MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

AIDE MEMOIRE

ERP2 – updated energy chapter outline

Date:	20 May 2024	**Priority:**	High
Security classification:	In Confidence	**Tracking number:**	2324-3512

Information for Minister
Hon Simeon Brown **Minister for Energy**

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Scott Russell	Manager, Energy Use Policy	9(2)(a)	✓
Hannah Overton-Holmes	Senior Policy Advisor, Energy Use Policy		

The following departments/agencies have been consulted

Minister's office to complete:

- ☐ Approved
- ☐ Noted
- ☐ Seen
- ☐ See Minister's Notes
- ☐ Declined
- ☐ Needs change
- ☐ Overtaken by Events
- ☐ Withdrawn

Comments

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Purpose

To provide a redrafted Emissions Reduction Plan 2 energy chapter outline for discussion at the 20 May Energy Officials meeting.

9(2)(a)

Scott Russell
Manager, Energy Use Policy
Building, Resources and Markets, MBIE

20 / 05 / 2024

We have redrafted the ERP2 energy chapter outline

1. On 17 May 2024, your office provided written feedback on the draft energy content for inclusion in the second Emissions Reduction Plan (ERP2) consultation document.

2. We have redrafted an outline of the energy chapter based on this feedback (see **Annex One**), which we understand you would like to discuss at this afternoon's Energy Officials meeting.

3. Subject to your feedback, we will provide your office with a redrafted energy chapter by 28 May 2024.

Annexes

Annex One: Redrafted energy chapter outline

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On Friday 17 May 2024, we received written feedback on the draft energy content for inclusion in the second Emissions Reduction Plan (ERP2) consultation document.

This document represents a redrafted ERP2 Energy chapter outline, for discussion at the 20 May 2024 Energy Officials meeting. Drafting notes are included in [red square brackets] throughout the document.

Key areas where the proposed outline diverges from your feedback:

- **Focus on EB2:** 9(2)(h)
- **Structure:** The ERP2 discussion document covers multiple sector chapters. Therefore, the Ministry for the Environment has provided a consistent structure for sectors to follow. This outline is drafted to reflect the proposed sector chapter structure. Sector chapters will follow overarching chapters on the Government's approach to reducing emissions, the role of the ETS, and how we are tracking towards our emissions targets.
- **Structure:** There will be two documents in the consultation package: the main Discussion Document containing the main policy proposals, and a supporting document with further information including on the legislative framework, sector emissions profiles and potential distributional impacts. We have noted where content would be included in the supporting document.

Energy

[Each sector chapter will include a summary section that links to the Climate Strategy – note content is subject to change following Ministerial consultation on the Climate Strategy Cabinet paper.]

Energy sector at a glance	
Current annual emissions (2022)	XXX MtC02-e
The vision	• Clean energy is abundant and affordable • Credible markets to support the climate transition
Why this sector is important	New Zealand has abundant renewable energy potential. Harnessing this will help meet our emissions budgets, reduce our dependency on imported fuels and maintain the reliability and affordability of our energy system.
What we're doing now	• Introducing fast track consenting to accelerate the approval of new renewable energy projects
What's coming	• Doubling renewable energy by 2050. • Enabling other low-emission fuels and carbon-capture technology
What this means for New Zealanders	• Households heat their homes more affordably, with energy coming from the sun, wind, water and geothermal. • People charge their electric vehicles easily across the country. • Businesses have confidence in our energy security to grow their operations.

Introduction

- New Zealand's abundant renewable energy potential provides an opportunity to reduce emissions in a way that supports New Zealand to meet our emissions budgets, reduces our dependency on imported fuels, and ensures we do not compromise the reliability or affordability of our energy system.
- Compared to many other countries, New Zealand's energy supply is highly reliable, renewable and affordable. Our electricity system is expected to become even more renewable over the coming decade with a strong investment pipeline of new renewables.
- Affordable, security electricity is a crucial part of the Government's plans to reduce emissions. Meanwhile, fossil fuels will continue to play an important complementary role in our energy system, to keep energy affordable and secure.
- While the government will play an important role in removing red tape and addressing market failures, it is private sector investment that will deliver efficient emissions reductions in the energy sector.
- This Chapter sets out the Government's approach to enabling market-led investment in energy. The overall goal is affordable and secure energy that enables emissions reduction while supporting a productive and growing economy.
- Through this consultation, we seek your feedback on the impacts of the proposed actions, and what further barriers exist to private investment in decarbonising energy use.
- More information on the energy sector and its emissions profile can be found in the supporting materials for consultation. [Note material in the following bullet points would be included in the supporting document]
    - Energy's share of New Zealand emissions [note this would be included in the overview section of the supporting document, alongside the emissions share of other sectors]
    - Breakdown of emissions from energy – perhaps a table of categories showing energy, share of energy, emissions, share of emissions, and energy/tonne CO2e
    - New Zealand's electricity system has a high share of renewable generation, affordable and secure by world standards.
        - [Chart showing breakdown of generation types]
    - Overview of the main institutional players
        - EA, GIC, MBIE, ComCom, EA.
    - Explanation of NZ electricity system – decentralised market – private sector led, supply and transmission built to meet demand

Approach to reducing energy emissions

[We suggest including the role of government section upfront to frame the actions set out in the rest of the chapter.]

