Budget 2022 Initiative Summary – Main Budget Process

Readying the energy system to transition to a low emissions economy through an energy strategy and regulatory frameworks

Section 1: Overview

Section 1A: Basic Initiative Information

Lead Minister	Minister of Energy and Resources.					
Department	Ministry of Business, Innovation and Employment					
What type of initiative is this?	*Critical cost pressure initiative*		*Manifesto commitment initiative*	*Y*	*Health and Disability System Reform initiative*	
	Climate Emergency Response Fund initiative	**X**	*Savings initiative*		*Non-Spending initiative*	
Initiative description	This initiative will support the energy system to transition to a low carbon economy. The components of this initiative are Confidential a strategy to decarbonise the energy system Confident, developing a regulatory framework for offshore renewable energy, and developing a roadmap for development and use of hydrogen. These will facilitate the introduction of low carbon fuels and greater renewable electricity to drive New Zealand's transition to a low carbon economy. Other aspects, such as the role of biofuels and gas transition will be developed alongside the strategy.					
Is this a Cross-Vote initiative?	**N**					
Department contact	Privacy of natural persons					
Treasury contact	Privacy of natural					

Section 1B: Total Funding Sought

Operating funding sought ($m)	2021/22	2022/23	2023/24	2024/25	2025/26 & outyears	Total
	-	Conf				

Capital funding sought ($m)	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Total
	-	Conf									

Section 1C: Initiative Classifications

Is this initiative seeking funding from the Climate Emergency Response Fund (CERF)?	***Y***	It is included in the ERP and will support, remove barriers to or to accelerate emissions reductions. It will support an ao Māori approach to climate change; address the distributional impacts of emission reducing policy; and facilitate the development of such proposals in the future.
Is this initiative climate-related, but not seeking funding from the CERF?	***N/A***	Initiative is seeking funding from the CERF
Does this initiative align with the Crown's obligations under the Treaty of Waitangi?	***Strong***	This budget bid and the development of strategies and a regulatory framework relate to multiple roles and issues for Māori as outlined below in relation to the He Ara Waiora framework. Confidential advice to Government
Specify if this initiative will help reduce child poverty and describe the impact.	***Indirect impact***	An energy strategy will address energy accessibility and affordability, affecting costs for families of children living in poverty. An offshore renewable energy regulatory framework and hydrogen roadmap will enable new investment, supporting regional development and highly skilled jobs.
Does this initiative align with the Child and Youth Wellbeing Strategy?	***Y***	The energy strategy component will take into account objectives including energy accessibility, affordability and security of supply. Development of a strategy will indirectly align with the following objectives of the Child and Youth Wellbeing Strategy: • Children and young people have what they need (a strategy will consider access and affordability for energy) • Children and young people are happy and healthy (access to energy is important to enable energy use for healthy home environments)
Does the initiative include funding to procure from NGOs?	***N***	
Does the initiative include funding to support digital and data related investments?	***N***	
Is this a regulatory or legislative initiative (according to the guidance provided)?	***Y***	
	Offshore renewable energy development would impact other marine legislation (fisheries, conservation, open ocean aquaculture, marine and customary rights). New hydrogen technologies and novel applications of hydrogen development and deployment would potentially impact legislation and regulation that covers the following areas: gas, electricity, health and safety, resource management, hazardous substances, Transport (including maritime and Rail), Fair trading, commerce and consumer guarantees. Development of a fit-for-purpose regulatory framework creates cross-sector benefits by balancing priorities to maximise benefits for New Zealanders.	
	An offshore renewable energy regulatory framework will likely require legislative change to provide a permitting regime, and utilise regulation developed under the resource management reform, the Exclusive Economic Zone (Environmental Effects) Act 2012 and the Marine and Coastal Act 2011. The hydrogen roadmap will determine the pathway for hydrogen development and deployment in New Zealand. Depending on the pathway, potential changes may be required to any of the following legislations and regulations: Gas Act 1992; Gas (Safety and Measurement) Regulations (2010); Electricity Act 1992; Electricity (Safety) Regulations 2010; Energy Efficiency (Energy Using Products) Amendment Regulations 2021; Gas Governance (Critical Contingency Management) Regulations 2008; Gas (Statistics) Regulations 1997; Gas Governance (Compliance) Regulations 2008; Health and Safety at Work (Hazardous Substances) Regulations 2017; Health and Safety at Work (General Risk and Workplace Management) Regulations 2016; Health and Safety in Employment (Pipelines) Regulations 1999; Health and Safety at Work Act 2015; Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999; Health and Safety at Work (Major Hazard Facilities) Regulations 2016; Resource Management Act 1991; Hazardous Substances and New Organisms Act 1996; Plumbers, Gasfitters, and Drainlayers Act (2006); Building Act (2004); Railways Act (2005); Land Transport	

	Act (1998); Land Transport Rule – Dangerous Good (2005); Maritime Transport Act 1994; Fair Trading Act (1986); Consumer Guarantees Act (1993); and the Commerce Act (1986).
	A Regulatory Impact Assessment has not yet been developed.

Is this a significant investment initiative per the definition at section 4.8 of the Budget 2022 guidance?	***N***	-							
		Data / Digital / ICT		Physical Infrastructure		Organisational Transformation		Specialised Equipment	

Section 3: Value

Section 3A: Opportunity/Problem

Opportunity/ Problem

In 2019, energy use in Aotearoa resulted in 34 MtCO2 e, with 30% of total energy consumption renewable and the remaining 70% from oil, fossil gas and coal. This energy is used across the economy in transport, electricity, for heating and by industry. The emissions from the energy and industry sectors made up 26 per cent of New Zealand's total gross greenhouse gas emissions. This includes:

- emissions from stationary energy combustion, including from electricity generation, process heat, and residential and commercial energy use (19.8 per cent total greenhouse gas emissions)
- fugitive emissions, including from oil and gas venting and flaring, and geothermal operations (2.1 per cent of total greenhouse gas emissions)
- emissions from industrial processes and product use (IPPU), including production of aluminium, cement and steel but excluding hydrofluorocarbons (HFCs) (4.1 per cent of total greenhouse gas emissions).

It is critical for New Zealand to significantly reduce energy system emissions in order to meet its 2050 target of a net zero emissions economy. Speeding up the rollout of renewable electricity generation will be a key factor in replacing fossil fuels in other sectors. Improving energy efficiency, scaling up provision of low-emissions energy sources such as bioenergy and hydrogen, and managing the phase down of fossil fuel use will also be crucial to achieving our net-zero target by 2050.

