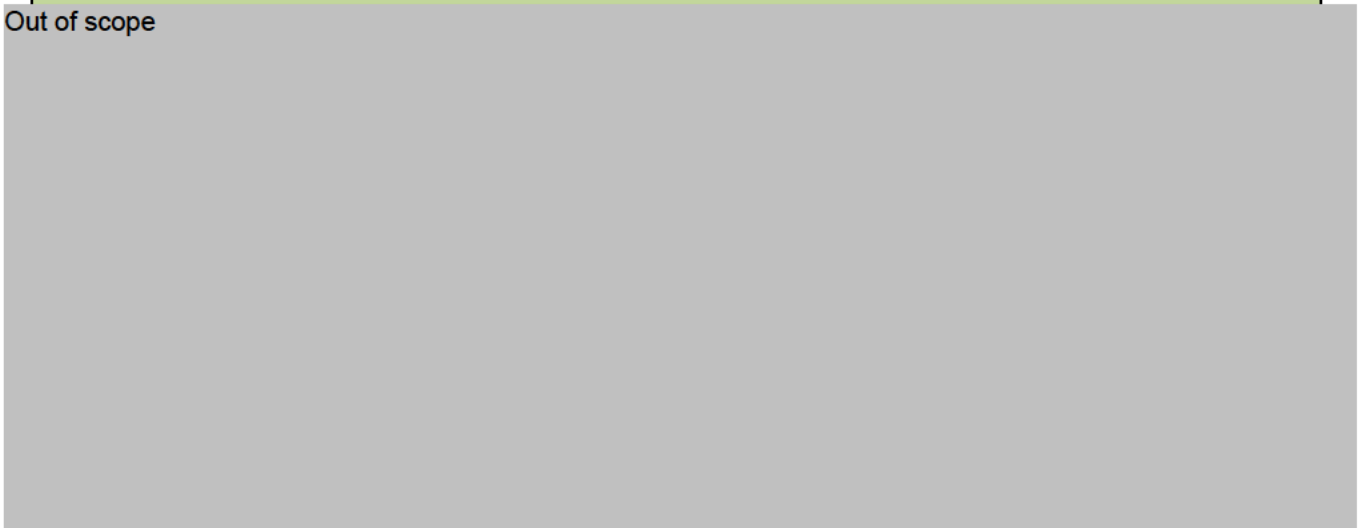
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 12, OCTOBER 2020



Priority Projects

Out of scope



Hydrogen Projects	No updates.	In progress.
Green Hydrogen Strategy	No updates.	In progress.

Out of scope





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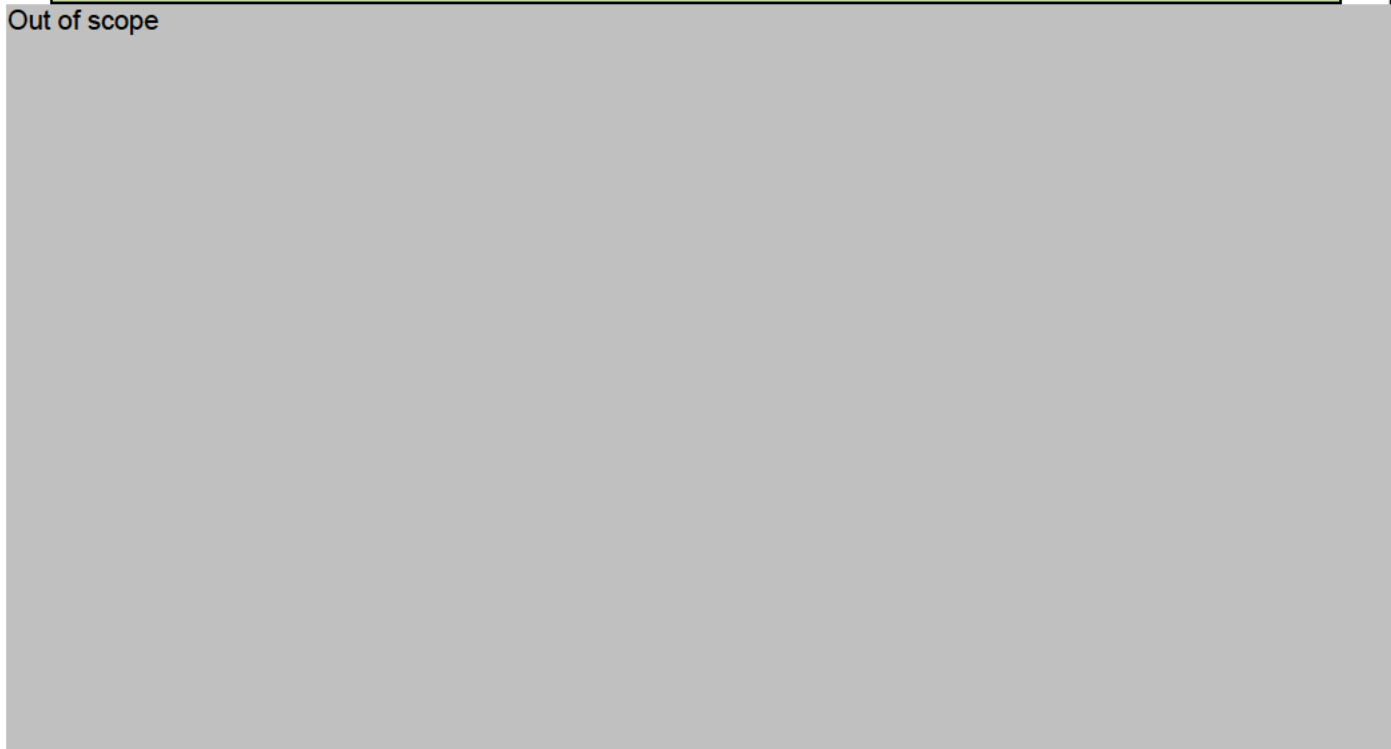
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday 02, NOVEMBER 2020



Priority Projects

Out of scope



Hydrogen Projects	No further updates.	In progress.
Green Hydrogen Strategy	No further updates.	In progress.

Out of scope





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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 09, NOVEMBER 2020



1. Policy Development

Out of scope

MBIE's Energy Markets Policy team and Trade and International Policy team are also working together to seek APEC funding to undertake a project on international standards on low-carbon hydrogen in 2021. APEC's funding decision is expected later this month.

Responsible Manager: Justine Cannon

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 23, NOVEMBER 2020



2. Stakeholder update

Out of scope

Gas Industry Company report for quarter ending September 2020

Out of scope



2. Stakeholder update

- **Facilitating hydrogen in the energy system.** It has begun a work stream to engage with the industry on early stage regulatory issues, including utilising existing regulatory processes and structures to facilitate access and build industry confidence. Future issues will involve market rules and systems for switching customers, odourisation, reconciliation of quantities supplied into pipelines, and managing critical contingencies.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 15, FEBRUARY 2021



2. Stakeholder update

Movement of IEA Deputy Director to Biden administration

Comment:

On Wednesday 10 February, President Joe Biden appointed David Turk as Deputy Secretary of Energy. David Turk is currently the Deputy Executive Director of the International Energy Agency (IEA), where he has managed the IEA's work on clean energy transitions and directed analysis focused on digitalization, energy and hydrogen.

MBIE has had a very good and productive working relationship with David during his tenure at the IEA, which may be useful for future engagements with the US on energy issues.

Responsible Manager: Justine Cannon

Next Steps:

For your information.



Upcoming Briefings & Meetings

Upcoming Briefings & Speech Notes

Subject	Comment	Due date	Contact
Out of scope			
Briefing: Arrangement between the Government of New Zealand and the Government of the Republic of Singapore regarding cooperation on low-carbon hydrogen	This briefing introduces a proposed arrangement between New Zealand and the Republic of Singapore for co-operation on low carbon hydrogen. The proposed arrangement has been negotiated by officials on both sides and has been approved for signing by the Singapore Government.	Thursday, 25 February 2021	Justine Cannon
Out of scope			



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 22, FEBRUARY 2021



2. Stakeholder update

Gas Industry Company Report (Quarter ending 31 December 2020)

Comment:

Out of scope

Next Steps:

For your information only.

- GIC is investigating early-stage regulatory issues with hydrogen and biogas, and has commissioned PwC to undertake a high-level survey of the regulations and legislations that may apply across the hydrogen value chain. As a next step, GIC will engage with the various government agencies to create a common understanding of the future regulatory landscape.

9(2)(f)(iv)



2. Stakeholder update

This is intended to help promote the adoption of lower-carbon gases.

Responsible Manager: Michelle Schulz

Electricity Rulings Panel ruling on potential breach of disclosure obligations by Genesis Energy during 2019 Pohokura gas supply outage

Comment:

The Electricity Rulings Panel (the Panel) has dismissed Haast Energy Trading's (Haast) complaint against Genesis for breaches to information disclosure obligations in relation to supply disruptions at Pohokura in 2019.

In January 2019, Haast lodged a complaint with the Electricity Authority against Genesis Energy (Genesis), claiming that Genesis was aware of the upcoming outages in November 2018 before OMV publicly announced it in January 2019. Haast stated that disclosure of information on thermal fuel supply or deliverability constraints would have had significant impact on decisions around electricity forward prices in the wholesale market.

The Panel dismissed the complaint based on the fact that information that Genesis had received from OMV in late 2018 was uncertain and subject to change, and was not expected to affect Genesis' generation capacity.

The Panel also stated that it has not been established that disclosing the information would have materially affected electricity prices and Genesis was legally bound by its contract with OMV to keep it confidential (and therefore not subject to disclosure requirements).

However, the Panel recommended that consideration be given to whether a lower threshold should be introduced to bring more information within the definition of 'disclosure information' as the current definition may give industry participants too much latitude to argue information will not materially affect wholesale prices.

The Electricity Authority and GIC have been reviewing the rules and arrangements governing information disclosure. The Electricity Authority has since amended its Code to strengthen the electricity disclosure rules (as reported to you earlier) and the gas market information disclosure rules are to be amended through the Gas (Information Disclosure and Penalties) Amendment Bill 2019.

Responsible Manager: Andrew Hume

Next Steps:

For your information only.

Energy News 2020 electricity survey results

Comment:

The Energy News 2020 Electricity Survey (sponsored by GE Digital) was published last week. The survey has run for nine years. Results are available online at: <https://www.freemanmedia.co.nz/research-information/energy-news-and-ge-digital-electricity-survey>.

Next Steps:

For your information only.



