

# Budget 2022 Initiative Summary – Main Budget Process

## *Supporting renewable and affordable energy in New Zealand communities*

### Section 1: Overview

#### Section 1A: Basic Initiative Information

Lead Minister	Minister of Energy and Resources, Hon Dr Megan Woods				
Department	MBIE				
What type of initiative is this?	Critical cost pressure initiative		Manifesto commitment initiative		Health and Disability System Reform initiative
	Climate Emergency Response Fund initiative	X	Savings initiative		Non-Spending initiative
Initiative description	<p>This initiative funds delivery of community-based renewable energy projects, including grants for the development costs of projects, and fund implementation costs. Funded projects will be innovation pilots to support New Zealand's energy transition. Projects will enable access to secure, renewable and more affordable energy, with a focus on low income communities and/or insecure access to energy. Solutions will be tailored to local energy needs, capacity and resources. Funding would cover renewable energy generation options (e.g. solar, geothermal), and means of optimising energy use (e.g. energy storage and demand management).</p> <p>Confidential advice to Government</p>				
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	Confi	Confi	Confi	Confi

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									Conf

#### Section 1C: Initiative Classifications

Is this initiative seeking funding from the Climate Emergency Response Fund (CERF)?	Y	This initiative aligns with the following criteria: <ul style="list-style-type: none"> <li>Supporting a Te Ao Māori approach to climate response.</li> <li>Facilitating the development of such proposals in the future (such as feasibility studies or business cases).</li> <li>Addressing the distributional impacts of emissions reduction policy.</li> </ul>
Is this initiative climate-related, but not seeking funding from the CERF?	N	
Does this initiative align with the Crown's	Strong	This initiative aligns strongly with obligations under the Treaty of Waitangi, as it:

## BUDGET SENSITIVE

<p><b>obligations under the Treaty of Waitangi?</b></p>		<ul style="list-style-type: none"> <li>• supports communities (including Māori communities) to exercise greater self-determination over their energy generation, use and wellbeing</li> <li>• offers the opportunity for the government to partner with Māori and other communities to design fit-for-purpose community energy schemes.</li> </ul> <p>Māori communities will make up a significant portion of hard to reach or remote communities. The initiative will partner, where appropriate, with Māori entities and trusts operating in targeted communities to act as intermediaries between the fund and community. This will ensure local Māori have a strong voice in the design and implementation of funded projects, and that project benefits are distributed equally throughout the community.</p>					
<p><b>Specify if this initiative will help reduce child poverty and describe the impact</b></p>	<p><b>Y - Direct impact in target communities</b></p>	<p>Improving energy affordability and resilience can free up income for other critical expenditures such as food and medicines for target families. It also enables greater use of heating for healthier homes, contributing to improved household wellbeing and health outcomes for children.</p>					
<p><b>Does this initiative align with the Child and Youth Wellbeing Strategy?</b></p>	<p><b>Y</b></p>	<p>This initiative aligns with the outcomes: <i>children and young people have what they need</i>, and <i>children and young people are happy and healthy</i>. The rationale is the same as for the child poverty classification criteria above.</p>					
<p><b>Does the initiative include funding to procure from NGOs?</b></p>	<p><b>Y</b></p>	<p>This initiative may procure services from NGOS (e.g. community groups). The implementation of this initiative will align strongly with the Social Sector Commissioning procurement principles – in particular the principles on <i>Māori -Crown partnerships</i> (through co-design of the scheme and project with Māori /iwi partners), <i>local/regional and national cooperation</i>, and <i>learning and improving</i> – through partnership between government and community groups, and sharing of information and case studies.</p> <p>Local NGOs (as well as iwi entities and trusts) operating in the targeted communities would be invited to act as intermediaries between the delivery entity and the target community, to support co-design and collaborative development of funded projects. They should play a key role in ensuring positive, trusted communication so that projects are truly fit for purpose in the particular location and social context. NGOs may also have a role in delivering training and capacity building for local people.</p>					
<p><b>Does the initiative include funding to support digital and data related investments?</b></p>	<p><b>N</b></p>						
<p><b>Is this a regulatory or legislative initiative (according to the guidance provided)?</b></p>	<p><b>N</b></p>						
<p><b>Is this a significant investment initiative per the definition at section 4.8 of the Budget 2022 guidance?</b></p>	<p><b>N</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;">Data / Digital / ICT</td> <td style="width: 25%;">Physical Infrastructure</td> <td style="width: 25%;">Organisational Transformation</td> <td style="width: 25%;">Specialised Equipment</td> </tr> </table>		Data / Digital / ICT	Physical Infrastructure	Organisational Transformation	Specialised Equipment
	Data / Digital / ICT	Physical Infrastructure	Organisational Transformation	Specialised Equipment			