As the sectors transition over the next 30 years, we must ensure that:

- energy remains accessible and affordable to support the wellbeing of all New Zealanders
- energy supply is secure, resilient and reliable throughout the transition and beyond
- energy systems support economic development and productivity growth aligned with the transition.

The NZ ETS is a key mechanism to reduce emissions in these sectors. A rising carbon price discourages fossil fuel use, through energy efficiency improvements and fuel switching. Other measures aim to reduce emissions in areas that are not responsive to emissions pricing due to market or other barriers, to unlock co-benefits, and to address the distributional impacts of the transition. The Government's renewable energy strategy work programme (including consultation on MBIE's Accelerating Renewable Energy and Energy Efficiency discussion document) has guided work including promoting decarbonisation and investment in renewable electricity generation.

However, the Climate Change Commission raised a concern that government does not have a coordinated approach to support the development and deployment of different low-emissions technologies, fuels and industries, and that decisions on energy are being made in silos and without a complete system view.

This creates risks as we seek to transition the energy system away from reliance on fossil fuels. A more coordinated approach would be able to time the phasing out of fossil fuel supply with the deployment of new and affordable renewable generation, to ensure that any infrastructure could be repurposed for renewable fuel supply, or that security of supply is maintained.

Through the development of an energy strategy, a hydrogen roadmap, and a regulatory framework for offshore renewable energy (alongside other complementary initiatives) there is a real opportunity to ensure that actions to decarbonise are coordinated and considered across the whole energy system. Amongst other things, this will:

- guide transition pathways and sequencing and monitor progress in order to maximise opportunities from transition and identify mechanisms to manage impacts of transition;
- provide improved investor confidence through improving policy certainty, including for direction of market settings and regulation; and
- enable buy-in from industry and other stakeholders, and emphasise the need to work together collaboratively.

Section 3B: He Ara Waiora

Tikanga- decisions are made by the right decision-makers, following a tikanga process, according to tikanga values	It is imperative that iwi/Māori perspectives and interests are fully integrated into the development and implementation of activities to realise the low emissions energy transition. Ensuring a holistic approach to the decarbonisation of the energy system will be central to upholding tikanga, and ultimately benefiting iwi/Māori. Confidential advice to Government We will also be scoping and developing the energy strategy in collaboration with energy system stakeholders.
Manaakitanga- focus on improved wellbeing and enhanced mana for iwi and Māori, and for other affected communities and groups, demonstrating an ethic of care and mutual respect	As we decarbonise energy supply it will be important to ensure: • Energy is accessible and affordable to support wellbeing of New Zealanders; • Energy supply is secure, resilient, and reliable; and • Energy systems support economic development aspirations and an equitable transition. There will be a range of interests, priorities and aspirations for iwi/Māori in the energy and industry sectors, including but not limited to: • tino rangatiratanga over Māori land and other resources; • the impact of energy generation on natural resources; • economic and investment opportunities for Māori, and skilled employment opportunities; and • the impact of transition on iwi/Māori and communities as energy users: energy hardship, iwi community resilience/self-sufficiency. We acknowledge that there may be potential conflicts for Māori in working across this range of interests. We also recognise that there is no one Māori worldview and perspectives may be different for each iwi, hapū, marae and whanau. We also note specifically, • opportunities to participate in the hydrogen economy are already of interest to Māori and the Commission recommended that Māori collectives be enabled to participate in business opportunities in this area. • the regulatory framework for offshore renewable energy will be of interest, and ultimately impact specific regions where offshore renewables are likely to be developed, such as Taranaki. There is an opportunity to ensure that Māori world views and desires for influence over developments can be considered, e.g. local iwi have already begun engaging with potential developers, and are actively seeking new ways to take a financial stake in projects. Confidential

Section 3C: Outputs – The good or service the initiative purchases

Output	Description
Confidential advice to	
Energy strategy	Development of an energy strategy to provide a comprehensive national framework to decarbonise the energy system and ensure the electricity sector is ready to meet future needs. A strategy can help to ensure a smooth and appropriately sequenced phase down of fossil fuels, and a scale up of renewable electricity generation and new low-emissions fuels. A strategy will also help to ensure: • Energy remains accessible and affordable to support the wellbeing of New Zealanders • Energy supply is secure and reliable throughout a transition

	• Energy systems support economic development aspirations and an equitable transition. The strategy will be aligned with the wider ERP and other strategies such as a circular/bioeconomy strategy, equitable transitions, and a national Māori climate strategy, as well as with the government's broader economic objectives. Development of an energy strategy will draw input from an International Energy Agency review of New Zealand, Confidential advice to This will highlight areas that are critical to the success of the energy policy agenda in New Zealand. Development of the strategy will be done Confidential advice to in collaboration with energy system stakeholders.
Hydrogen roadmap	The hydrogen roadmap to be developed alongside the energy strategy. The development of a roadmap follows *A vision for Hydrogen in New Zealand*, published in September 2019 and will provide the nascent green hydrogen sector with additional clarity on how government will support a pathway to an economically sustainable market for hydrogen. The government will play a crucial co-ordinating role in developing hydrogen's potential in New Zealand, working with industry stakeholders for local investment opportunities, by assisting with securing a social licence for the widespread use of hydrogen, and by working with foreign governments to support the establishment of global supply chains, and international institutions on research and development that improves the readiness of hydrogen as a fuel that supports decarbonisation. The roadmap will assess economic, environmental, technical and regulatory implications of the wider use of hydrogen in the New Zealand economy. Development of the roadmap will be done Confidential advice to in collaboration with hydrogen and other relevant energy system stakeholders.
Regulatory Framework for offshore wind energy	A regulatory framework for offshore wind energy to be developed alongside an energy strategy. Offshore renewable energy investment can provide renewable electricity generation to support our transition to a low emissions economy. It also presents an opportunity for New Zealand as it can stimulate regional economic activity, create jobs, and, and provide for iwi interests. While it would be possible to develop offshore energy generation under the current legislation, the legislation was not designed with it in mind, which would likely result in an uncertain and expensive consenting process – with considerable investment uncertainty. The current regime may not adequately account for the benefits/costs and risks/opportunities of such developments A new regulatory framework for offshore renewable energy would balance the impact of offshore renewable investment with other priorities (e.g. fisheries, marine protection, shipping lanes and coastal shipping access, open ocean aquaculture, Māori rights and interests, visual amenity values). It can also increase investment certainty, support strategic regional development and coastal and marine spatial planning, include a permitting function to allocate exclusive rights to the offshore environment for the purpose of developing renewable energy, provide for environmental considerations and iwi participation, address risk of default on decommissioning and maximise benefits to New Zealanders. The design of the regulatory framework would be developed in close discussion with iwi/Maori, particularly in areas where offshore renewable energy is likely to be developed, such as Taranaki and Southland.