2. Stakeholder update

Over half of the 311 respondents identified with a distribution business, a generator-retailer or an energy consultancy. Regulatory and government agencies made up approximately 7% of respondents. No other information on the make-up of respondents was provided e.g. the total number of respondents or population characteristics such as age, gender or ethnicity are

Out of scope

Other findings of the survey include:

Out of scope

- 50% of respondents polled agreed that hydrogen *“has its place in the future, but is more suited to the transportation sector to displace traditional fossil fuels rather than as a power generation fuel source.”*

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 01, MARCH 2021



2. Stakeholder update

EECA second quarter report 2021/21

Comment:

Out of scope

Next Steps:

For your information.

Out of scope

EECA have conditionally approved 22 projects in Round 9 of the Low Emission Vehicle Contestable Fund (LEVCF) totalling \$3.7 million in government co-investment. This included five hydrogen demonstration trucks, these are the first hydrogen trucks funded under the LEVCF.

Out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 08, MARCH 2021



2. Stakeholder update

Meeting with German hydrogen officials

Comment:

MBIE, NZTE and NZ Berlin embassy officials meet with German counterparts from the Federal Ministry for Economic Affairs and Energy (BMWi) on Tuesday evening in an introductory meeting to discuss each country's hydrogen policies and plans. This meeting parallels the liaison already established by MBIE RSI and New Zealand academics for R&D through the Federal Ministry of Education and Research (BMBF). German officials confirmed the priority areas for hydrogen in their decarbonisation plans; their interest in import of hydrogen from diverse sources; working with other countries on the deployment of German technology, and cooperating on international hydrogen policy and standards. Officials agreed to follow up on future cooperation plans once New Zealand had more clarity on the future development of our roadmap/strategy.

Responsible Manager: Justine Cannon

Next Steps:

For your information.

out of scope

CEM Hydrogen in Ports meeting

Comment:

The first meeting of the Hydrogen in Ports initiative was held in the evening of 3 March NZ time. Its purpose is to share knowledge and experience among ports on the use and handling of hydrogen in port facilities. New Zealand was represented by MBIE and by Rosie Mercer, General Manager of Sustainability at the Port of Auckland. The initiative will establish a Memorandum of Understanding, before expanding to cover more ports worldwide.

Responsible Manager: Justine Cannon

Next Steps:

For your information.



3. Operational Updates

Fast Track Consenting for Kapuni Green Hydrogen Project

Comment:

The Minister for the Environment, David Parker, has confirmed he will progress an Order in Council so the resource consent application for the Kapuni Green Hydrogen Project (Hiringa Energy and Balance Agri-Nutrients) can be lodged with the Environmental Protection Authority. The application will then be considered by an expert consenting panel under the Fast Track Consenting Act. The application will be notified to six hapu of Ngaruahine, along with Ngati Ruanui, Taranaki Maori Trust Board, Transpower, Powerco, and Nova Energy. The application will follow an expedited timeframe, with a decision generally released within 90 working days of the date of application (depending on the time the Panel specifies for comments on draft conditions, if any).

Responsible Manager: Sarah Stevenson

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY 29, MARCH 2021



Out of scope

9(2)(b)(ii)

Responsible Manager: Justine Cannon



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 17 MAY 2021



Energy and Resources
Weekly Officials' Meeting Agenda
11:45am – 12:30pm Monday, 17 May 2021

Item	Subject	People	Oral Item / Paper #	Action Required (Decision / Inform / Noting / Discussion)
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out of scope

3.	Hydrogen	Justine Cannon	Oral	Discussion
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out of scope

9(2)(a)



1. Stakeholder update

out of scope

Energy Efficiency & Conservation Authority – Report for quarter to 31 March.

Comment:

out of scope

Project delivery for the Low Emission Vehicles Contestable Fund is ahead of the \$4.53m target and expended against a \$4.40m year to date budget. A highlight of this funding is the launch of the first hydrogen fuel cell bus during March in Auckland.

out of scope

Next Steps:

For your information.



1. Stakeholder update

out of scope

out of
scope

out of scope

9(2)(b)(ii)

out of scope

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 24 MAY 2021



1. Policy Development

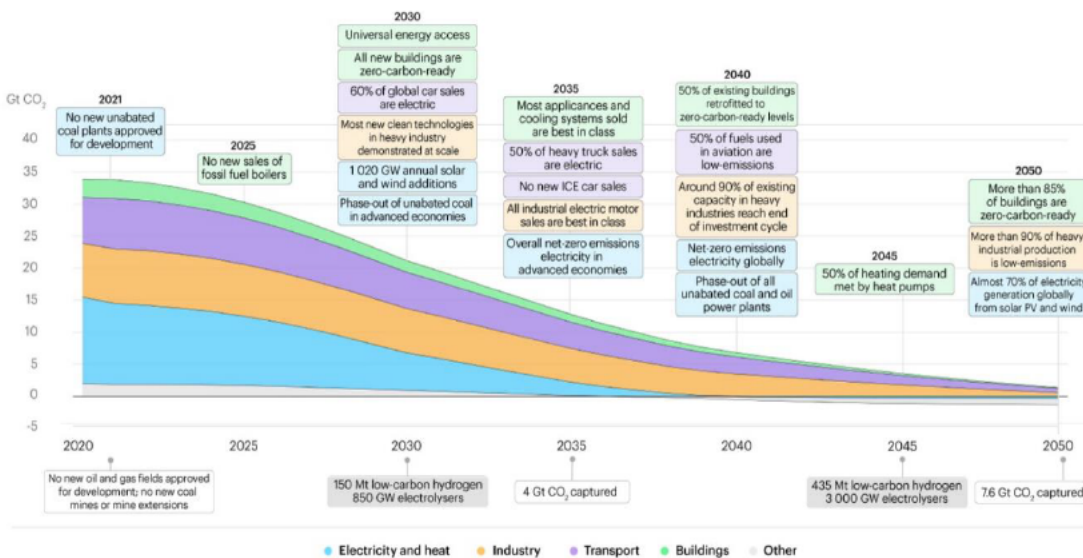
International Energy Agency's 2050 roadmap

Comment:

On 18 May the International Energy Agency released Net Zero by 2050: A Roadmap for the Global Energy Sector. The study lays out a cost-effective transition to a net zero energy system while ensuring stable and affordable energy supply, providing universal energy access, and enabling robust economic growth. The roadmap details more than 400 milestones to transform the global economy from being dominated by fossil fuels to one which relies on renewable energy sources.

In the near term, the report describes a net zero pathway that requires immediate and extensive deployment of all available clean and efficient energy technologies, combined with a global push to accelerate innovation in energy generation. This also includes, from today, no investment in new fossil fuel generation, and no further investment in new unabated coal plants.

The key milestones in the roadmap are in the figure below:



Next

Steps:

For your information.

Many of the priority policy areas highlighted in the report are in line with a number of initiatives already underway in this Government's work programme, some of the priority areas in the report include:

- **2020s is the decade of clean energy expansion - policies should limit or discourage the use of fossil fuels and technologies, such as unabated coal-fired power stations, gas boilers and conventional internal combustion engine vehicles.**
- **Prepare for the next phase of the transition by boosting innovation through Government R&D spending -critical areas such as electrification, hydrogen, bioenergy and carbon capture, utilisation and storage (CCUS) need to be prioritised.**



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 14 JUNE 2021



Priority Projects

	<p>out of scope</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>Comparator technologies workstream</p> <p>We are planning work to narrow down our long-list of comparator dry-year management options, particularly with regard to hydrogen and biomass options.</p>	
	<p>out of scope</p> <p>[Redacted]</p>	



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 21 JUNE 2021



Priority Projects

	<p>out of scope</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>Comparator technologies workstream We are refining our list of comparator dry-year management options, particularly with regard to hydrogen and biomass options.</p>	
	<p>out of scope</p> <p>[Redacted]</p>	



1. Policy Development

New Zealand Hydrogen Standards Framework

Comment:

Standards New Zealand was commissioned by WorkSafe and Health and Safety Policy at MBIE to undertake a scoping study to identify and address changes needed to relevant standards that would affect the use of hydrogen. This project is intended to identify areas where current standards cited in relevant regulations do not cater for the supply or use of hydrogen as a fuel gas, and to develop detailed proposals to address those deficiencies.

Standards New Zealand has drafted the *New Zealand Hydrogen Standards Framework*, which outlines applicable regulations and standards, along with relevant international standards. The *New Zealand Hydrogen Standards Framework* also identifies gaps in the current standards.

Standards New Zealand have convened a Hydrogen Standards Advisory Group, tasked with reviewing the relevant standards across four work streams; Production & Purification and Green Credentialing, Fuel Station Equipment and Design, Mobility and Safety and Network Distribution and Inspection.

Standards New Zealand has already completed a Draft Technical Report for two work streams: Production & Purification and Green Credentialing, outlining its recommendations for new standards development, direct-adoption, and or amendment to existing standards. The Draft Technical Report will now be sent to WorkSafe for its recommendation and implementation.

Standards New Zealand are aiming to progress a Draft Technical Report for the remaining two work streams, Mobility and Safety and Network Distribution and Inspection, in 2021/2022.

Responsible Manager: Justine Cannon

Next Steps:


For your information.

out of scope



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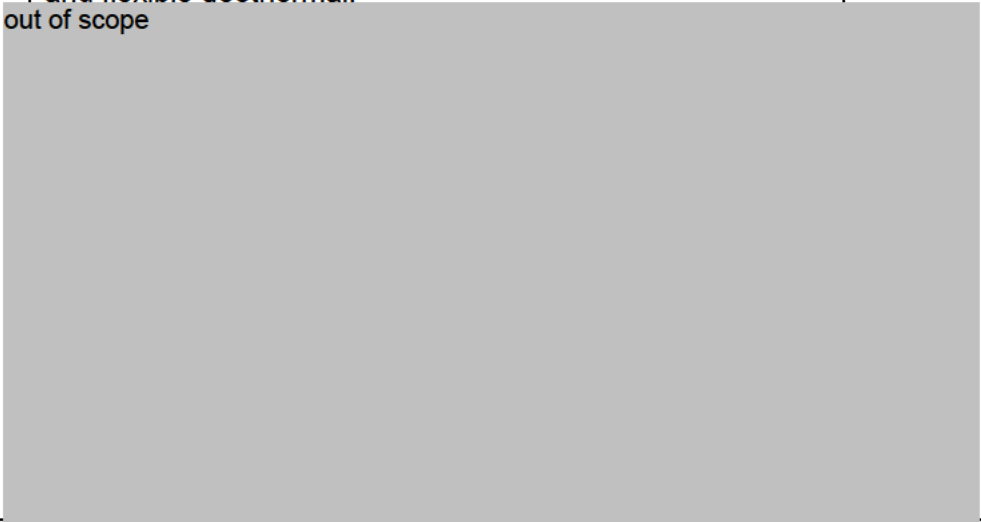
Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 12 JULY 2021



Priority Projects

	<p>After discussing our proposed shortlist of comparator technologies with the TRG, when intend to investigate further options related to bioenergy, green chemicals (including hydrogen), large scale planned load reduction, and flexible geothermal.</p> <p>out of scope</p> 	
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2. Stakeholder update

Update on Hydrogen Trains

9(2)(b)(ii)

Next Steps:

For your information.