Role of government

- The government is focused on delivering the right policy settings to enable a market-led solution to reducing energy emissions.

- Correct policy settings enable the market to deliver emissions reductions at least cost.
- The Government is committed to providing the regulatory certainty required to enable the significant private investment we need to transition the economy to highly renewable electricity and other low emissions fuels.
- The scale of investment required to achieve our goals means that we will require private investment at all levels of the economy. This includes private investment in new generation and transmission but also at the level of small businesses and households. Advancing technologies will support these energy users to make decisions that both save them money and reduce emissions.
- Many renewable energy sources and technologies are already competitive with fossil fuels. This means markets will invest in them with the right enabling settings.
    - New Zealand is unusual by not subsidising renewables. Renewables compete on a level playing field and win: most of the investment pipeline is green
    - [Electricity Authority chart]
- The ETS will play an important role, as energy emissions are priced within the ETS (see below).

ETS

[Note the Discussion Document will include an overarching ETS chapter. Sector chapters will reference the overarching chapter and focus on how the ETS impacts the sector.]

- Emissions from the New Zealand energy system are covered by the ETS. The ETS incentivises net emissions reductions in the energy sector as the emissions price flows through into the price of energy sources that create emissions when they are produced or consumed such as electricity, gas, diesel, petrol and coal.
- The ETS caps net emissions and will support us to achieve our net zero 2050 target.
- Because energy emissions are covered by the ETS, complementary policies in the energy sector must be designed in a way that supports the effectiveness of the ETS rather than simply substituting emissions reductions that it the ETS itself could incentivise at least cost.
- This is consistent with government's role – providing regulatory certainty to enable private sector investment in emissions reductions.
- Complementary policies may however be useful where they can fix market failures or otherwise expand the set of affordable emissions reductions opportunities.
- The role of the ETS in incentivising net emissions reductions is outlined in the ETS chapter.

Maintaining security and affordability of supply

[We suggest some additional content in this section, included in an earlier draft]

- Energy security and affordability are under pressure.
- Maintaining the balance between security, affordability, and sustainability is crucial. Insecure or expensive energy will increase living costs for New Zealanders and harm our productivity. It will also undermine us meeting our emission reduction targets. End users will not have the confidence to switch to electric technologies without reliable, affordable electricity supply.
- We need stable system-wide settings that enable investment and a least-cost transition.
- Energy security depends on attracting continuing investment in all forms of energy. New Zealand gas reserves are declining, which has contributed to tight conditions in the

electricity market.

- The Government has an important role in providing the necessary certainty that will support continuing private sector investment required to maintain security of supply.

Reconciling investment in gas with lower emissions

- While increased switching to renewable energy is expected to reduce the overall demand for gas over time, gas will be needed through the transition. For example, our energy system currently relies on gas, including to provide electricity generation to meet peak demand on cold winter mornings and evenings.
- Insufficient gas supply could result in New Zealand burning more coal to keep the lights on.

New Zealand needs to build significantly more electricity generation and network infrastructure

- Demand for electricity is expected to increase significantly by 2050 as electricity-based technologies become more widely adopted.
- This significantly outpaces demand growth in previous decades and could rise even more if new industries such as hydrogen or sustainable aviation fuels emerge in the future. Renewable generation capacity will have to grow to meet this demand.
    - [Chart showing the range of estimates, including from BCG]
- Currently untapped renewable energy sources, such as offshore wind, could be necessary to sustainably increase generation capacity depending on overall demand and availability of onshore resources. New Zealand has world leading offshore wind generation potential; taking advantage of this could make a contribution to reaching our emissions targets. However, it is currently uncertain over what timeframe offshore wind will be economic in New Zealand.
- Alongside these investments in generation, we also need to enable significant and timely new investments in the electricity network infrastructure. Investments in transmission and distribution infrastructure will be critical in ensuring the reliability of our grid, particularly in the face of a changing climate.

Electrify NZ is a pillar of ERP2

[Note we have left this section largely unchanged. Note the transport chapter covers EV charging in more detail, and the energy chapter provides a cross-reference].