Section 3D: Impacts – The direct effect of the initiative

A cohesive framework for government work programmes and for strengthening collaboration with stakeholders	**Description of the impact**	Aotearoa will have a strategic and visible nation-wide approach for moving to a low emissions energy system, built around a shared narrative. By creating more certainty and a shared understanding about the vision, goals, priorities, sequencing and timing that New Zealand is taking, it will: • Strengthen linkages and alignment of existing functions across government, as well as to strengthen and formalise collaboration between stakeholders across various work programmes and strategies. • Scale up existing activity and steer new actions in alignment with the strategy, reflecting certainty about direction. An energy strategy will also improve certainty for investment and innovation and enable buy-in from stakeholders for the vision set out in the strategy. Literature and international practice shows that government strategies and roadmaps, along with support for pilots and demonstration projects, are an effective way for governments to de-risk new technologies .

	Quantification	The impact will be **high**, as there is currently a risk of uncoordinated and siloed transition to a low emissions energy system. Having a strategy would highlight opportunities to work collaboratively, provide coherence across policies, and improve certainty. A shared strategic narrative will be relevant to all New Zealanders, and as a cross-cutting strategy and at its broadest level, it will have whole economy/society relevance - to all sectors, population groups and communities in New Zealand. The intention is Confidential advice to collaborate with energy system stakeholders to develop the initiative components. This inclusive approach to development should also have a high impact, in order to collectivise consensus around strategic direction, a long term vision, and specific frameworks for energy system components.
	Supporting Evidence	*Ināia tonu nei: a low emissions future for Aotearoa* • "Through consultation and submissions, we heard broad support for our recommendation that the Government develop a coordinated energy strategy, and that industry stakeholders are keen to be involved in designing this." • "We heard concern that decisions on energy are being made in silos and without a complete system view. Energy is used and produced in Aotearoa every day and plays a crucial role in how people live, work and learn." Gas Market Settings Investigation Consultation Paper from the Gas Industry Company (GIC), June 2021 The GIC noted that in its discussions with stakeholders in 2021, a number of themes emerged as the most critical / urgent issues to resolve in order to enable the gas sector to support the transition to a net zero emissions economy by 2050. These included: • the role of gas in supporting electricity security of supply, including in particular the increasing need for flexibility (at both supply and demand levels); and • the perceived lack of predictability across a range of dimensions for participants at every level of the industry to be able to plan and invest appropriately. Many submitters who supported the 2019 Hydrogen Vison requested further government direction through a roadmap or strategy. Submitters to the Accelerating Renewable Energy and Energy Efficiency 2020 discussion document, called on Government to do more to facilitate new technologies. *Hydrogen Insights, McKinsey and Co, Feb 2021* Hydrogen is a crucial element in most strategies to achieve net zero standing, and more countries are developing hydrogen plans. In fact, over 30 countries have created such strategies on a national level, and six are drafting them. Te Waihanga (New Zealand Infrastructure Commission) has included a recommendation that New Zealand establishes an offshore regulatory framework to explore and develop low emission energy resources in territorial waters, in its draft 30-year infrastructure strategy that has been provided to Ministers in September 2021.
	Gaps in Evidence	None
	Assumptions	• Iwi/Māori will want to partner with government to scope and develop an energy strategy and frameworks. • Energy system stakeholders aren't working collaboratively towards a low emissions energy future. • There is a lack of coherence across energy policies, which is leading to a lack of investment confidence in the low emissions energy system. • A cohesive framework and long-term vision will improve policy and investor certainty (see impact: better certainty for renewable energy investors below).
	Implications	By scoping and developing the initiative components Confidential advice to in collaboration with energy system stakeholders, we hope to mitigate any risk that the initiative will not achieve desired impacts. The 2050 decarbonisation target is set in legislation, but the pathway to set a direction and frameworks to achieve the net zero emissions goal for the energy system will developed through an inclusive and collaborative process.

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More certainty for renewable energy investors	**Description of the impact**	The outputs under this initiative will all provide more certainty for renewable energy investors by increasing policy certainty and signalling the overall direction for the energy system. For example: • The energy strategy will create an opportunity to set a vision for the energy system and frame our approach to new technologies and trends, the changing demand and supply dynamics across all energy markets and the electricity system and will identify and manage interdependencies between changes in the energy system. This will provide certainty about direction, helping to clarify market direction and investment opportunities. • The hydrogen roadmap will provide an evaluation of the development pathways, options, and barriers, and indicate milestones for the deployment of hydrogen as a key component of New Zealand's low emissions economy. The roadmap will also improve knowledge and skills by providing stakeholders with greater information on emergent technologies and a better understanding of issues concerning standardisation and regulatory barriers to hydrogens adoption. Consequently, it should leverage private sector investment more quickly than would be the case otherwise. A key aspect will be cooperation with international governments and institutions Negotiations New Zealand, as a potential future exporter of hydrogen to Asia, as well as a potential test bed environment internationally for hydrogen research, development and demonstrations will be a major beneficiary of improved international cooperation. The hydrogen roadmap will provide a strong