Section 3: Value

Section 3A: Opportunity/Problem

Opportunity/Problem

*Challenges of the energy transition*

New Zealand's transition to a low-carbon economy will have a profound impact on New Zealand's energy system, largely due to the wide-scale electrification required in order to achieve our net-zero target. This decarbonisation and electrification will place pressure on our ability to balance the 'energy trilemma', i.e. energy that is affordable (enabling people and firms to access enough energy to meet their needs), reliable (supply is available at all times) and sustainable (generated from renewable sources).

*Lack of access to reliable and sustainable energy sources*

NZ's electricity system is, and will continue to be, based around large grid-scale generation, often far from the point of consumption. This means that some communities, particularly those in remote areas or islands, do not have reliable access to affordable energy. For example, some communities (e.g. many offshore islands) are not connected to NZ's electricity grid and are relying on high-emissions portable generators, while others may have unreliable energy supplies at high risk of outages from natural hazards such as storms and floods.

*Energy hardship*

Many communities and households face significant economic challenges. The work of the Electricity Price Review highlighted that many low-income households often live in energy hardship, which means they have to choose between putting food on the table, and using energy for heating or lighting.

*Opportunities from community energy*

Community energy is the economic and operational participation and/or ownership by citizens or members of a defined community in a renewable energy project.

The key barriers to community energy projects in New Zealand to date are a lack of capability and expertise within communities to design and develop suitable projects, and a lack of funding mechanisms to meet the high up-front costs. Generally, the communities that would benefit the most from energy projects are also those that can least afford to pay for them themselves.

Well-designed community energy projects can support the transition of our energy system, and achieve a range of interrelated benefits including:

- Energy affordability as localised generation can lead to lower on-going costs to consumers, alleviating energy hardship and delivering additional benefits in health and wellbeing.
- Energy resilience through ensuring remote communities have reliable access to energy, and supporting adaptation to the effects of climate change.
- Energy sovereignty/ self-sufficiency, which is particularly valued in Māori communities.
- Energy literacy through information and training on energy management and an increase in the broader social licence for wider sustainable energy measures and distributed energy.
- New skills and jobs by involving the community in project development, providing training to enable them to maintain the project over time and develop new career opportunities.
- Innovation through piloting technologies and business models to support wider energy system changes.

Community energy projects also provide an opportunity for Māori to participate in low-emissions technologies and exercise greater sovereignty over energy generation and use. This can help to support the wellbeing of their whanau, protect the environment through energy decarbonisation and utilise a Te Ao Māori approach to energy generation and use.

Note that a Climate Impact Policy Assessment (CIPA) has not been completed for this proposal as it is not focused on direct emissions reduction (i.e. it does not meet the CIPA requirement of 0.5 million tonnes carbon dioxide equivalent (CO2e) within the first ten years of the proposal period).

Section 3B: He Ara Waiora

**Tikanga-** decisions are made by the right decision-makers, following a tikanga process, according to tikanga values

We propose a strong co-design process for implementation of this initiative, working with the community energy sector, Kanoa and other agencies involved in the energy development space, including strong collaboration with iwi/Māori, building on relationships forged through the Public and Māori Housing Renewable Energy Fund.