Arup informed us that:

- Western Europe is mostly focusing on hydrogen passenger trains, also with a focus on freight yards and industrial areas where diesel shunters operate (which is one of the focuses of the Alstom unit).
- This is because key freight routes in Europe are already mostly electrified and there are few long-distance non-electrified networks where hydrogen freight trains would provide an alternative to diesel.
- However, there is greater interest in hydrogen locomotives in Scandinavia, Eastern Europe and Russia with interest also shown in Canada. For example, Inlandsbanan (Sweden) and Statkraft (Norway) have signed a letter of intent to investigate hydrogen-powered freight trains. This will involve pilot tests in 2021 by converting an existing diesel locomotive to hydrogen fuel cell. Polish rolling stock manufacturer Pesa Bydgoszcz is finalising its first hydrogen-powered locomotive, which will be unveiled by the end of 2021.
- In Canada, Canadian Pacific have announced procurement of the Ballard Power Systems fuel cell for its hydrogen locomotive programme. Fuel cells will be delivered in 2021 to be fitted into a diesel train for trials

We have passed this information onto KiwiRail

9(2)(b)(ii)

9(2)(b)(ii)

Responsible Manager: Justine Cannon

out of scope



Upcoming Meetings

Meeting Information

Time

Officials Attending

out of scope

Thursday, 15 July 2021

Signing MoU on Hydrogen

3:00pm – 4:00pm

Phillippa Fox, Mark Pickup



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 2 AUGUST 2021



Priority Projects

	<p>geothermal.</p> <p>Market impacts and implications workstream</p> <p>We are planning further economic modelling of the different dry-year risk management options. The TRG members have provided some helpful feedback which will inform the next stage of this work.</p> <p>We have developed internally first-draft operational models for NZ Battery for feedback from TRG members this week. We will discuss these with you further in the coming months once these options have progressed.</p> <p>The Authority's Market Development Advisory Group (MDAG) have commenced their work programme, with an NZ Battery Project team member as observer.</p>	
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2. Stakeholder update

out of scope

Meeting with new Japanese Embassy First Secretary

Comment:

MBIE met Mr Tetsumi Takahashi, the new First Secretary of the Japanese Embassy last Friday. Mr Takahashi explained that the next hydrogen ministerial

Next Steps:

For your information.



2. Stakeholder update

will be held virtually on October 4 in Tokyo and expects to be sending a formal invitation shortly. Japan is very keen for you to be involved and to provide a speech or intervention for the event. We understand that a pre-recorded speech is possible, as you provided last year, but are uncertain if in-person involvement is also possible.

Japan will also be holding the first Asian Green Growth Partnership Ministerial on the afternoon of the same day. MBIE and MFAT have not yet assessed whether this second event warrants New Zealand Ministerial attendance.

Responsible Manager: Justine Cannon

GNS Green Hydrogen Stakeholder and Industry Advisory panel

Comment:

MBIE attended the first GNS Green Hydrogen Stakeholder and Industry Advisory panel meeting last week. This panel has been formed by GNS to provide it with stakeholder and industry feedback on the commercial and policy aspects of its green hydrogen research.

Responsible Manager: Justine Cannon

Next Steps:

For your information.

Liaison with German officials on hydrogen

Comment:

MBIE is continuing to develop, through our Berlin embassy, a hydrogen policy relationship with German officials over hydrogen cooperation to compliment the well-developed relationship that RSI has with Germany over hydrogen research.

9(2)(j)

[Redacted content]

Responsible Manager: Justine Cannon

Next Steps:

For your information.



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
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out of scope

Event briefings: Meetings with out of scope Hydrogen Stakeholder event	These briefings will give you background information and talking points ahead of your meetings with out of scope and the Hydrogen Stakeholder event on Tuesday, 3 and Wednesday, 4 August 2021.	Monday, 2 August 2021	Justine Cannon
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out of scope



Upcoming Meetings

Meeting Information

Time

Officials Attending

Monday, 2 August 2021

out of scope

Hydrogen stakeholder event

6:00pm – 8:30pm

Phillippa Fox, Suzannah Toulmin,
David Darby



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 9 AUGUST 2021



Priority Projects

out of scope

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Comparator technologies workstream

out of scope

[Redacted]

The scope of work will be an important input into the procurement process for selecting a party to undertake the investigations, which we expect to begin in early September. The investigations will focus on identifying the most feasible options related to bioenergy, green chemicals (including hydrogen), large scale planned load reduction, and flexible geothermal.

out of scope

[Redacted]



1. Stakeholder update

Scion's workshop on circular bioeconomy for Aotearoa

Comment:

On 3 August, Scion hosted a workshop on opportunities for developing New Zealand's circular bioeconomy through realising the full potential of our forest resources. Representatives from government agencies, some businesses, iwi/hapū and research institutions attended this workshop.

Scion used this workshop to gather stakeholders' views on the challenges and opportunities for adding value to forest resources. At the workshop, three brainstorming sessions were held in parallel, with one focusing on landscape, one on timber products, and one on bioenergy and bio-based manufacturing. MBIE and EECA participated in the last one.

Scion and some participants highlighted the opportunities associated with sustainable aviation fuels, sustainable marine fuels, solid bioenergy, biogas and bio-hydrogen. They consider Te Ao Māori (the Māori world view), partnership with the Government, and regulatory standards to be key to realising these opportunities.

This workshop was the beginning of a series of engagement exercises that Scion will undertake to develop its strategic vision for the bioeconomy. Scion indicated that it will visit Wellington to engage further with officials and others on this.

Responsible Manager: Justine Cannon

Next Steps:

For your information.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 16 AUGUST 2021



Priority Projects

out of scope

Comparator technologies workstream

out of scope

investigations will focus on identifying the most feasible options related to bioenergy, green chemicals (including hydrogen), large scale planned load reduction, and flexible geothermal.

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources


Week beginning MONDAY, 23 AUGUST 2021



Priority Projects


Comparator technologies workstream

out of scope



The technical investigations will identify any viable options using bioenergy, green chemicals (including hydrogen), large scale planned load reduction and flexible geothermal. We will provide you with more information on our short-list of all non-hydro options in the briefing on alternative pumped hydro sites described above.

out of scope





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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 6 September 2021



Energy and Resources
Weekly Officials' Meeting Agenda
4.15pm – 5:00pm Tuesday, 7 September 2021

Item	Subject	People	Oral Item/ Paper #	Action Required
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out of scope

6.	Regulatory system for hydrogen	Suzannah Toulmin	Paper # 2122-0583	Discussion
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out of scope



Priority Projects

out of scope

9(2)(f)(iv)



Priority Projects

9(2)(a)



out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 13 September 2021



Priority Projects

9(2)(f)(iv)

out of scope



1. Policy Development

Road User Charges (RUC)

9(2)(f)(iv)

Next Steps:
For your
information

Responsible Manager: Justine Cannon

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 4 October 2021



Priority Projects

out of scope

We also attended a meeting hosted by Meridian Energy, in which they provided analysis in support of a potential hydrogen production facility in Southland. They intend to publish the analysis in due course.



2. Stakeholder update

out of scope

Germany – NZ cooperation on hydrogen

Officials met with counterparts from the Division for Bilateral Energy Cooperation (BMW_i) of the German Federal Ministry for Economic Affairs on September 24.

Discussions focused on the opportunity for collaboration on hydrogen by funding through the German National Hydrogen Strategy. BMW_i administer a new fund that can provide finance for demonstration hydrogen projects. It outlined the funding criteria, and has suggested next steps including in Q4 2021:

- (1) an information session on the funding guidelines which MBIE, NZTE and MFAT will promote to New Zealand (and interested German) stakeholders; and
- (2) a deep-dive workshop with a stronger hydrogen topical/policy focus.

The discussions also provided updates on NZ and Germany's Hydrogen Roadmaps, and explored common interests in process heat decarbonisation and offshore wind.

Next Steps:

For your information.

9(2)(j)

Responsible Manager: Suzannah Toulmin

out of scope



Upcoming Meetings

Meeting Information

Time

Officials Attending

Monday, 4 October 2021

out of scope

Hydrogen Energy Partnership
Ministerial Meeting

10:30pm – 11.15pm

Phillippa Fox, Mark Pickup,
Suzannah Toulmin

Tuesday, 5 October 2021

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 18 October 2021



out of scope

The GIC considers that the transition and balancing tight gas supply will be the main focus of the gas sector for the next decade. Next year, its work will include:

out of scope

- new gas market guidelines in response to the Electricity Price Review;
- monitoring developments for biogas and hydrogen and ensure that rules and regulations can support the inclusion of hydrogen.

out of scope

Responsible Manager: Michelle Schulz



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Energy and Resources Weekly Report


To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 15 November 2021



Priority Projects

out of scope



Hydrogen

Robustness of the current regulatory system to advance hydrogen

On 29 October 2021 you agreed to lead a report back with the Minister for Workplace Relations and Safety on whether the current regulatory settings for hydrogen are fit-for-purpose (briefing 2122-0583 refers). Officials have progressed discussions with the GIC and Workplace Relations & Safety officials on the approach to this review and report back, and have begun the work to establish a cross-agency working group to support the review. We expect the first meeting to take place in the coming weeks

9(2)(j)



Progress on preparation for the hydrogen roadmap

Castalia has produced a draft document outlining draft scenarios for hydrogen development in New Zealand. MBIE is currently reviewing the draft document.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 22 November 2021



Priority Projects

	out of scope	
Hydrogen	Robustness of the current regulatory system to advance hydrogen On 29 October 2021, you agreed to lead a report back with the Minister for Workplace Relations and Safety on whether the current regulatory settings for hydrogen are fit-for-purpose (briefing 2122-0583 refers). Officials have progressed discussions with the GIC and Workplace Relations & Safety officials on the approach to this review and report back, and have begun the work to establish a cross-agency working group to support the review. We expect the first meeting to take place in the coming weeks. 9(2)(j)	
	Castalia has produced a draft document outlining draft scenarios for hydrogen development in New Zealand. MBIE is currently reviewing the draft document.	