		signal to international governments, institutions and investors on the role that hydrogen will play in the future New Zealand economy. • Development of a regulatory framework of offshore renewable energy will provide a transparent consenting pathway for investors and could allocate exclusive rights for offshore development in a particular location for a fixed time period.
	Quantification	The impact of this is likely to be **high**. Clearer and more coherent guidance in the form of a national energy strategy, a roadmap for hydrogen development and a regulatory framework to enable offshore renewable energy development, will support an acceleration of this shift and buttress investor confidence.
	Supporting Evidence	*Energy Strategy* International Energy Agency, World Energy Outlook 2021 "Policy makers have a crucial role to play in setting long-term visions and plans for electricity aimed at ensuring that electricity network expansion and modernisation keep pace with expanding renewables deployment and new sources of demand. Clear visions and plans will limit uncertainty for regulators, investors and project developers in terms of system needs and market conditions, and in so doing will help to minimise the costs of transitions." Ināia tonu nei: a low emissions future for Aotearoa • "Our advice on policy direction stresses that the most urgent area for action is for the Government to set direction of travel through a national energy strategy. Transforming energy production and use requires investment and certainty to allow businesses and individuals to plan and respond." • "Planning so that technologies, assets, and infrastructure can be replaced with low-emissions alternatives on as natural a cycle as possible will help avoid unnecessary costs and stranded assets." *Hydrogen Roadmap* Globally, more than 200 hydrogen projects now exist across the value chain, with 85% of projects originating in Europe, Asia, and Australia, and activity in the Americas, the Middle East and North Africa accelerating as well. If all projects come to fruition, total investments will exceed USD 300 billion in hydrogen spending through 2030 – the equivalent of 1.4% of global energy funding. The global shift toward decarbonization backed by government financial support and regulation is supporting this momentum. For instance, 75 countries representing over half the world's GDP have net zero carbon ambitions and more than 30 have hydrogen-specific strategies. (*Hydrogen Insights, McKinsey and Co, Feb 2021*) The International Energy Agency's report, '*Technology Roadmap – Hydrogen and Fuel Cells'*, highlights that governments can act as catalysts to speed up developments in Hydrogen by, among other things, providing the necessary regulatory and policy framework. This is especially important as governments need to take the lead on providing a stable investment environment, clearly formulating long-term targets, especially with respect to energy use and climate change. *Offshore Renewable Energy Regulatory Framework* The International Energy Agency notes, in its Offshore Wind Outlook 2019, that governments can facilitate investment by establishing a long-term vision for offshore wind and precisely defining the measures to be taken to help make that vision a reality. Long-term clarity would also enable effective system integration of offshore wind, including system planning to ensure reliability during periods of low wind availability. NZ Super Fund is looking at opportunities for green infrastructure investment and the potential to partner with world leading offshore wind developers to invest in New Zealand and Commercial Information Timely development of an offshore renewable energy regulatory framework will mean that regulatory barriers do not prevent investment in New Zealand waters directly after similar investment in Australia. A major offshore wind farm investor has expressed to Te Waihanga (New Zealand Infrastructure Commission) strong interest in developing offshore wind in New Zealand in tandem with development in Australia. This investment timing allows utilisation of cable laying ships and other infrastructure that is already located in the region. Australia has recently submitted to parliament the Offshore Electricity Infrastructure Bill 2021 which seeks to develop a regulatory regime for offshore renewable electricity investment in Australian waters.
	Gaps in Evidence	
	Assumptions	• The investment climate within the energy system isn't as strong as it could be, and there aren't enough market signals at the moment to accelerate the energy transition.

		• Hydrogen is a developing technology both within New Zealand and internationally. Its successful deployment will be facilitated by a roadmap that will help align private investment with government goals and ensure regulatory and other barriers are addressed. International engagement, with foreign governments and institutions, is a key part of the roadmap's development in order to ensure that hydrogen development in New Zealand is consistent with evolving international best practice.
	Implications	Providing greater certainty for both local and international hydrogen investors would enable investment into research, development and demonstration for hydrogen technologies which could accelerate the rate of adoption. It would improve business certainty which should enable more informed business investment, ultimately supporting a stable investment environment. Providing greater certainty for offshore renewable energy investors means New Zealand greatly increases its prospects for investment in offshore wind and other technologies and enables emerging marine energy technology demonstration in New Zealand.
Balancing priorities for use of the offshore environment and ensuring regulation provides for iwi interests	**Description of the impact**	Development of a regulatory framework of offshore renewable energy can provide a clear framework to balance the impact of offshore renewable investment with other priorities (e.g. fisheries, marine protection, shipping lanes and coastal shipping access, open ocean aquaculture, Māori rights and interests, visual amenity values).
	Quantification	Efficient prioritisation of use of the offshore environment can maximise benefits to New Zealanders and ensure Māori rights and interests are provided for, although the impact of this is difficult to quantify. Benefits of efficient use of the offshore environment are high: The Climate Change Commission estimates that to meet our 2050 net-zero carbon emissions target, we will need to be generating an extra 30,000 GWh of electricity a year. New Zealand has abundant offshore wind generation potential in the Taranaki region (28,000 GWh/yr), off the west coast of Auckland (6,870 GWh/yr) and Waikato (13,720 GWh/yr). In the five years to 2015 fisheries contributed $1,500 million to exports and was the 5th largest export commodity by value. Māori have interest in New Zealand fisheries and own half of New Zealand's biggest fishing company – Sealord.
	Supporting Evidence	Other countries such as Denmark, the UK, and the US have benefited from regulatory regimes to allocate permits for offshore wind development, which have increased national renewable electricity generation utilising their offshore wind resources whilst providing for other offshore environmental priorities.
	Gaps in Evidence	The value of protection of the marine environment is significant but quantification is challenging.
	Assumptions	-
	Implications	Efficient prioritisation of use of the offshore environment can maximise benefits to New Zealanders and ensure Māori rights and interests are provided.
More efficient use of existing infrastructure	**Description of the impact**	Developing a more coordinated approach and setting frameworks to support the development and deployment of different low-emissions technologies, fuels and industries can provide for more efficient use of existing infrastructure and allow co-ordinated new infrastructure investment. Strategic approaches for energy (including hydrogen) can provide signals to owners and investors in infrastructure on the future role of infrastructure, for example the potential use of the existing gas network for transmission of hydrogen. New regulatory tools for offshore renewable energy can support a co-ordinated approach to sharing connections from offshore wind to the onshore transmission and distribution grid which is important for efficient investment and can reduce consenting barriers, to ensure that the electricity sector is ready to meet future needs.
	Quantification	The impact of this is likely to be **moderate.** In the case of the electricity sector the cost of network connections can be a significant component of the capex costs for new electricity generation and new energy intensive industry investment. Improved efficiency in use of existing network infrastructure and co-ordinated design of new network connections can lower these costs supporting these investments and lowering cost to consumers for electricity supply.

	Supporting Evidence	The Gas Infrastructure Futures Working Group Findings Report concludes that the use of the existing gas pipeline network to transport hydrogen throughout the North Island is technically feasible and can make a valuable contribution to carbon emissions reductions. It also says that there is significant interest in the potential for zero-carbon gasses – hydrogen and bio methane produced from biogas – to play a role in New Zealand's energy transition. As part of this, there is interest in the potential role for repurposing gas pipelines, which would underpin, and require, a larger scale zero-carbon gas industry in New Zealand. Global interest in these gasses is also significant. Green hydrogen has a role for 'hard to abate' applications but there is uncertainty about its role in other applications that can more readily use electricity or other energy sources as an alternative to natural gas. The extent of its role will become clearer over time. As the scale of the transport task for distributing green hydrogen and other zero-carbon gases increases, using a repurposed pipeline network will likely become a more efficient and acceptable solution than alternatives like trucking hydrogen. A future involving transportation of green hydrogen using repurposed gas pipelines will require a large enough market to justify the high fixed investment costs required to repurpose, maintain and replace pipeline and consumer assets over time. Confidence in the size of the market will require widespread acceptance of hydrogen by consumers. The IEA notes in its Offshore Wind Energy Outlook 2019, that success of offshore wind depends on developing onshore grid infrastructure. Whether the responsibility for developing offshore transmission lies with project developers or transmission system operators, regulations should encourage efficient planning and design practices that support the long-term vision for offshore wind. Those regulations should recognise that the development of onshore grid infrastructure is essential to the efficient integration of power production from offshore wind UK regulators are currently working to co-ordinate sharing and design of connections from offshore wind to the onshore transmission and distribution grid. We can see evidence in other jurisdictions such as the UK that there is a need to provide this co-ordination to avoid inefficient investment and consenting barriers
	Gaps in Evidence	-
	Assumptions	-
	Implications	A hydrogen roadmap will improve the prospect of hydrogen playing an effective role in transitioning New Zealand to a low-emissions economy through an accelerated reduction in emissions. The development and implementation of a hydrogen roadmap will result in the green hydrogen sector becoming commercially viable at an earlier stage than would have otherwise occurred. This will facilitate the substitution of hydrogen for fossil fuels.