## BUDGET SENSITIVE

<p><b>Manaakitanga-</b> 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</p>	<p>A strong partnership approach will be taken to ensure projects are designed to meet the aspirations of the target communities. Projects will help enhance the mana of communities, allowing them to take greater ownership of their energy use in a way that is aligned to their own values and aspirations.</p> <p>Community energy projects align particularly well with Māori values by allowing iwi/Māori to:</p> <ul style="list-style-type: none"> <li>• exercise unity and collective action (Kotahitanga)</li> <li>• exercise a duty of care and respect for their community (Manaakitanga).</li> <li>• attain shared spaces that enable social activity (Whanaungatanga)</li> <li>• minimise the impact of energy use on the environment (Kaitiakitanga).</li> </ul> <p>Access to reliable and affordable energy is also key to maintaining infrastructure that is critical for Māori wellbeing, such as marae and other community centres.</p>
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### Section 3C: Outputs – The good or service the initiative purchases

Output	Description
<p>Grant funding to purchase the design, development and operation of community energy projects that provide an affordable and resilient energy supply.</p>	<p>The <b>design and development</b> of community energy projects would include:</p> <ul style="list-style-type: none"> <li>• technical project design (e.g. specialist expertise such as electrical engineers)</li> <li>• community engagement costs – e.g. facilitation costs, or paying time/costs of community group involvement.</li> </ul> <p>The <b>capital investment outputs</b> required to deliver community energy project would include some or all of:</p> <ul style="list-style-type: none"> <li>• renewable energy generation methods (e.g solar panels, geothermal, wind)</li> <li>• energy efficiency and management measures (leveraging co-investment under other initiatives such as Warmer Kiwi Homes)</li> <li>• energy storage/demand management methods (e.g. chemical or thermal energy storage, smart switches)</li> <li>• energy distribution and management methods (e.g. microgrids, electrical control gear).</li> </ul> <p><b>Anticipated project types/scale</b> for this fund (assuming a maximum grant size of Co as a basis for comparison) vary widely across different technology types, for example:</p> <ul style="list-style-type: none"> <li>• development of a community solar farm has likely costs of between \$1000 and \$1500 per kW of generation. In other words, Co could fund a Confid solar farm (the equivalent generation of rooftop solar from approximately Confiden homes)</li> <li>• joint generation/battery storage projects (assuming a minimum of \$20,000 per household, Co could service approximately C households)</li> <li>• community wind projects (e.g. the projected cost for installation of wind turbines Confidential turbines) <span style="float: right;">Confidential advice to</span></li> <li>• a mix of the above (e.g. a project involving Confidential advice to Government users has been costed at approx. Co)</li> <li>• energy sharing and distribution methods such as micro-grids and embedded networks have costs that vary greatly depending on the project design, or may have costs recoverable over time through a portion of energy bill payments.</li> </ul>
<p>Confidential advice to increased capability in the community energy sector</p>	<p>Development of community energy projects requires effective and well-resourced local networks and knowledge. Capability is required to understand community needs, scope projects, and connect people with ideas and investment. This is most effectively delivered through partnerships, with funding covering training, education and networking costs.</p> <p>The product of this investment will be increased intellectual capital in communities and firms involved in projects. It also could be expressed through written products such as ‘how to’ guides.</p>
<p>Knowledge gains on energy system innovation – including information on project costs, benefits, success factors and regulatory barriers</p>	<p>Knowledge gains will flow from the provision of funding to design and implement projects. The ‘products’ in relation to knowledge innovation would include published resources on the development process for community energy projects, with in-depth information on the options, costs and benefits. There will also be increased intellectual capital for those participating in projects (e.g. increased skills and knowledge). The knowledge/innovation outputs would address research questions including:</p> <ul style="list-style-type: none"> <li>• What are the wellbeing impacts to households and communities from community energy projects – e.g. what are the energy cost savings, how do these contribute to home heating and physical wellbeing?</li> </ul>

## BUDGET SENSITIVE

	<ul style="list-style-type: none"> <li>• Are there regulatory barriers to the development and optimisation of small-scale renewable energy projects, and if so, what regulatory changes would better enable the potential benefits?</li> <li>• What are the costs and benefits, and ideal deployment scenarios, for different types of renewable energy?</li> <li>• How can community energy projects maximise the 'value stack' of new generation and maximise the benefits of capital investment for other market participants? (e.g. community energy projects can optimise use of local grids, potentially saving costs for Electricity Distribution Businesses through deferred investment in poles and wires)</li> <li>• What are the decarbonisation impacts from community energy projects?</li> <li>• What are the resilience benefits from community energy projects, and how might this reduce future risk from natural hazards?</li> </ul>
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### Section 3D: Impacts – The direct effect of the initiative