out of scope



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Draft Speech: Speaking (pre-recorded) at the 2 nd Asia Pacific Hydrogen Summit	This draft speech will provide you with talking points for your pre-recorded keynote address for the 2 nd Asia Pacific Hydrogen Summit virtually taking place on Wednesday, 8 December	Wednesday, 24 November 2021	Suzannah Toulmin
Briefing: Application for Electricity Operator Status: Kapuni Green Hydrogen Project LP (LLP)	This briefing will provide you with background information and seeks your approval of Kapuni Green Hydrogen Project LP's application for electricity operator status.	Thursday, 25 November 2021	Osmond Borthwick

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 29 November 2021



Priority Projects

out of scope

Hydrogen	Robustness of the current regulatory system to advance hydrogen On 29 October 2021, you agreed to lead a report back with the Minister for Workplace Relations and Safety on whether the current regulatory settings for hydrogen are fit-for-purpose (briefing 2122-0583 refers). Officials have progressed discussions with the GIC, Health and Safety policy officials and Workplace Relations & Safety officials on the approach to this review and report back, and have begun the work to establish a cross-agency working group to support the review. We are aiming to have the first cross-agency meeting prior to the Christmas break. Progress on preparation for the hydrogen roadmap Castalia has produced a draft document outlining draft scenarios for hydrogen development in New Zealand. MBIE has reviewed the draft document and suggested some changes to Castalia. Next step is for Castalia to finalise the document and arrange stakeholder meetings to go through	In progress.
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9(2)(f)(iv)



2. Stakeholder update

out of scope

Germany – New Zealand Energy Dialogue Information Session and Networking on the German Funding Guideline for international green hydrogen projects

Comment:

On Wednesday 17 November, MBIE officials participated in the Germany and New Zealand Energy Dialogue - Information Session and Networking on the German Funding Guidelines for International Green Hydrogen Projects. MBIE presented an update on the Hydrogen Roadmap development work and the hydrogen projects in underway in New Zealand.

Representatives from German Federal Ministry for Economic Affairs and Energy (BMWi) presented on the German Hydrogen Strategy, and the German funding guideline for international green hydrogen projects. The presentations were followed by a questions and answers session and a networking session.

Next Steps:

For your information.

9(2)(j)



2. Stakeholder update

9(2)(j)

Responsible Manager: Suzannah Toulmin



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
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out of scope

[Redacted content]			
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Event briefing:
Meeting with NZ
Hydrogen Council

This briefing will provide you with background information and talking points ahead of your meeting with NZ Hydrogen Council on Thursday, 9 December.

Friday,
3 December
2021

Suzannah
Toulmin

out of scope

[Redacted content]			
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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning MONDAY, 6 December 2021



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
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out of scope

Draft speech:
Attending Tuaropaki's
Hydrogen Plant
opening

This draft speech will provide you with talking points for your speech at Tuaropaki's Hydrogen Plant opening event on Thursday, 9 December.

Monday,
6 December
2021

Suzannah
Toulmin

out of scope

Event briefing:
Attending Tuaropaki's
Hydrogen Plant
opening

This briefing will provide background information and talking points ahead of Tuaropaki's Hydrogen Plant opening event on Thursday, 9 December.

Wednesday,
8 December
2021

Suzannah
Toulmin

out of scope



Upcoming Meetings

Meeting Information

Time

Officials Attending

Monday, 6 December 2021

out of scope

Thursday, 9 December 2021

Meeting with NZ Hydrogen
Council

9:45am – 10:15am

Justine Cannon, Sharon Corbett,
Suzannah Toulmin

Attending Tuaropaki's Hydrogen
Plant opening

12:30pm – 2:00pm

TBC



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Energy and Resources Weekly Report

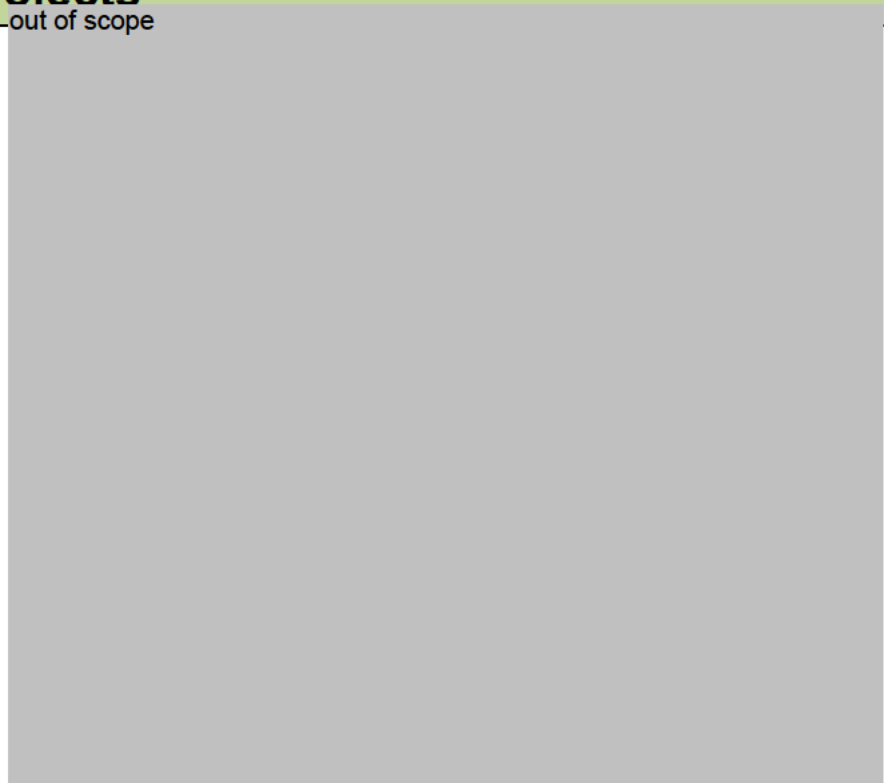
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 14 February 2022



Priority Projects

out of scope



Comparator technologies workstream

We have received a draft report from our consultant, WSP, providing its recommendation of the non-hydro options it considers most prospective for solving the dry year problem. It has recommended further study into three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are currently reviewing the draft report and recommendation, which will also be reviewed by independent experts, before deciding which options are worth investigating further. The next phase of the study will involve a more detailed assessment of whether and how the options could best be designed to solve the problem, and their costs and risks. The results of that work will feed into feasibility decisions at the end of the year.

out of scope





out of scope

Australian Liquid Hydrogen Shipment

Comment:

The world's first liquefied hydrogen carrier (The Suiso Frontier) has arrived in Victoria, Australia as part of a project to test the viability of a hydrogen export market between Australia and Japan as part of the Hydrogen Energy Supply Chain (HESC) project.

The HESC pilot project is testing whether it is possible to create hydrogen using coal mined at the Loy Yang brown coal mine in the Latrobe Valley with carbon capture and storage and transport it to Japan for consumption. The project is being developed by a consortium of Japanese and Australian companies, including Kawasaki Heavy Industries, Japanese energy giant J-Power and AGL, which owns Loy Yang. From Loy Yang, the hydrogen is transported in gas form

Next Steps:

For your information.



3. International Developments

where it is liquefied at -253 Celsius prior to export.

The Suiso Frontier, which has a gross tonnage of 8000 tonnes, will undertake a two-week voyage to transport the liquefied hydrogen to Kobe in Japan. The project has received \$100 million from the Victorian and federal governments.

Responsible Manager: Suzannah Toulmin



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 21 February 2022



Priority Projects

Out of scope



Comparator technologies workstream

Last week we received a draft report from our consultant, WSP into the short-list of alternative, non-hydro options. It



Priority Projects

recommended further study into three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

It did not recommend further study into either compressed air storage or flow batteries.

We are currently reviewing the draft report and recommendation, alongside independent reviewers.

Those options that require further investigation will be the subject of a more detailed assessment of whether, and how, the options could best be designed to solve the dry year problem, alongside their costs and risks. The results of that work will feed into feasibility decisions at the end of the year

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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 28 February 2022



Priority Projects

Out of scope



Comparator technologies workstream

We are currently reviewing WSP's draft report and recommendation that we further study three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export



Priority Projects

- Hydrogen and ammonia production and storage, supplemented by import/export.

Independent reviewers and the Technical Reference Group are also considering WSP's draft report.

We intend to give direction to WSP next week, as to which options should be assessed in further detail to understand whether and how the options could best be designed to solve the problem, and their costs and risks. The results of that work will feed into feasibility decisions at the end of the year.

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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 07 March 2022



Energy and Resources
Weekly Officials' Meeting Agenda
3.30pm – 4.00pm Monday, 07 March 2022

Item	Subject	People	Oral Item / Paper #	Action Required (Decision / Inform / Noting / Discussion)
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out of scope

9(2)(f)(iv)

out of scope



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out of scope

Comparator technologies

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, based on feedback received from the TRG and our independent reviewers, to ensure robust consideration of the opportunities that non-hydro technologies present. WSP will work to finalise its report covering Task 1 given the feedback provided.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 14 March 2022



Priority Projects

out of scope

Comparator technologies workstream

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, based on feedback received from the TRG and our independent reviewers, to ensure robust consideration of the opportunities that non-hydro technologies present.

WSP will work to finalise its report covering Task 1 given the feedback provided. The information provided to date is thorough and useful as we consider these non-hydro options.

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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 21 March 2022



Priority Projects

out of scope

Comparator technologies workstream

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options:

- Controlled dispatchable geothermal generation
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WSP will work to finalise its report covering Task 1 given the feedback provided. The information provided to date is thorough and useful as we consider these non-hydro options.

out of scope



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Event briefing: Meeting with the Hydrogen Association	This briefing will provide you with talking points and background information ahead of your meeting with the Hydrogen Association on Monday, 28 March 2022.	Friday, 25 March 2022	Suzannah Toulmin



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 28 March 2022



Priority Projects

out of scope

Comparator technologies workstream

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options as part of Task 1 of their work:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, based on feedback received from the TRG and our independent reviewers, to ensure robust consideration of the opportunities that non-hydro technologies present.

WSP will work to finalise its report covering Task 1 given the feedback provided.

out of scope



1. Policy Development

Update on review of hydrogen regulatory system

Comment:

In August 2021, we provided you with a briefing and draft cabinet paper on the Robustness of the current regulatory system to advance the hydrogen industry and support our climate change response [2122-0583 refers]. You subsequently agreed to co-lead the development of a report on how fit-for-purpose the hydrogen regulatory system is, with the Minister of Workplace Relations and Safety.

In late February, MBIE appointed PwC as a consultant to undertake a review of the hydrogen regulatory system. It intends to interview between 20 and 30 stakeholders comprising regulators, industry bodies, suppliers and producers to canvas their views on the appropriateness of legislation and regulations and priority order for any changes that may need to be considered.