Section 3E: Goals – What this initiative aims to achieve

The energy system achieves the 2050 net zero target (as set out in the CCRA) while enhancing the four capitals	**Description**	By developing a cohesive framework for the energy system, system participants are able to line up behind the long-term vision of achieving net zero emissions. The framework will stretch across the four capitals, to ensure that wellbeing is enhanced as the energy system transitions to meet NZ's emissions targets. By thinking of the energy system holistically, and by developing a strategy C [redacted] in collaboration with stakeholders, tikanga is enhanced, and therefore the system framework is set up to address challenges and opportunities right across the 12 wellbeing domains. Development of a regulatory framework for offshore renewable energy can provide a framework to balancing interests in the use of the offshore environment and will ensure considerations for marine environmental protection are made. This aligns with all LSF wellbeing domains but particularly including: Environment – contribution to sustainable transition to a low emissions economy Health – ensuring that energy is accessible and affordable to support wellbeing Jobs and earnings – supporting new industries and new areas (e.g. expansion of energy management, renewable energy and low emissions fuels) Knowledge and skills – transition provides opportunities to build knowledge intensity into jobs, drive innovation and support creation of new industries.

	Quantification	This goal is not readily quantifiable at this stage. Measurement of New Zealand's GHG emissions is reported in the New Zealand inventory and can be monitored as we move toward the goal. Existing energy indicators relating to the four capitals (e.g. for energy hardship) can be used to measure progress. Development of a suite of indicators for the energy system in line with the Climate Change Commission's recommendation 20 is underway, which will also assist to measure progress towards this goal.
	Timeframes	The goal is about the make-up of energy emissions in 2050, although the energy system will need to be shifting to meet each 5-yearly emissions budget.
	Evidence and Assumptions	See impacts above
	Implications	There are risks that outcomes for emissions reduction are different to what we expect, particularly given the initiative is addressing a complex system. This highlights the importance of developing indicators and transparent monitoring and measurement.
Māori are empowered and enabled to achieve their aspirations and needs across a low emissions energy system	**Description**	Confidential advice to Government Development of new regulatory tools for offshore energy provides opportunities to facilitate meaningful iwi participation to influence outcomes from future investment. Confidential advice to Government Additionally, there is alignment with the He Ara Waiora principle of manaakitanga across the range of interests, priorities and aspirations of Māori outlined in section 3B of this template, including specifically • tino rangatiratanga over Māori land and other resources; • the impact of energy generation on natural resources; • economic and investment opportunities for Māori, and skilled employment opportunities; and • the impact of transition on iwi/Māori and communities as energy users: energy hardship, iwi community resilience/self-sufficiency.
	Quantification	This goal is not readily quantifiable at this stage.
	Timeframes	The goal will be across short, medium and long term. Iwi/Māori will be part of the scoping and development of the energy strategy and therefore their participation in the energy system is immediately enhanced. The goal is about the make-up of energy emissions in 2050, although the energy system will need to be shifting to meet each 5-yearly emissions budget.
	Evidence and Assumptions	Confidential advice to Government
	Implications	We know that iwi/Māori strive for a partnership approach to governance, which will likely include the energy transition. Once strategic components are developed, there will need to be ongoing processes to enable Māori participation to ensure that these work for iwi/Māori in an ongoing way. There will be a need to align approaches in this area with approach on equitable transitions for Māori, including close connections with a Māori climate initiative proposed by the Ministry for the Environment, to ensure aspirations and priorities of Māori are aligned across government.
Energy remains affordable, accessible and energy supply is secure and reliable	**Description**	Through developing a cohesive framework for the energy system, Government and other stakeholders will be able to ensure a strategic direction that addresses issues broader than decarbonisation including energy accessibility, affordability, reliability and security of supply, as Aotearoa decarbonises. As noted above, a cohesive framework for the energy system will stretch across the four capitals, to ensure that wellbeing is enhanced as the energy system transitions to meet NZ's emissions targets

throughout the transition		Residential energy affordability and reliability aligns with wellbeing domains relating to health, housing, and income and consumption. Energy affordability and reliability for businesses and other energy users will align with wellbeing domains for income and consumption and jobs and earnings.
	Quantification	New Zealand currently ranks equal ninth of 127 countries in the World Energy Council's Energy Trilemma index, which compares how nations balance energy security, equity and sustainability. This indicator can show changes in performance across other dimensions as well as sustainability. Existing energy indicators on affordability, energy hardship and accessibility, and security of supply could be used to measure progress, and development of a suite of indicators for the energy system in line with the Climate Change Commission's recommendation 20 will also assist to measure progress towards this goal.
	Timeframes	The goal is about the energy system delivering a net zero emissions future. Strategic consideration of broader objectives and development of appropriate regulatory frameworks will ensure that as we transition, we are able to develop diverse energy sources and ensure that energy remains affordable, accessible, secure and reliable. The goal is about the make-up of energy emissions in 2050, although the energy system will need to be shifting to meet each 5-yearly emissions budget.
	Evidence and Assumptions	Ināia tonu nei: a low emissions future for Aotearoa In addition to information in the impacts section: "Developing a national energy strategy would help to ensure different aspects of the energy system in Aotearoa are considered in a coherent way, including system reliability and affordability" "When co-designing climate policies, the first step is to understand the potential distributional impacts and how policies fit in the broader structural context of health, employment, housing affordability and energy affordability"
	Implications	In addition to existing indicators, this highlights the critical importance of ongoing development of indicators.
Energy systems support economic development aspirations and an equitable transition	**Description**	This goal is consistent with long term government goals for the economy, including Just Transition and Future of Work. The strategy will contribute to determining the role of the energy system in a reshaped economy, as we transition towards lower emissions. The transition to a low emissions economy will bring opportunities for new jobs, businesses and skills, including in the energy and industry sectors. Development of a strategies will help to maximise these opportunities. In addition, strategic approaches can build on and set direction for the programmes outlined in the emissions reduction plan to address equitable and just transition issues within the energy and industry sectors, alongside a broader equitable transitions strategy. This aligns with LSF wellbeing domains including: • Knowledge and skills – new skills will be required and the transition provides opportunity to build more knowledge intensity into jobs, drive innovation and support creation of new industries • Jobs and earnings – supporting new industries and new areas (e.g. expansion of energy efficiency and energy management)
	Quantification	This goal is not readily quantifiable at this stage. See comments on development of indicators under Goal 1 above.
	Timeframes	The goal is about the make-up of energy emissions in 2050, although the energy system will need to be shifting to meet each 5-yearly emissions budget.
	Evidence and Assumptions	Ināia tonu nei: a low emissions future for Aotearoa The importance of a just transition came through as a strong theme during Climate Change Commission consultation, including in submissions from all stakeholder groups as well as individuals. Some focused on the importance of making sure policies do not place an unfair burden on low-income communities.
	Implications	There will be a need to align approaches in this area with equitable transitions more broadly, including close connections with strategy development proposed by the Climate Change Commission for equitable transitions.