<b>Improved wellbeing from affordable and reliable energy supply</b>	<b>Description of the impact</b>	<p>Community energy projects can, in the right circumstances, reduce the costs of energy to target households through local energy generation and storage/optimisation. This improves community/household wellbeing through lower energy bills, which improves household disposable income and enables greater use of heating.</p> <p>Community energy projects can increase energy security and affordability by producing and managing energy close to the point of consumption, offsetting costs that otherwise would be purchased on retail markets (e.g. electricity retail costs or supply of diesel fuel for generators). The primary wellbeing impacts include:</p> <ul style="list-style-type: none"> <li>• <u>Energy affordability</u> as localised generation can lead to lower on-going costs to consumers, alleviating energy hardship and delivering additional benefits in health and wellbeing.</li> <li>• <u>Energy resilience</u> through ensuring remote communities have reliable access to energy and supporting adaptation to the inevitable effects of climate change.</li> <li>• <u>Energy sovereignty/self-sufficiency</u> which is of particular importance to Māori communities (i.e. the right of communities and indigenous peoples to make their own decisions on energy generation, distribution and consumption)</li> <li>• <u>Energy literacy</u> through exposure to energy issues and an increase in the broader social licence for wider sustainable energy measures and DER development.</li> <li>• <u>New skills and jobs</u> by involving the community in project development, providing training to enable them to maintain the project over time and to develop new career opportunities.</li> </ul>
	<b>Quantification</b>	<p>As outlined at Section 3C above, we estimate an investment of this size could support approximately <b>Confidential advice to Government</b>.</p> <p>We estimate the impacts of a community energy project will be moderate to high – though they will vary depending on the design and level of investment. We do not have strong quantitative information on the positive impacts at a household level due to a lack of community energy projects so far in New Zealand.</p>
	<b>Supporting Evidence</b>	<p>This initiative is an innovation pilot that seeks to develop project-based evidence on the impacts, costs and benefits of community energy projects for New Zealand. EECA has undertaken significant research on the general opportunities, barriers and benefits around community energy projects (EECA, 2019).</p> <p>There is ample evidence of the benefits of community energy projects overseas, for example in the UK, Canada and throughout Europe. For example: Smith, A., Stirling, A., (2018)</p> <p>There is also evidence of community energy projects delivering cost savings within New Zealand for example, the energy solutions programme led by Entrust in Kawakawa: <a href="http://www.entrustnz.co.nz/media/68037/entrust-energy-solutions-annual-report-2018.pdf">www.entrustnz.co.nz/media/68037/entrust-energy-solutions-annual-report-2018.pdf</a></p> <p>There is a strong evidence base for the connection between improved indoor environment and health outcomes, supported in particular by the 2011 evaluation of the Warm Up New Zealand programme: <a href="http://www.motu.org.nz/files/docs/NZIF_CBA_report_Final_Revised_0612.pdf">www.motu.org.nz/files/docs/NZIF_CBA_report_Final_Revised_0612.pdf</a></p>