- To deliver on New Zealand's emissions budgets and 2050 target, whole sectors of the economy must switch to clean electricity.
- New Zealand's high share of renewables means that electricity is a low emissions alternative to fossil fuels.
- The Government has an important role in removing barriers and market failures that prevent or slow investment in infrastructure we need to enable electrification
- The government has committed to doubling renewable energy by 2050. Our focus on removing red tape will support private investment to deliver generation and transmission required to achieve this.
- Electrify NZ outlines the Government's plan to drive renewable electricity generation by cutting red tape to increase investment and help double the amount of affordable, clean energy available.

- The Electrify NZ work programme involves the following initiatives:
    - **Fast track consenting** – this legislation will deliver on Electrify NZ commitments (eg for fast decision making and investment certainty) for projects referred out of the standard RMA process and into the fast track.
    - **RMA reform** – we intend to prioritise consideration of relevant Electrify NZ commitments as part of amendments to the RMA this year. This will include provisions relating to consent duration, consent lapse time, and one year decision making timeframes for certain consents.
    - **RMA national direction for renewable energy and transmission** – we intend to advance amendments to the National Policy Statements for Renewable Electricity Generation and Electricity Transmission this year.
    - **Offshore wind**: developing legislation this year to unleash investment in offshore wind generation.
    - **Further programme of RMA national direction –** a broader Phase 2 review of national direction will pick up remaining aspects of national direction – 9(2)(f)(iv) [redacted]
- By progressing work on these initiatives, the Electrify NZ work programme aims to:
    - significantly accelerate decision-making processes for consenting of renewable electricity generation, transmission and distribution projects, so that consent decisions are made within one year
    - significantly increase the likelihood of consents being granted for renewable electricity generation and electricity transmission compared to the status quo
    - streamline the outdated rules and regulations that govern electricity transmission and distribution infrastructure to ensure we are not only producing more clean, green energy – but that more parts of the economy can access it
    - unleash investment in offshore wind generation.
- Significantly increasing the supply of renewable energy is crucial to enabling other sectors of New Zealand's economy to reduce emissions. For instance, new renewable generation and transmission will support the electrification of transport, including through the Government's work on supercharging EV infrastructure (see also the Transport Chapter).

Other policies to support EB2

[We suggest splitting the other policies into what could have emissions impacts in EB2 and what could enable impacts in later budget periods.]

Enabling energy efficiency and a smarter electricity system

- More efficient use of electricity and greater deployment of smart devices over time can ensure we are maximising the use of existing renewable energy and reduce the overall need for generation and network upgrades across the electricity system in the future.
- Right market settings will enable private investment to seek efficiencies. Cumulatively these decisions will provide important system wide benefits.

- The Government is exploring ways to strengthen New Zealand's energy efficiency and demand flexibility regulatory regime. This could enhance the effectiveness of the way New Zealand regulates energy using products, including EV smart chargers.

Natural gas

- Gas generates around 9% of New Zealand electricity. A small amount of gas-fired generation keeps electricity affordable and secure. That in turn supports electrification. Gas can reduce our reliance on coal generation, which has twice the emissions impact.
- The Government has work underway to improve security of supply for gas improve security of gas supply and enable opportunities to reduce emissions from producing and using gas, including:
    - **enabling carbon capture utilisation and storage (CCUS)**: we will look at options to enable CCUS activities such as reducing regulatory barriers and better assessing risks around long-term storage. CCUS has the potential to reduce emissions from gas production as well as providing sequestration opportunities for other high CO2 emitters. CCUS is already being used in geothermal energy, but we assume wider scale is more likely in future emissions budgets beyond EB2.
    - **enabling renewable gases**: enabling use of biomethane and hydrogen provides an opportunity to replace a portion of the gas we currently use in our energy system with lower emissions alternatives in locations where supply and demand are well-matched.

Bioenergy

- Bioenergy can reduce emissions in process heat, power generation, and to produce chemicals and fuels like SAFs.
- The Government is supporting markets through information provision. The Energy Efficiency and Conservation Authority are publishing insights to support collaboration between demand and supply side stakeholders to inform private sector fuel-switching investments at a regional level.

Enabling future emissions budgets

- For some sectors and activities, electrification is not currently possible or practical, or is very expensive to implement.
- Hard to abate activities account for 17 per cent of energy and industry emissions, or seven per cent of total gross emissions. Activities where other low-emission fuels are better suited (than electrification) are concentrated in industry and heavy transport.
- The Government is enabling private investment in low-emissions fuels and the additional electricity we will need to produce them. The Government is also supporting R&D that can bring down the cost of future abatement.