MBIE has also established a cross-government Hydrogen Regulatory Settings Working Group to support the review. The working group members are drawn from government agencies including regulators and policy agencies that have an interest in legislation, regulations and standards that impact a hydrogen economy, the working group will meet fortnightly until the end of June. It includes, Commerce Commission, Energy Efficiency and Conservation Authority, Environmental Protection Authority, Fire and Emergency NZ, Gas Industry Company, Maritime NZ, Ministry for the Environment, Ministry of Transport, NZ Customs Service, Standards NZ, Waka Kotahi, WorkSafe NZ, and the following teams from MBIE: Health and Safety Policy, Building Systems Performance, Trade and International and Energy Markets Policy.

We will provide a report to you on the outcome of the review in June 2022, setting out issues within legislation and a priority order for in-depth analysis.

Responsible Manager: Suzannah Toulmin

Next Steps:

For your information.



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 4 April 2022



Priority Projects

out of scope



<p>Hydrogen</p>	<p>Roadmap MBIE has received the Castalia report on potential hydrogen pathways for New Zealand. This report looks a low, medium and high demand growth scenarios and makes a tentative look at the effects of government interventions to accelerate hydrogen growth. We are carrying out final checking of the report before it is finalised. The intention of this report is to help define the scope of the hydrogen roadmap to follow as the analysis undertaken is not to the level of detail that will be required in a roadmap.</p> <p>Regulatory review The first full meeting of the cross-agency hydrogen regulations working group was held on 31/3. Attended by ~12 agencies, with guest presentations from GNS Science and the NZ Hydrogen Council. Standards NZ also gave an update on the progress of its hydrogen standards review project, and we understand that they will share a draft report in April. PwC (Consultant) has commenced interviews with</p>	<p>A briefing will be provided to you by mid-April summarising the report findings.</p> <p>In progress.</p>
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Priority Projects

	key industry stakeholders to understand their views of regulatory barriers to a hydrogen economy.	
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out of scope





Priority Projects

out of scope

Comparator technologies workstream

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options as part of Task 1 of their work:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, based on feedback received from the TRG and our independent reviewers, to ensure robust consideration of the opportunities that non-hydro technologies present.

We expect to receive WSP's latest draft of their report this week.



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Energy and Resources Weekly Report

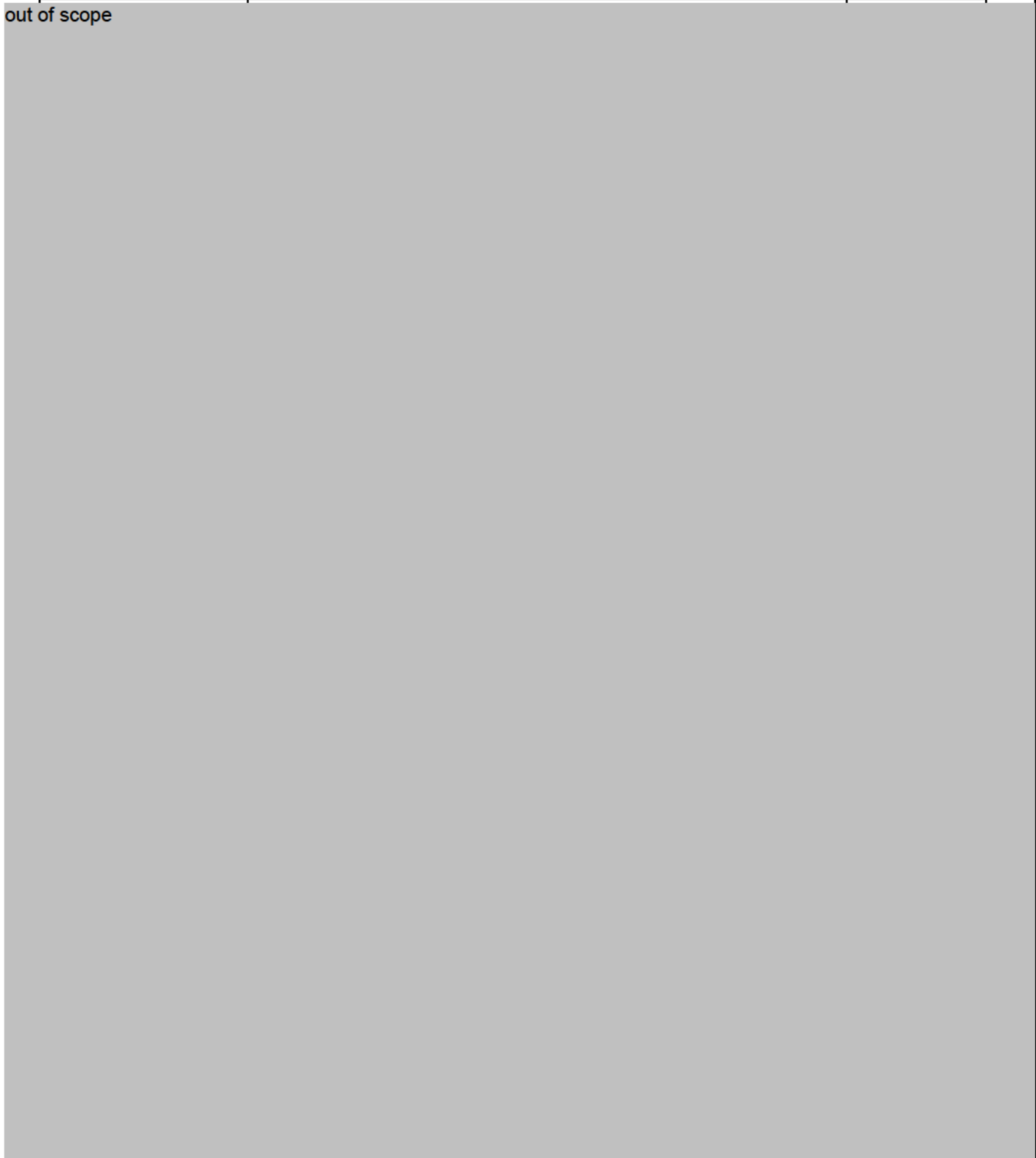
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 11 April 2022



Priority Projects

out of scope



Hydrogen	Roadmap MBIE has reviewed and finalised the Castalia report on	A briefing and the
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Priority Projects

	<p>potential hydrogen pathways for New Zealand. This report looks at a business as usual scenario for hydrogen development in New Zealand and takes a tentative look at the effects of government interventions to accelerate hydrogen growth. The intention of this report is to help define the scope of the hydrogen roadmap.</p> <p>Regulatory review The second meeting of the cross-agency hydrogen regulations working group will be held on 14 April, involving approximately 12 agencies. PwC (Consultant) is currently interviewing key industry stakeholders to understand their views of regulatory barriers to a hydrogen economy.</p>	<p>report will be provided to you next week.</p> <p>In progress.</p>
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out of scope



Priority Projects

out of scope

Comparator technologies workstream

We are finalising WSP's assessment of non-hydro options for providing dry year security, with a particular focus on cost. These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.

Our assessment at this stage of the NZ Battery Project is that no single option would likely solve the dry-year problem on its own, but a portfolio solution could be a viable option, subject to further investigation.

out of scope



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Briefing: New Zealand Hydrogen Scenarios Report	This briefing presents the results of a report by Castalia on potential scenarios for hydrogen development in New Zealand.	Wednesday, 13 April 2022	Suzannah Toulmin
out of scope			



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Tuesday, 19 April 2022



Priority Projects

out of scope

Hydrogen

Roadmap

Hydrogen modelling by Castalia as a preliminary to the Roadmap has been completed and a briefing covering this modelling Has been sent to you.

Regulatory review

PWC have mostly completed their interviews with hydrogen stakeholders. The next meeting of the hydrogen regulatory settings working group was held on Thursday 14 April

In progress.

out of scope



Priority Pro

out of scope

Comparator technologies workstream

We are finalising WSP's assessment of non-hydro options for providing dry year security, with a particular focus on cost. These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.

In particular, we are asking WSP to focus on the relative costs and benefits of these options before finalising their report.

out of scope



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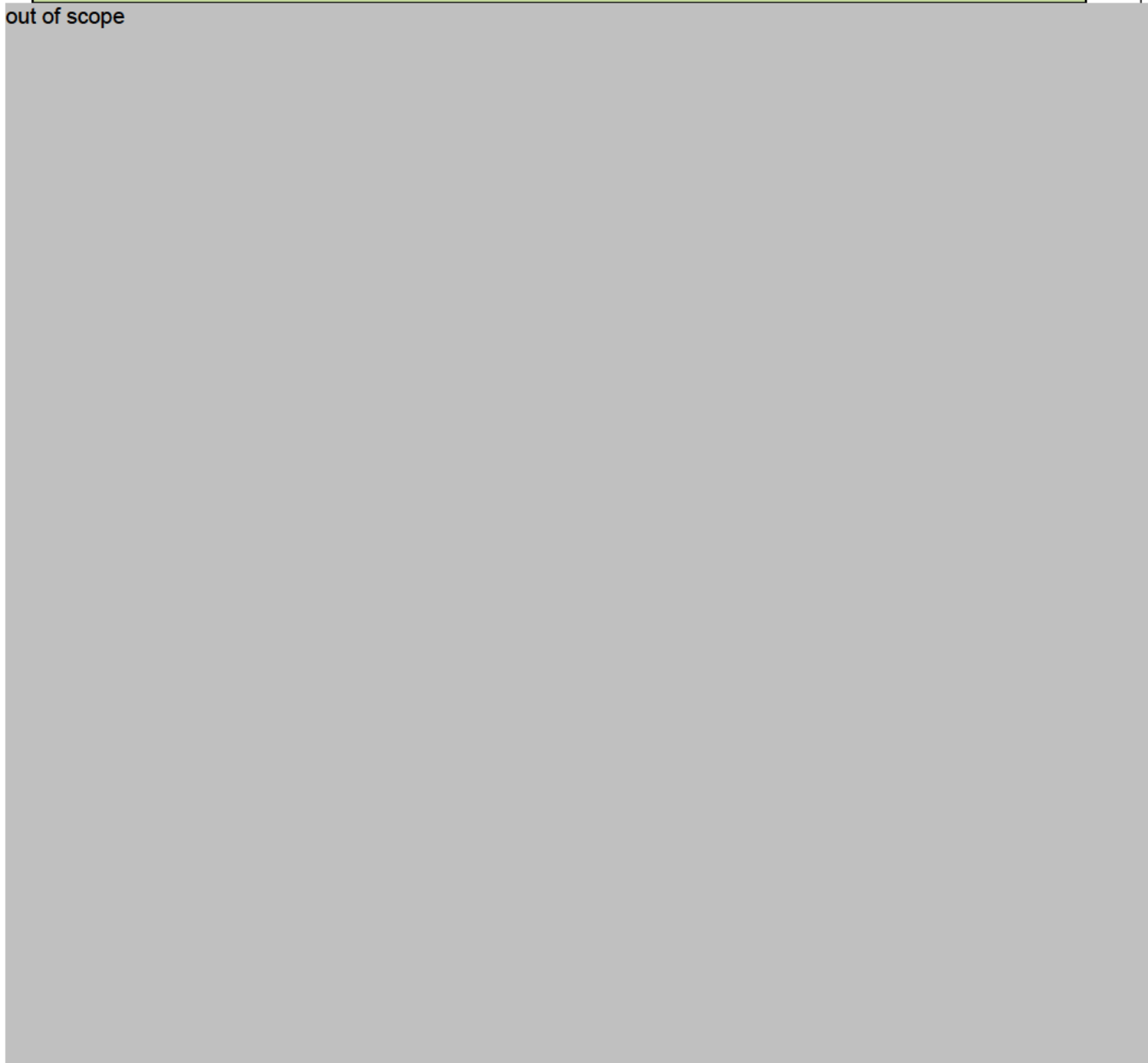
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 2 May 2022