## BUDGET SENSITIVE

		<p>The project technology costs/projects sizes listed in section 3c above are based on current or recent government funding contracts/business cases for energy projects (e.g. through the Provincial Growth Fund and Public and Māori Housing Renewable Energy Fund).</p> <p>The Climate Change Commission has noted:</p> <ul style="list-style-type: none"> <li>• <i>A number of submitters from the electricity sector, NGOs, individuals, Iwi/Māori and others voiced broad support for technology innovation, decentralised and local energy generation and alternative ownership structures as means for local climate resilience, energy security and economic development. For example, some marae are used by Iwi/Māori as civil defence management centres and community hubs.</i></li> <li>• <i>Energy sovereignty, using both innovative and existing technology, is a critical component of ensuring an equitable transition. Ongoing support through government programmes, such as the Māori and Public Housing Renewable Energy Fund, to trial small-scale renewable energy technologies and help inform future larger-scale projects, will be important.</i></li> <li>• <i>Some submitters emphasised the importance of energy diversity in ensuring energy system resilience, particularly in the face of a changing climate. Relying solely on the electricity grid to deliver energy could increase national and community vulnerability, and impact the ability of Aotearoa to adapt to climate change and respond to extreme weather events.</i></li> </ul>
	<b>Gaps in Evidence</b>	While there is ample evidence available in overseas contexts, this initiative seeks to build an evidence base in the absence of past community energy projects in NZ. Funding and evaluation of projects will strengthen the evidence base.
	<b>Assumptions</b>	<p>Assumptions on project costs are based around recent expenditure on the Public and Māori Housing Renewable Energy Fund, and market information gathered by EECA.</p> <p>Assumptions about health and housing benefits from warmer homes are based on existing research from previous government energy saving and insulation programmes – in particular the Warmer Kiwi Homes programmes.</p> <p>As noted above, the benefits of distributed energy solutions will vary across different scenarios, and will need to be evaluated in relation to their relative benefits. For example, we would expect distributed generation solutions to have lower health benefits in households with poor insulation standards. Or, we would expect the benefits of distributed generation for household disposable income will vary depending on the energy use profile of different households (for example, a family using a higher proportion of power during the day will save more power through solar generation than a household that uses relatively more at night time).</p>
	<b>Implications</b>	This is an innovative, early-stage initiative, We would aim to “learn through doing”, carefully evaluate the costs and positive impacts of projects on an annual basis, use this to guide future investment, and publicly share information to inform those wishing to do their own projects.
<b>Innovation gains</b>	<b>Description of the impact</b>	<p>This initiative would improve knowledge on the costs, benefits, impacts and ideal deployment scenarios for distributed energy projects in New Zealand.</p> <p>Community energy projects can support sustainable innovation by enabling application of commercial and pre-commercial clean technology innovations, ensuring social and environmental values are integrated in the innovation process. Over time these projects build capacity and expertise that enables the scaling, replication, and translation of technologies to wider application in different contexts.</p> <p>International experience shows that early civic engagement in renewable energy technology diffusion equips actors with energy expertise that can subsequently facilitate positive engagement in other consumer facing transport, storage, and demand-side management innovation programmes. Innovation is a common theme emerging in geothermal energy developments where Māori have strong interests. Supporting this innovation trajectory through community projects delivers a fairer distribution of costs and co-benefits of the transition to renewable energy.</p> <p>As noted in Section 3C above, the impact of this initiative would be knowledge gains in relation to the following questions:</p> <ul style="list-style-type: none"> <li>• What are the wellbeing impacts to households and communities from community energy projects – e.g. what are the energy cost savings, how do these contribute to home heating and physical wellbeing?</li> <li>• Are there regulatory barriers to the development and optimisation of small scale distributed energy projects, and if so, what regulatory changes would better enable project benefits?</li> </ul>



## BUDGET SENSITIVE

		<ul style="list-style-type: none"> <li>• What are the costs and benefits, and ideal deployment scenarios, for different types of renewable energy?</li> <li>• How can community energy projects maximise the 'value stack' of new generation and maximise the benefits of capital investment for other market participants? (e.g. community energy projects can optimise use of local grids, potentially saving costs for Electricity Distribution Businesses through deferred investment)</li> <li>• What are the decarbonisation impacts from community energy projects?</li> <li>• What are the resilience benefits from community energy projects, and how might this reduce future risk from natural hazards?</li> </ul>
	<b>Quantification</b>	As outlined at Section 3C above, we estimate an investment of this size could support <b>Confid</b> <b>Confid</b> , each of which could benefit <b>Confid</b> households, depending on the technologies involved. It is likely that a mix of project sizes and technologies would be supported to ensure a wide range of technology case studies and locations.
	<b>Supporting Evidence</b>	<p>In a number of countries (in Germany, Denmark and Spain in particular), local and community energy has been used to support nascent domestic 'cleantech' industries that had viable products but that were not yet commercially attractive or market competitive due to small scale production, small-scale or immature products and a lack of established supply chains. Through demand-pull policies for wind and solar PV, including but not limited to investment incentives, government was able to leverage consumer capacity to drive technological learning and cost reductions in these industries, gradually nursing them to scale [Lauber V. &amp; Jacobsson, S. (2015)].</p> <p>Other evidence sources are:</p> <p>Morris, C., Jungjohann., (2016) Energy Democracy, Germany's Energiewende to Renewables.</p> <p>Seyfang, G., Longhurst, N., (2015) discusses what influences the diffusion of grassroots innovations for sustainability.</p> <p>Heiskanen, E., et al (2010) discusses the role of low-carbon communities as a context for individual behavioural change.</p> <p>IRENA Coalition for Action. 2018. Community energy: broadening the ownership of renewables.</p>
	<b>Gaps in Evidence</b>	We lack New Zealand-specific evidence on the potential impacts of community energy projects. In particular, we need to gather evidence on the opportunities and barriers created in NZ's unique energy settings (e.g. our market regulation and pricing systems, effects of geography and climate on renewable energy generation options) to assess whether the benefits recorded in other countries are replicable in this context.
	<b>Assumptions</b>	We are assuming that funded projects will generate meaningful information that leads to innovative insights.
	<b>Implications</b>	This is an innovative, early-stage initiative, We would aim to "learn though doing", carefully evaluate the costs and positive impacts of projects on an annual basis and use this to guide future investment, and to publicly share information for those wishing to do their own projects.