Section 3F: Distributional Analysis

Question 1: Does the initiative have the following types of distributional impacts for Māori?	A	Direct	**X**	**Indirect**		No Impact	
	B	Targeted and tailored for Māori		Disproportionate positive impact		**Other *(explain)***	
		The initiative will address consumer impacts associated with a transition to low emissions energy sources which affect Māori at the household and community level. It will also address the impacts on regions which rely on fossil fuel-based infrastructure (coal and gas), where Māori are employed and own businesses. It will provide for Māori interests associated with offshore wind development. It will identify development pathways that could provide for Māori interests associated with hydrogen development and deployment.					
Question 2: Does the initiative have the following types of distributional impacts for Pacific Peoples?	A	Direct	**X**	**Indirect**		No Impact	
	B	Targeted and tailored for Pacific Peoples		Disproportionate positive impact		**Other (*explain)***	
		The initiative will address consumer impacts associated with a transition to low emissions energy sources which affect Pacific Peoples at the household and community level. It will also address the impacts on regions which rely on fossil fuel-based infrastructure (coal and gas), where Pacific Peoples are employed and own businesses.					
Question 3: Does the initiative have the following types of distributional impacts for children?	A	Direct	**X**	**Indirect**		No Impact	
	B	Targeted and tailored for children		Disproportionate positive impact		**Other *(explain)***	
		The initiative will address consumer impacts associated with a transition to low emissions energy sources which affect people at the household and community level, including children. It will also address the impacts on regions which rely on fossil fuel-based infrastructure (coal and gas), where children live and go to school.					
Question 4: Does the initiative have direct impacts on any other population groups?	Y	*Impacts all the population groups in New Zealand.*					

Question 5: What region is this initiative expected to impact?	*X*	***All of New Zealand***		*Gisborne*		*Northland*		*Tasman*
		Areas outside regions		*Hawke's Bay*		*Offshore*		*Waikato*
		Auckland		*Manawatu-Whanganui*		*Otago*		*Wellington*
		Bay of Plenty		*Marlborough*		*Southland*		*West Coast*
		Canterbury		*Nelson*		*Taranaki*		

Section 4: Alignment

Section 4A: Strategic Alignment	
How does this initiative link with your strategic intentions/statement of intent?	MBIE's statement of intent is to grow New Zealand for all, and has identified key areas for the collective focus, including the following, which align with the proposed initiative: **Transition Pathways – reset the post-COVID-19 economy towards a high value, high employment and low emission society** • Transition in the energy sector can bring opportunities for new jobs, businesses and skills including in energy efficiency, energy management, electricity and low emissions fuels. An energy strategy will help to maximise these opportunities and set direction for the sector. Development of a hydrogen strategy and offshore renewable energy regulatory framework will set foundations for specific high value opportunities. **People Centred – people are at the centre of the design and delivery of our services** • Development of an energy strategy will help to ensure that as we transition energy remains accessible and affordable to support the wellbeing of all New Zealanders, and energy systems support economic development aspirations and an equitable transition. • The energy strategy will be developed Confidential advice to in collaboration with energy system stakeholders. Confidential advice to **collaborate with Māori to achieve their economic, employment and wellbeing aspirations** Confidential advice to Government • A component of work with Māori and broader stakeholders will relate to opportunities for Māori and community participation in offshore energy and low emissions fuels, in line with the Climate Change Commission's recommendation 13. **Regulatory Stewardship – deliver a robust, agile and fair regulatory environment, that supports New Zealand's economic recovery** • The initiative is designed to guide and enable deliberate actions to support the transition of Aotearoa's energy system as we transition to a low emissions economy, which can support energy sector regulatory systems. • A hydrogen strategy will support regulatory work in this area and an offshore renewable energy regulatory framework will ensure a clear regulatory system in place ahead of significant development in this area.
Does this initiative link with other sectoral or whole-of-government strategies (e.g. the Pacific Wellbeing Outcomes Frameworks)?	The initiative will have cross-cutting benefits that will align with a number of Government strategies and processes including the New Zealand Energy Efficiency and Conservation Strategy, the Government's Industry Transformation Plans including for Advanced Manufacturing and the Wood Fibre Futures Project, regional economic development strategies, the Taranaki roadmap and transition pathway action plan, etc. There will be multiple links to other strategies underway or proposed as part of the Government's Emissions Reduction Plan including a Circular/bioeconomy strategy, Equitable Transitions Strategy and Māori climate strategy, and the gas transition plan. It will also sit alongside action to address the Climate Change Commission's recommendation to develop a plan of actions for industrial decarbonisation. It will also have links to the Government's National Adaptation Plan and wider climate change objectives.
Does this initiative impact other agencies directly or indirectly? If so, how?	The initiatives in this package have a range of interdependencies. An energy strategy will require input and work across a range of MBIE work areas including equitable transitions, Research, Science and Innovation, Building and Construction, and with other agencies including EECA, the Ministry for the Environment, Ministry of Transport, Electricity Authority and Commerce Commission, as well as wider agencies including Treasury, the Ministry of Social Development, Te Arawhiti and TPK on issues relating to equitable transitions for Māori and other population groups. The hydrogen component will require input and work with other agencies including, WorkSafe, The Treasury, Gas Industry Company, Waka Kotahi New Zealand Transport Agency, Ministry of Transport, Ministry for the Environment, Environmental Protection Agency, Maritime NZ, Energy Efficiency and Conservation Authority, Commerce Commission, The New Zealand Customs Service, Ministry of Foreign Affairs and Trade, New Zealand Trade and Enterprise, Department of Internal Affairs, and GNS Science. The offshore renewable energy framework will require input and work with other agencies including Te Arawhiti, Te Puni Kokiri, Ministry for Primary Industries (MPI), Environmental Protection Agency, Ministry for the