Priority Projects

out of scope




Hydrogen	Roadmap A covering briefing has been provided to you along with Castalia's report on hydrogen supply and demand in New Zealand. This report will be used as a basis for designing the scope of the upcoming hydrogen roadmap. Regulatory review The regulatory review being conducted by PWC is expected to complete in early May and once the report is reviewed officials will brief you on its findings.	In progress.
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Priority Projects

out of scope




Comparator technologies workstream

We are finalising WSP's assessment of non-hydro options for providing dry year security, with a particular focus on cost. These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.

In particular, we are asking WSP to focus on the relative costs and benefits of these options before finalising their report.

out of scope





Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Event briefing: Meeting with the Hydrogen Association	This briefing will provide you with background information and talking points ahead of your meeting with the Hydrogen Association on Thursday, 12 May.	Friday, 6 May 2022	Suzannah Toulmin



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 9 May 2022



Priority Projects

out of scope



Hydrogen	Roadmap The New Zealand Hydrogen Scenarios report prepared by Castalia was published on MBIE's website on Tuesday 2 May. It has attracted a lot of interest, with industry players commenting that it is a valuable piece for planning and policy. Regulatory review Officials received a draft report from PwC on the findings and recommendations of the regulatory review project on Friday 6 May. Participants in the Hydrogen Regulatory Systems Working Group will review the draft, and provide comment this week, before preparation of the final report.	In progress.
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out of scope





Priority Projects

	out of scope	
NZ Battery Project	out of scope	n progress
	Comparator technologies workstream We are finalising WSP's assessment of non-hydro options for providing dry year security, with a particular focus on cost. These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.	
	out of scope	



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 23 May 2022



Priority Projects

out of scope

Hydrogen	Roadmap The New Zealand Hydrogen Scenarios Hydrogen Report was published on MBIE's website on May 3. Regulatory review Officials have received an Interim Summary Report from PwC on the hydrogen regulatory review. Officials will review the report and provide feedback and will provide you with	
9(2)(j)		

out of scope



Priority Pr

out of scope

Comparator technologies workstream

WSP have completed their assessment of non-hydro options for providing dry year security. From a range of five broad technologies with 15 options, WSP have identified three which could potentially make a meaningful contribution to dry year security.

These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.

We will brief you shortly on these findings as noted above. We are also in discussion with WSP about what further investigation of these options might be suitable for the remainder of the first stage of the NZ Battery Project.

We are also considering how this work relates to the upcoming energy strategy.

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 30 May 2022



Priority Projects

out of scope



Hydrogen

Roadmap

With funding secured in Budget 2022, MBIE has started planning for the scope and development timeline of the hydrogen roadmap.

Regulatory review

PWC have provided a draft of their Hydrogen Regulatory Review. MBIE and other members of the Hydrogen Regulations Working Group are currently reviewing the

In Progress

9(2)(j)





Priority Projects

out of scope

Comparator technologies workstream

WSP have completed their assessment of non-hydro options for providing dry year security. From a range of five broad technologies with 15 options, WSP have identified three which could potentially make a meaningful contribution to dry year security.

These options include controlled dispatchable geothermal generation, biomass production and storage, and hydrogen and ammonia production and storage.

We will brief you shortly on these findings as noted above.

out of scope



1. Policy Development

International Energy Agency (IEA) New Zealand Review

Comment:

All IEA members are subject to an Energy Policy Review. New Zealand's last review was in 2017, and the next review has twice been postponed, in 2020 and 2021. Dates are now confirmed for 2022, with the IEA review team scheduled to visit New Zealand from 20 to 26 September. The IEA has provided a detailed questionnaire that must be completed before their arrival, and we have contacted the relevant government agencies and organisations that will contribute to our response.

The review also provides an optional opportunity for an in-depth review of one to two policy topics that the government can nominate. The 2017 review undertook an in-depth review of the electricity distribution sector, with a focus on the sector's ability to respond in a timely, efficient and cost-effective manner to emerging challenges, and on the challenges of reaching a 90 per cent renewable electricity target.

MBIE has drafted some initial potential topics, and we invite your feedback on the proposed topics. In-depth topics could include:

- a) Managing electricity supply under 100 per cent renewable electricity (this would complement the Electricity Authority's current work)
- b) Managing the transition to 100 per cent renewable electricity (this would complement MBIE's work)
- c) A combination of options a) and b)
- d) Electricity distribution under 100 per cent renewable electricity
- e) Facilitating the uptake of renewable gases (such as green hydrogen and biogas) to help achieve New Zealand's renewable energy targets.

Responsible Manager: Suzannah Toulmin

Next Steps:

For your information.

Report released by World Energy Council Hydrogen on the horizon: Ready, almost set, Go?

Comment:

PwC and the World Energy Council have released an innovation insights briefing on hydrogen titled - *Hydrogen on the horizon: Ready, almost set, Go?*, which covers state of play, opportunities and challenges for hydrogen worldwide, with an aim of better understanding the real potential of clean hydrogen in the energy transition.

The report includes a comparative assessment of existing global hydrogen demand estimates to 2050 from a number of sources. While the models show significant variation, they all indicate limited but steady growth of hydrogen demand until 2030, while hydrogen infrastructure is being developed. By 2050,

Next Steps:



1. Policy Development

the estimates vary significantly between an equivalent of 6 to 25% of total final energy consumption. The report notes that the rate of scaling up will depend on cost-competitiveness of hydrogen, alongside environmental and political drivers for change, as well as the rate of technological breakthrough.

The report highlights some different global approaches to hydrogen - while Asia has greater focus on hydrogen as a liquid fuel (as ammonia) and as a transport fuel for shipping and road transport, Europe is more focused on using to decarbonise hard-to-abate sectors in industry, as well as for heavy transport.

The report identifies four areas for further global dialogue:

1. **Varying attitudes towards hydrogens role in energy transitions** signals a need to embrace diversity and enable differing technologies and use cases to be explored.
2. **Confusion over 'colours' is stifling innovation**, with over-simplification and colour prejudice risking the premature exclusion of some technological routes that could potentially be more cost- and carbon-effective. There is a need for further dialogue which looks beyond colour to instead explore carbon equivalence.
3. **Demand-centric hydrogen perspectives are needed to advance the Humanising Energy and demand-driven agendas.** The current hydrogen conversation focuses heavily on supply, ignoring the role of hydrogen users. Discussions must explore what's needed to trigger demand, with a specific focus on the development of hydrogen infrastructure and a global supply chain.
4. **The hydrogen economy could stimulate job creation and economic growth**, potentially helping to fulfil 'build forward together' ambitions post-COVID-19. Several national hydrogen strategies highlight jobs as an important driver of hydrogen development, with opportunities to reskill the existing workforce and upskill a new workforce.

<https://www.pwccn.com/en/industries/energy-utilities-and-mining/publications/wec-hydrogen-series-2021.html>

Responsible Manager: Suzannah Toulmin



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 20 June 2022



Priority Projects

out of scope

Hydrogen	Roadmap Planning on the scope and design of the hydrogen roadmap is continuing. We have met with a number of other agencies, including Ministry of Transport, to discuss their views of the role hydrogen may play in the future economy and identify any areas where there is a divergence in views that needs to be addressed. We will brief you on the potential scope and design of the roadmap in late June/early July. Regulatory review The final draft of PwCs review of regulations and laws that affect hydrogen has been received. Members of the Hydrogen Regulations Working Group from across government have reviewed the draft and provided feedback on it. Suggested edits and changes are now being incorporated by PwC, before the report is finalised.	In progress.
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out of scope



Priority Projects

Comparator technologies workstream

WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, to ensure robust consideration of the opportunities that non-hydro technologies present.

out of scope



1. Policy Development

International Energy Agency (IEA) New Zealand Review

Comment:

An IEA review team is scheduled to visit New Zealand from 20 to 26 September to conduct the IEA's five yearly In-Depth Review (IDR) of our energy policies.

In addition to the standard questionnaire the IDR also provides an optional opportunity for review of one or two policy topics that the host government can nominate. The 2017 IDR undertook an in-depth review of the electricity distribution sector, with a focus on the sector's ability to respond in a timely, efficient and cost-effective manner to emerging challenges, and on the challenges of reaching a 90 per cent renewable electricity target.

MBIE has drafted some initial potential topics for the 2022 IDR, and we invite your feedback on the proposed topics, as well as your thoughts on other topics that could be considered. IDR topics could include:

- a) Managing electricity supply under 100 per cent renewable electricity (this would complement the Electricity Authority's current work)
- b) Managing the transition to 100 per cent renewable electricity (this would complement MBIE's work)
- c) A combination of options a) and b)
- d) Electricity distribution under 100 per cent renewable electricity
- e) Facilitating the uptake of renewable gases (such as green hydrogen and biogas) to help achieve New Zealand's renewable energy targets.

Responsible Manager: Suzannah Toulmin

Next Steps:


For your information.