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

<b>Affordable and reliable energy to target communities</b>	<b>Description</b>	<p>The goal is to achieve a material reduction in the costs of energy to target communities, and enable a reliable supply of renewable energy. The Key Living Standards Framework domains relevant to this initiative are:</p> <p><b>Primary domain: our individual and collective wellbeing:</b></p> <ul style="list-style-type: none"> <li>• <b>Health</b> – affordable energy should lead to warmer household temperatures, which has significant health benefits</li> <li>• <b>Engagement and voice</b> – empowering communities to participate in energy projects</li> <li>• <b>Housing</b> – improving the warmth and health of homes.</li> </ul> <p><b>Secondary domain: Our institutions and governance</b></p>
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## BUDGET SENSITIVE

		<ul style="list-style-type: none"> <li>• <b>Whanau, hapū and iwi</b> – working with Māori communities on community energy projects.</li> <li>• <b>Central and local government</b> – building government’s knowledge base on the optimal means to invest in and deploy energy hardship and climate change initiatives</li> </ul> <p><b>Secondary domain: The wealth of Aotearoa New Zealand</b></p> <ul style="list-style-type: none"> <li>• <b>Natural environment</b> – contributing to New Zealand’s climate change response, developing energy projects with a light environmental footprint.</li> <li>• <b>Social cohesion</b> – building trust and cooperation between community groups to develop projects.</li> </ul>
	<b>Quantification</b>	We have not yet quantified the goals at this point, as this is an innovation pilot that builds our understanding of what is possible. The scheme assessment criteria would set out target goals for assessment of projects – for example the minimum energy costs savings required for investment in a project.
	<b>Timeframes</b>	The goal will be realised in the short term (<5 years), as this should be ample time to deploy projects and see the benefits.
	<b>Evidence and Assumptions</b>	As noted above, we lack NZ-specific evidence on the costs and benefits of community energy projects. This initiative aims to build the evidence base. A key assumption is that community energy projects will have a material impact on energy affordability and reliability.
	<b>Implications</b>	This is an innovative, early-stage initiative, We aim to “learn though doing”, carefully evaluate the costs and positive impacts of projects on an annual basis and use this to guide future investment, and to publicly share information for those wishing to do their own projects.
<b>Energy system innovation</b>	<b>Description</b>	<p>This initiative seeks to improve knowledge on the costs, benefits, impacts and ideal deployment scenarios for community energy projects.</p> <p>The key Living Standards Framework domain is:</p> <p><b>The Wealth of Aotearoa New Zealand</b></p> <ul style="list-style-type: none"> <li>• <b>Intangible capital / knowledge/based capital</b> – this initiative will evaluate the development, operation and impacts of community energy projects. This information will grow government and community knowledge on community energy projects, to inform and optimise future investment in the sector, as per the evaluation questions listed in Sections 3C and 3D above.</li> </ul>
	<b>Quantification</b>	We have not yet quantified the goals at this point, as this is an innovation pilot that builds our understanding of what is possible. The scheme assessment criteria would set out target goals for innovation gains – for example favouring novel and innovative projects for funding.
	<b>Timeframes</b>	This initiative would result in a mix of short and medium goals. In the short term there will be some quick knowledge gains on project impacts, but it may take longer (up to ten years) to understand the longer-term lessons around operation and ongoing success of projects.
	<b>Evidence and Assumptions</b>	As noted above, we lack NZ-specific evidence on the costs and benefits of community energy projects. This initiative aims to build the evidence base. A key assumption is that community energy projects will have a material impact on our innovation knowledge base.
	<b>Implications</b>	This is an innovative, early-stage initiative. We would aim to “learn though doing”, carefully evaluate the costs and positive impacts of projects on an annual basis and use this to guide future investment, and publicly share information for those wishing to do their own projects.