	Environment, the Department of Conservation and potentially New Zealand Trade and Enterprise. MPI and Fisheries New Zealand are currently developing policy options for a management framework for open ocean aquaculture such as salmon farming, across the territorial sea and exclusive economic zone. The framework is intended to address some issues that align with offshore renewable energy, including planning, allocation, consenting and Māori rights, and there may be opportunities for alignment or co-design. The energy strategy will be developed Confidential advice in collaboration with energy system stakeholders. There will be potential to co-ordinate and support engagement with stakeholders across Government, Confidential advice to . In particular, this bid will require co-ordination with the output of a Māori climate action bid, which includes developing a Māori Climate Partnership and Representation Platform to provide a platform for the Crown to strengthen the partnership with iwi/Māori.

Section 4B: Alignment to Government's goals

The Government's goals for this term are:

1) **Continuing to keep New Zealand safe from COVID-19**
2) **Accelerating the recovery and rebuild from the impacts of COIVD-19**
3) **Laying the foundations for the future, including addressing key issues such as our climate change response, housing affordability and child poverty**

Alignment to Government goals	Contributes to: 2. accelerate the recovery and rebuild from the impacts of COVID-19 3. Laying the foundations for the future, including addressing key issues such as our climate change response. Transition to greater use of renewable energy and low emissions fuels will bring opportunities for new jobs, businesses and skills. The initiatives in this package will set foundations for deep decarbonisation in future budget periods. They will help to provide certainty for private sector investment, including direction of investment, and provide frameworks to enable investment in reducing emissions, and participation by a range of stakeholders including Māori in associated opportunities. This would contribute to the main points of the Government's most recent economic plan: • Investing in our people • Creating jobs and improving productivity • Preparing for the future • Supporting small businesses and entrepreneurs • Positioning Aotearoa New Zealand globally.

Section 4C: Contribution to the Government's Wellbeing Objectives

The Government's five wellbeing Objectives are:

- **Just Transition:** supporting the transition to a climate-resilient, sustainable, and low-emissions economy.
- **Future of Work:** enabling all New Zealanders and New Zealand businesses to benefit from new technologies and lift productivity and wages through innovation
- **Physical and Mental Wellbeing:** supporting improved health outcomes for all New Zealanders, including protecting New Zealanders from the impacts of COVID-19.
- **Māori and Pacific:** lifting Māori and Pacific incomes, skills, and opportunities, including through access to affordable, safe, and stable housing
- **Child Wellbeing:** reducing child poverty and improving child wellbeing, including through access to affordable, safe, and stable housing.

Please note: these objectives have been agreed by Cabinet subject to wider consultation. The final versions of the objectives will be published in the Budget Policy Statement in December 2021.

Contribution to Wellbeing Objective(s)	**Just Transition (direct) and Future of Work (indirect)** The transition to a low emissions economy will bring opportunities for new jobs, businesses and skills, including in the energy and industry sectors. An energy strategy will help to maximise these opportunities. A hydrogen strategy and offshore renewable energy regulatory framework will be enablers of high value opportunities. In addition, an energy strategy can build on and set direction for the programmes outlined in the emissions reduction plan to address equitable and just transition issues within the energy and industry sectors, alongside a broader equitable transitions strategy **Physical and Mental Wellbeing (indirect) and Child Wellbeing (indirect)**

	Development of an energy strategy will help to ensure that as we transition energy remains accessible and affordable to support the wellbeing of all New Zealanders. This will assist to ensure that children and young people have what they need (healthy home environments through energy affordability and reliability) **Māori and Pacific (direct)** Confidential advice to Government A component of work with Māori and broader stakeholders will relate to opportunities for Māori and community participation in offshore energy and low emissions fuels, in line with the Climate Change Commission's recommendation.

Section 5: Delivery

Section 5A: Fit with existing activity

The answer must not exceed 1-2 paragraphs.

How does the initiative link with existing initiatives with similar objectives?	Development of an Energy strategy will build from the recommendations of the Climate Change Commission and the emissions reduction plan. It will also build from and bring together existing work that has been guided by the Renewable Energy Strategy work programme, including programmes developed and consulted through Government's Accelerating Renewable Energy and Energy Efficiency work streams. A hydrogen roadmap will build from the earlier Vision for Hydrogen in New Zealand and workstreams underway to review the regulatory regime for hydrogen in Aotearoa and Standards NZ work on adopting standards for hydrogen. A framework for offshore renewable energy will link with resource management reform work and work underway to develop regulation relating to offshore aquaculture.
Is the initiative an expansion or a cost pressure for an existing initiative?	*N* -

Provide an overview of existing funding levels for this initiative, and/or initiatives with similar objectives, in the two tables below.

	Operating Funding profile ($m)					
	2021/22	**2022/23**	**2023/24**	**2024/25**	**2025/26 & outyears**	**Total**
Existing funding for this/similar initiatives	-	-	-	-	-	-
Total funding sought for this initiative	-	Conf				
% change between existing funding and funding sought	-	-	-	-	-	-
Comments (optional)	Confidential advice to Government					

	Capital Funding profile ($m)										
	21/22	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**Total**
Existing funding for this/similar initiatives	-	-	-	-	-	-	-	-	-	-	-
Total funding sought for this	-	Con									

initiative											
% change between existing funding and funding sought	-	-	-	-	-	-	-	-	-	-	-
Comments (optional)	*This relates to FTE onboarding costs, such as laptops, etc.*										

Section 5B: Funding sought by input

Provide a breakdown of what the requested funding will purchase. Briefly explain the formula used, or key assumptions made, to calculate the cost of each output.

Formula and assumptions underlying costings

This initiative is seeking funding for three main components across each of the projects discussed above (i.e. an energy strategy, a hydrogen roadmap and a regulatory framework for offshore renewable energy):

Confidential advice to Government

map and finalise. Māori partners supported to communicate recommendations on the final strategy/roadmap.