2. Stakeholder update

International Energy Agency Governing Board Meeting

Out of scope




6(a)



Responsible Manager: Osmond Borthwick

out of scope





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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 27 June 2022



Priority Projects

out of scope



Hydrogen

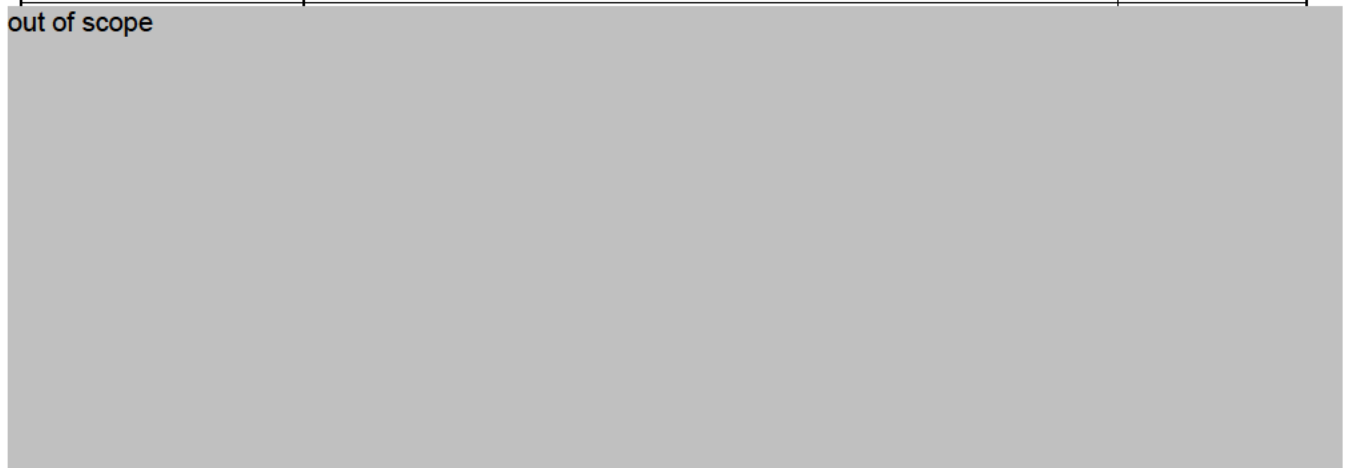
Roadmap

We are continuing scoping work on the hydrogen roadmap, and plan to provide you with a briefing on this in July.

Regulatory review

On 24 May, PwC provided officials with their draft report on New Zealand's hydrogen regulatory pathway. Throughout June, we have held feedback sessions with members of the inter-agency regulatory working group on the findings of the report. PwC are currently incorporating this feedback into their final report, and we will provide your office with the final copy when this is complete.

out of scope





Priority Projects

out of scope



WSP is progressing its work on non-hydro options for providing dry year security, focussing on three options:

- Controlled dispatchable geothermal generation
- Biomass production and storage, potentially supplemented by import/export
- Hydrogen and ammonia production and storage, supplemented by import/export.

We are guiding and supporting the direction of WSP's work, to ensure robust consideration of the opportunities that non-hydro technologies present.

out of scope





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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 4 July 2022



Priority Projects

out of scope

Hydrogen

Roadmap

We are continuing scoping work on the hydrogen roadmap, and plan to provide you with a briefing on this in July.

Regulatory review

On 24 May, PwC provided officials with their draft report on New Zealand's hydrogen regulatory pathway. Throughout June, we have held feedback sessions with members of the inter-agency regulatory working group on the findings of the report. PwC are currently incorporating this feedback into their final report, and we will provide your office with the final copy when this is complete.

out of scope



Priority Projects

	<p>Out of scope [Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>Comparator technologies workstream</p> <p>Initial findings from the ongoing comparator technologies workstream will be included in the upcoming briefing on Other Pumped Hydro.</p> <p>Out of scope [Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>	
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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 11 July 2022



Priority Projects

out of scope

Hydrogen

Roadmap

We are continuing scoping work on the hydrogen roadmap, and plan to provide you with a briefing on this in July.

Regulatory review

On 24 May, PwC provided officials with their draft report on New Zealand's hydrogen regulatory pathway. Throughout June, we have held feedback sessions with members of the inter-agency regulatory working group on the findings of the report. PwC are currently incorporating this feedback into their final report, and we will provide your office with the final copy when this is complete

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 18 July 2022



Priority Projects

out of scope




Hydrogen	Roadmap We are continuing scoping work on the hydrogen roadmap, and plan to provide you with a briefing on this in July. Regulatory review On 24 May, PwC provided officials with their draft report on New Zealand's hydrogen regulatory pathway. Throughout	In progress.
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Priority Projects

	June, we have held feedback sessions with members of the inter-agency regulatory working group on the findings of the report. PwC are currently incorporating this feedback into their final report, and we will provide your office with the final copy	
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Out of scope





Upcoming Meetings

Meeting Information	Time	Officials Attending
Monday, 18 July 2022		
Minister attending launch of NZ Post Hydrogen Fuel Cell Truck	3.00pm – 3.45pm	Justine Cannon

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 25 July 2022



Priority Projects

out of scope

Hydrogen

Roadmap

A briefing will be provided to you this month on our proposed plan and schedule for the hydrogen roadmap development.

Regulatory review

The final draft of the PWC report on New Zealand hydrogen regulation has been received and accepted. A briefing on its findings and recommendations will be provided to you this month.

In progress.

out of scope



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Event Briefing: Meeting with the Hydrogen Association	This briefing will provide you with background information and talking points ahead of your meeting with Hydrogen Association on Thursday, 4 August 2022.	Friday, 29 July 2022	Justine Cannon



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Energy and Resources Weekly Report

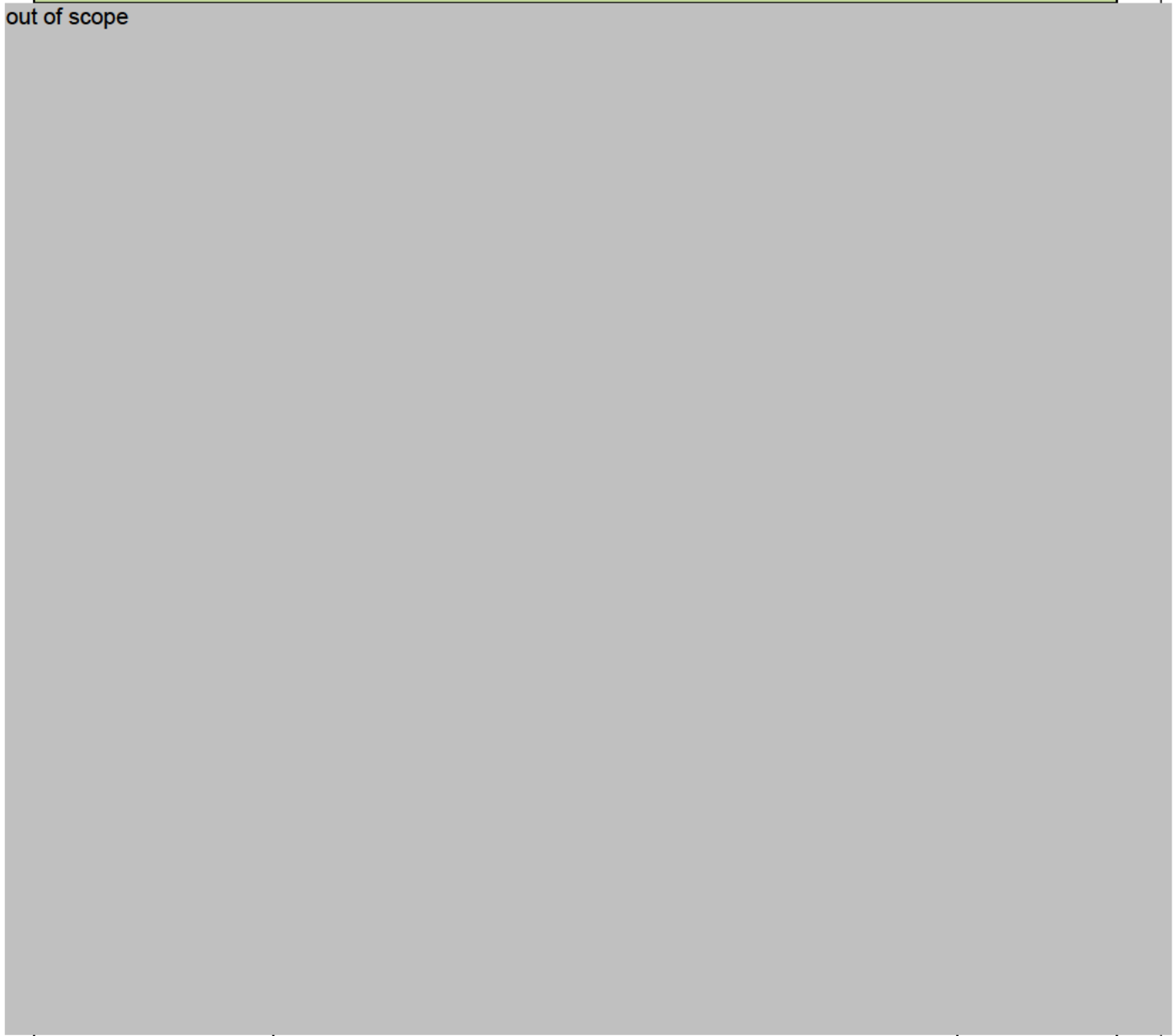
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 1 August 2022



Priority Projects

out of scope



Hydrogen	Roadmap We are planning to provide a briefing to you in August on our proposed approach and schedule for the development of the hydrogen roadmap Regulatory review The final draft of the PWC report on New Zealand hydrogen regulation has been received and accepted. We are planning to provide to you a briefing in August on its findings and recommendations and proposed next steps to progress the hydrogen regulatory project work.	In progress.
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Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Event briefing: Meeting with Gas NZ and Rinnai	This briefing is to discuss Rinnai's hydrogen plans and Rinnai's net carbon zero manifesto, and to update you on Gas NZ's focus on, and input into the Gas Transition Plan's second pillar regards renewable gas ahead of your meeting with Gas NZ and Rinnai on Wednesday, 10 August. Attending the meeting will be: Janet Carson – CE, Gas NZ Ray Ferner – Managing Director, Gas NZ	Friday, 5 August 2022	Catherine Montague