Hydrogen

- Hydrogen is being trialled and demonstrated as a low-emissions alternative in heavy industry, heavy and specialty transport, production of green fuels (as below) and power generation. While hydrogen is not expected to play a significant role in meeting the second emissions budget, near-term action to enable hydrogen could help to reduce emissions in later emissions budgets.

- The Government aims to enable private investment in hydrogen. Since ERP1, MBIE has published and consulted on an Interim Hydrogen Roadmap and plans to follow up with an update by the end of 2024. MBIE has also progressed work to understand regulatory and standards barriers and areas that are not fit for purpose for hydrogen.

Sustainable aviation and shipping fuels

- Sustainable fuels are needed to decarbonise the planes and ships that transport passengers and goods to, from and around New Zealand.
- The Government has funded feasibility studies with the private sector to explore domestic supply chains of alternative jet fuel options. Air New Zealand and MBIE are funding two studies investigating the feasibility of establishing SAF plants domestically using woody biomass (forestry slash) and municipal solid waste. The Energy Efficiency and Conservation Authority has also contributed funding towards a feasibility study in producing SAF from green hydrogen at Marsden Point undertaken by Fortescue Future Industries and Channel Infrastructure.
- New Zealand is party to a number of international agreements that aim to address emissions from international marine freight.

Offshore wind

- New Zealand has world class offshore renewable energy potential. Offshore renewable energy could play a role in meeting future energy demand beyond 2030.
- The Government is enabling private investment in offshore renewable energy by establishing a regulatory framework by the end of 2024.

R&D support

- New Zealand will need innovative new technologies and processes such as smart metres, fuel cells, and new processes to develop industrial goods.
- The Government has a range of science and innovation programmes that support emissions reduction activity, including MBIE's basic science funds (Endeavour/Catalyst), EECA's Low Emissions Transport Fund, and Callaghan Innovation.

Overall impacts

Emissions impacts

[This consultation must include our estimate of emissions impacts of the proposed policies, and which emissions budget period(s) the impacts are expected. We are working to quantify the emissions impacts of Electrify NZ, and feedback from consultation will support this evidence base.]

- **Actions to enable electrification** are most likely to lead to emissions reductions from energy use in EB2.
- We are seeking information to better understand and model the emissions impact of policies in Electrify NZ. This includes specific feedback from electricity generators on:
    - how the measures in Electrify NZ may affect projects already in the development pipeline being built

    - whether there are additional projects not already in the pipeline that may end up being investigated as a result of Electrify NZ policies.

- **Actions to enable uptake of low emissions fuels and carbon capture technology** may not significantly reduce emissions in EB2, but will reduce the long-term cost of addressing hard to abate emissions to support future emissions budgets, such as enabling hydrogen.
- We are seeking information to better understand and model the impact of these enabling policies.

Distributional and economic impacts

[Note most of the impact analysis is now proposed to be included in the separate supporting document. We have included the proposed outline for the following sections here, for ease of reference. This section differs from the feedback, as ERP2 consultation needs to set out expected impacts over EB2 as well as over the longer-term.]

- Electricity and fuel prices are expected to rise over the second Emissions Budget period. Energy costs are a major input cost for businesses and have a significant impact on New Zealanders' cost of living.
- In the long term, affordable, secure energy supports lower emissions and minimises negative distributional impacts.
- New economic opportunities over the second Emissions Budget period include maintaining and growing international markets and creating skilled jobs.

Treaty implications

[We have included this section for reference – it was included in the previous draft and will need to be included in consultation.]

- Iwi and hapū have rights and interests in their rohe and in marine areas that could be impacted by renewable energy developments – both onshore and offshore.
- The Government is committed to upholding Treaty settlements and associated rights and interests and are engaging closely with iwi, particularly throughout the establishment of the offshore permitting regime, which has been of particular interest.

Questions

[Note agencies are working to ensure a level of consistency across the document. The draft energy questions are intended to support evidence for modelling the impacts of Electrify NZ. As well as sector specific questions outlined below, consultation will include overall questions (across all sectors) on emissions impacts, distributional impacts.]

- How might the proposals in Electrify NZ (a) affect projects already planned or underway, and (b) increase the likelihood that developers will investigate new projects? Please provide evidence where possible
- What are the three main barriers/challenges for business in investing in renewable electricity supply (generation and network infrastructure?) not addressed in Electrify NZ?
- Will the Government's approach to driving investment in renewable energy support

businesses to switch their energy use in the second Emissions Budget period?

- What are the three main barriers/challenges not addressed in this chapter that businesses face when electrifying or improving energy efficiency
- Will existing policies adequately enable private investment in low emissions fuels and carbon capture technologies?
- What three main additional things could Government do to support business to take up low emission fuels and carbon capture technology?