2. Funding for FTE to take the three projects forward over three years. The following skills have been included in the funding being sought:
   - Manager
   - Project management
   - Policy Advice
   - Engagement/Partnership with iwi/Māori and stakeholders
   - Operational policy and implementation (regulatory framework implementation)
   - Legal analysis
   - Data/research analysis
3. Funding is being sought for consultancy costs to support the three projects outlined in this bid. That specialist expertise is needed for:
   - Confidential advice to Government

	Funding profile ($m)					Total
Input – Operating	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**	
Input Information						
Confidential advice to						

FTE-specific Input Information (if applicable)											
Confid ential											
	Funding profile ($m)										Total
Input – Capital	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
	-	Con									
Total	-	Con									
Appropriations	This initiative will require a new appropriation										

Section 5C: Options analysis

Options analysis	Standard/limited iwi/Māori engagement process which is primarily about informing/consulting rather than collaborating C on
Counter-factual question	If the funding is not approved or deferred, MBIE will not be able to develop a hydrogen roadmap or a regulatory framework for offshore renewable energy. This will have implications for New Zealand's transition to a low emissions energy system. Without a hydrogen roadmap or a regulatory framework for offshore renewable energy, we can expect a delayed or non-existent uptake of these technologies in New Zealand, as well as the opportunity cost associated with international cooperation and investment in low emissions energy technology transformations. While we could see some developers progressing investment in offshore wind in New Zealand without a regulatory framework in place, this is likely to result in suboptimal outcomes for New Zealand both in terms of resource use, and economic benefits to Maori and local communities. Without funding or deferred funding, the development of an energy strategy would either be delayed or slowed down, due to competing resourcing constraints from the energy policy work programme. Confidential advice to Government and would only be able to consult on it via partners through online channels and email. Similarly, we would not be able to develop the strategy in close collaboration with energy system stakeholders. Taking this approach risks the ability to develop a comprehensive framework to decarbonise the energy system that will be relevant to all New Zealanders. This also risks MBIE's ability to provide a coordinated approach to support the development and deployment of different low-emissions technologies, fuels and industries, which could risk energy affordability and accessibility as New Zealand seeks to phase out fossil fuel supply, while ensuring that there is adequate deployment of new and affordable renewable generation

Section 5D: Scaled option

Option overview	Confidential advice to Government

	Confidential advice to Government

Provide a breakdown of what the minimum viable option would purchase. If the formula used or key assumptions made differ from those used for the primary option, briefly explain these. Add additional rows to the table as needed to capture each output separately.

Formula and Assumptions	Confidential advice to Government					
	Operating Funding profile ($m)					
Input - Operating	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26 & outyears**	**Total**
Confidential						
Total		**5.247**	**7.037**	**5.390**	**-**	**17.674**

	Capital Funding profile ($m)										
Input - Capital	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**Total**
New staff one-off costs such as laptops, etc	-	Confide									
Appropriations	This is a new appropriation.										

Section 5E: Monitoring and Evaluation

The initiative will help to ensure that energy and emission sector modelling is strengthened to enable adequate estimates of the outcomes of an energy strategy and impacts across the energy and industry sectors. The energy strategy will incorporate mechanisms to measure and monitor progress as we transition to maximise opportunities and minimise impacts across the energy system. This will include monitoring of key energy indicators and measurement for achieving the objectives and deliverables of an energy strategy, and could include monitoring of the following:

- Confidential advice to Government

Hydrogen roadmap monitoring will occur after funding is complete and the roadmap is implemented. This will involve assessment against performance of any of the metrics or goals expressed in the roadmap. Some of these measures may require subsequent revision. Following the implementation of a framework for offshore renewable energy, an evaluation report will be prepared.

Funding needs for monitoring and evaluation are estimated at Confidential funding for an evaluation report for offshore wind. These are included in estimates provided above.

As well as monitoring progress in the energy and industry sectors, outcomes from this information and monitoring activity will in turn be translated for use in accountability processes for the Government's emissions reduction plan and achievement of the Government's emissions budgets, building on cross-government monitoring and Climate Change Commission monitoring processes.

Section 5F: Implementation readiness

The answer to each question must not exceed 1-2 paragraphs.

Workforce: Are additional FTEs or contractors required?	***Y***	The following skills will be required: • Manager • Project management • Policy Advice • Engagement/Confide with iwi/Māori and stakeholders • Operational policy and implementation • Legal expertise • Data/research analysis
		The roles sought are a mix of policy roles and engagement specialists. We have factored in consultancy for both engagement/partnership design and facilitation, as well as the technical expertise needed for to deliver these projects.
Workforce: Resourcing considerations		MBIE offers a fully flexible working environment to offer enough optionality for staff, including the ability to work from the regions.
Timeframes		We have developed and costed options for this initiative, so it can be delivered across Confidential advice to Government The Climate Change Commission has proposed that an energy strategy be delivered in draft by 30 June 2023 and as a final strategy by 30 June 2024. Meeting this timeframe will depend on the following: • Availability of resourcing as outlined above – there will be timing issues to accessing and recruiting the necessary expertise and we have factored this into the profile of expenditure; and • Confidential advice to Government Development of the offshore renewable energy regulatory framework is expected to take 2 years, based on the experience of similar regulatory development which has recently been undertaken in Australia. This work will commence as soon as feasibly possible to ensure pending investments in offshore energy can be appropriately regulated. Hon Dr Megan Woods, Minister of Energy and Resources, announced at the *Offshore Future Energy Forum* on 25 November 2021, that officials will begin work in the second half of 2022 to understand the optimal regulatory environment for enabling investment in offshore renewable energy Development of a hydrogen roadmap is expected to take 12-18 months, based on the experience of a similar roadmap developed in Australia. This work will commence as soon as feasibly possible as it will build on existing work developed as part of the Hydrogen Vision.
Delivery Risks		Confidential advice to Government We are also working with MfE and other agencies to ensure alignment across bids relating to Climate Change Commission recommendations for strategies, to ensure that these are aligned, particularly with the Māori climate action bid, which includes developing a Māori Climate Partnership and Representation Platform to provide a platform for the Crown to strengthen the partnership with iwi/Māori.
Market capacity		We think that there is enough policy expertise in New Zealand to deliver this initiative. We have factored in specialist skills through consultancy costs, where we think there will be a market constraint, e.g. Confidential advice to Government
Previous delivery experience		MBIE's Energy and Resource markets has experience delivering strategies for the energy system, including *A Vision for Hydrogen 2019 and* New Zealand's Energy Efficiency and Conservation Strategy. The branch is also adept at delivering regulatory reform processes, such as the National Direction on Industrial Greenhouse Gas emissions.