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 8 August 2022



Priority Projects

out of scope



Hydrogen

Roadmap

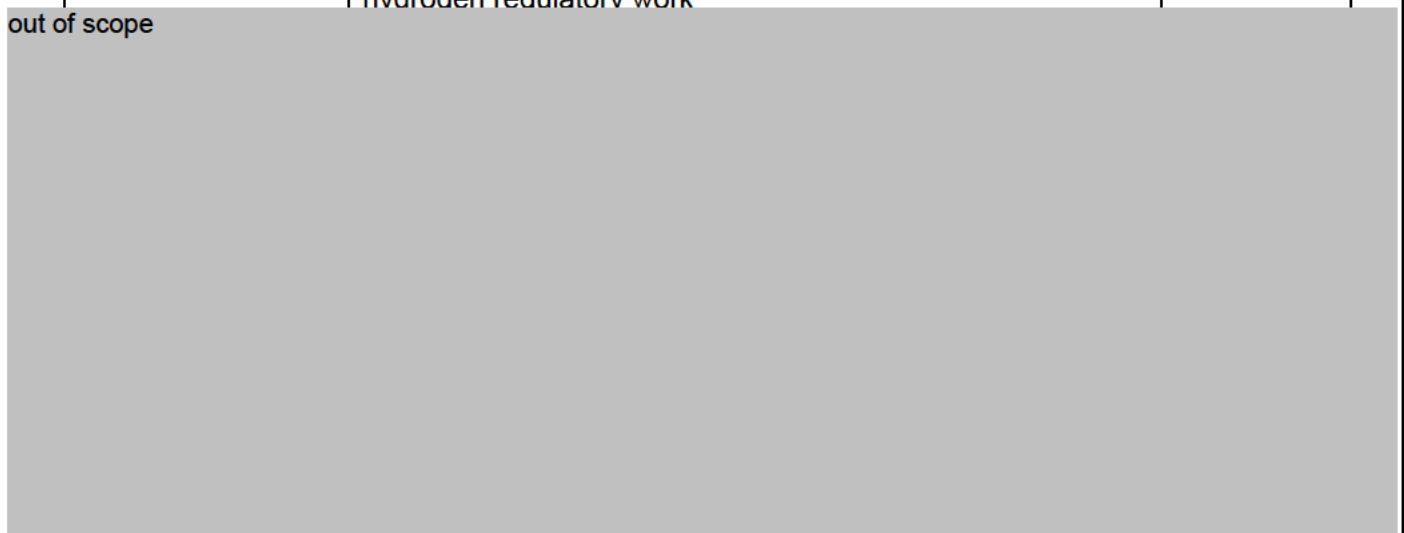
In August we plan to brief you on our proposed approach and schedule for the development of the Hydrogen Roadmap.

Regulatory review

We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In August we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work

In progress.


out of scope





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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 22 August 2022



Priority Projects

out of scope

Hydrogen

Roadmap

In August we plan to brief you on our proposed approach and schedule for the development of the Hydrogen Roadmap.

Regulatory review

We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In September we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work.

In progress.

out of scope



2. Stakeholder update

Hui with Ngāruahine

Comment:

Officials met with Te Aorangi Dillon (Tumu Whakare of Te Korowai o Ngāruahine Trust) and Dion Luke (Pouuruhi Taiao at Te Korowai o Ngāruahine Trust) on Thursday, 18 August 2022 following previous engagement in June. The purpose of the meeting was to introduce the various energy and resource-related workstreams that are of interest to Ngāruahine and understand how they would like to be engaged in them. This included work on the Aotearoa Energy Strategy, the offshore renewable energy regulatory framework, hydrogen roadmap, and the national direction for renewable electricity generation and transmission under the Resource Management Act 1991

out of scope

Responsible manager: Justine Cannon & Jodi Watene

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 29 August 2022



Priority Projects

out of scope

Hydrogen	Roadmap In August we plan to brief you on our proposed approach and schedule for the development of the Hydrogen Roadmap. Regulatory review We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In September we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work.	In progress
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out of scope



Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
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out of scope

Briefing

Approach to the development of the hydrogen roadmap

This briefing will provide you with an overview of our proposed approach and high-level timing to the development of the hydrogen roadmap.

Wednesday 31 August 2022

Ayesha Amin

out of scope



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Energy and Resources Weekly Report

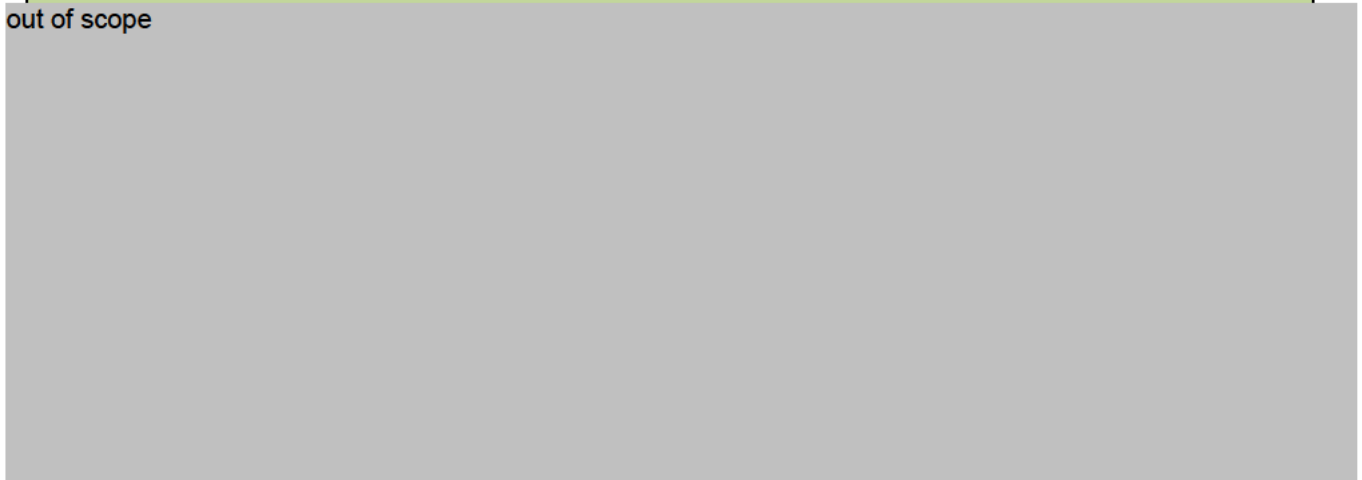
To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 5 September 2022



Priority Projects

out of scope



Hydrogen	Roadmap We plan to brief you soon on our proposed approach and schedule for the development of the Hydrogen Roadmap. Regulatory review We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In September we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work	In progress
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out of scope





Upcoming Briefings & Meetings

Upcoming Briefings & Cabinet Papers

Subject	Comment	Due date	Contact
out of scope			
Event briefing: Meeting with Hydrogen Association	This briefing will provide you with talking points and background information ahead of your meeting with representatives from the Hydrogen Association on Tuesday, 13 September.	Friday, 9 September 2022	Ayesha Myra Amin

out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 12 September 2022



Priority Projects

out of scope

Hydrogen

Roadmap

On 2 September 2022 we briefed you on our proposed approach and schedule for the development of the Hydrogen Roadmap. We are now progressing our engagement plan with iwi and other key industry stakeholders.

Regulatory review

We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In September we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work

In progress.

out of scope



Priority Projects

out of scope

ERM officials have been engaging separately with Ngāruahine on the energy policy work programme, including the Energy Strategy, offshore renewable energy regulatory framework, and Hydrogen Roadmap. We updated you on our most recent engagement with Ngāruahine in the 22 August weekly report.

out of scope



2. Stakeholder update

out of scope

New Report from Energy Resources Aotearoa – Fuelling the Energy Transition

Comment:

Energy Resources Aotearoa (ERA) has released a new report, “*Fuelling the Energy Transition*”, which explores the role of the fossil gas sector in a transition to net zero carbon emissions by 2050. The report is intended to provide an end-to-end view of the fossil gas value chain.

The report examines five modelled scenarios for future gas consumption, based on the Climate Change Commission’s (CCC’s) demonstration pathways. These scenarios are:

1. CCC demonstration pathway, with closure of Tiwai Point and Methanex;
2. Demonstration pathway with Tiwai Point aluminium smelter remaining open until 2050;
3. Gas phase-out, with closure of Tiwai point and Methanex, 100 per cent renewable electricity by 2030 and hydrogen blending in gas pipelines beginning in the 2030s;

Next Steps:

For your information.



2. Stakeholder update

4. Technology-led pathway, with Tiwai point and Methanex remaining open, and emissions reduction achieved through carbon capture utilisation and storage (CCUS) and hydrogen blending in gas pipelines;
5. Heavy industry continues, with Tiwai Point and Methanex remaining open until 2050 and 2039 respectively, and emissions remaining high.

The report describes scenarios 1-3 as “disorderly” and scenarios 4 and 5 as “orderly”. It suggests that an orderly transition would have better outcomes for the energy trilemma in balancing sustainability, energy equity and energy security. They consider scenario 4 to be the most optimal gas transition and scenario 5 to be the most likely.

The report includes several recommendations for the gas sector and government. In particular, it emphasises that the New Zealand Emissions Trading Scheme will play a critical role in driving down emissions at the lowest possible cost and contributing to a favourable investment environment for technologies such as CCUS, which would enable the preferred low-emissions technology-led pathway (scenario 4).


The report also introduces the Energy Resources Sector Net Zero Accord, which sets out the sector’s shared commitment to playing a part in driving progress toward New Zealand’s collective emissions goals. A working group will be established by the signatories (including OMV, Todd and Beach Energy) and a dedicated work programme will be developed in the coming months to give effect to the recommendations in the report.

Responsible Manager: James Caldwell



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 19 September 2022



Priority Projects

out of scope

Hydrogen	Roadmap On 2 September 2022, we briefed you on our proposed approach and schedule for the development of the Hydrogen Roadmap. We are now progressing our engagement plan with iwi and other key industry stakeholders. Regulatory review We received and accepted the final draft of the PwC report on whether existing regulatory frameworks are fit for purpose to support a future hydrogen economy in New Zealand. In September we plan to brief you on its findings and recommendations and proposed next steps to progress the hydrogen regulatory work.	In progress.
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out of scope



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Energy and Resources Weekly Report

To Hon Dr Megan Woods
Minister of Energy and Resources

Week beginning Monday, 3 October 2022



out of scope



Hydrogen	Roadmap On 2 September 2022, we briefed you on our proposed approach and schedule for the development of the Hydrogen Roadmap. We are now progressing our engagement plan with iwi and other key industry stakeholders. Regulatory review On 29 September, we provided you with a briefing on the final PwC report providing an initial assessment of a regulatory pathway for hydrogen in New Zealand. We are currently planning next steps in this work, including reconvening the Regulatory Settings Working Group to develop a forward work programme and inform the report back to you and the Minister for Workplace Relations and Safety, as set out in the hydrogen regulatory settings project terms of reference.	In progress.
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out of scope





1. Stakeholder update

out of scope

RMA national direction on renewable electricity generation: stakeholder workshops

Out of scope

Next Steps:
For your information.

Out of scope

Stakeholders agreed that the topics identified
s, however some identified gaps including renewable
energy more broadly (e.g. hydrogen) and the distribution network.

Out of scope