## BUDGET-SENSITIVE

Section 3F: Distributional Analysis							
<b>Question 1: Does the initiative have the following types of distributional impacts for Māori?</b>	A	Direct	<b>X</b>	Indirect		No Impact	
	B	Targeted and tailored for Māori		Disproportionate positive impact	<b>X</b>	Other ( <i>explain</i> )	
	It is likely that a number of Māori communities will engage with this initiative, which will provide positive impacts to those involved in projects.						
<b>Question 2: Does the initiative have the following types of distributional impacts for Pacific Peoples?</b>	A	Direct		Indirect	<b>X</b>	No Impact	
	B	Targeted and tailored for Pacific Peoples		Disproportionate positive impact		Other ( <i>explain</i> ) Impact depends on what projects are funded	✓
	It is possible that Pacific communities will engage with this project – in which case positive impacts would accrue to those involved in projects (which is why it is classed as indirect).						
<b>Question 3: Does the initiative have the following types of distributional impacts for children?</b>	A	Direct	<b>X</b>	Indirect		No Impact	
	B	Targeted and tailored for children		Disproportionate positive impact	<b>X</b>	Other ( <i>explain</i> )	
	Children are disproportionately affected by energy hardship and unhealthy living conditions. Children living in communities supported by this fund will therefore strongly benefit from projects that can reduce energy costs and result in warmer, healthier homes. Funding could be targeted towards households and communities with children and other residents vulnerable to energy hardship.						
<b>Question 4: Does the initiative have direct impacts on any other population groups?</b>	Y	The initiative could be targeted to population groups/communities in energy hardship, including 'surge' regions prioritised for regional development funding.					
<b>Question 5: What region is this initiative expected to impact?</b>	<b>X</b>	<i>All of New Zealand</i>		<i>Gisborne</i>		<i>Northland</i>	<i>Tasman</i>
		<i>Areas outside regions</i>		<i>Hawke's Bay</i>		<i>Offshore</i>	<i>Waikato</i>
		<i>Auckland</i>		<i>Manawatu-Whanganui</i>		<i>Otago</i>	<i>Wellington</i>
		<i>Bay of Plenty</i>		<i>Marlborough</i>		<i>Southland</i>	<i>West Coast</i>
		<i>Canterbury</i>		<i>Nelson</i>		<i>Taranaki</i>	

## Section 4: Alignment

### Section 4A: Strategic Alignment

<p><b>How does this initiative link with your strategic intentions/statement of intent?</b></p>	<p>This initiative aligns with MBIE's purpose of 'Grow New Zealand for all', building on key elements of the outcomes framework including:</p> <ul style="list-style-type: none"> <li>• Prosperous and adaptable people, sectors and regions</li> <li>• Value is sustainably derived from the natural environment</li> <li>• A dynamic business environment fostering innovation and international connections.</li> </ul> <p>MBIE has developed this initiative in close collaboration with EECA. This initiative aligns with EECA's strategic purpose of: <i>Mobilise New Zealanders to be world leaders in clean and clever energy use</i>, and the purpose of the EECA Act: <i>to promote, in New Zealand, energy efficiency, energy conservation, and the use of renewable sources of energy</i>.</p>
<p><b>Does this initiative link with other sectoral or whole-of-government strategies (e.g. the Pacific Wellbeing Outcomes Frameworks)?</b></p>	<p>This initiative supports the implementation of Emissions Reduction Plans under the Climate Change Response Act – supporting a just transition to a low emissions economy. This initiative also contributes to New Zealand's energy hardship and child poverty strategies.</p>
<p><b>Does this initiative impact other agencies directly or indirectly? If so, how?</b></p>	<p>This initiative will impact directly and indirectly other government agencies involved in energy innovation, energy hardship, and housing areas – primarily through the need to collaborate on the delivery of complementary and overlapping interventions (e.g. EECA's Warmer Kiwi Homes programme).</p>

### 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 COVID-19
- 3) Laying the foundations for the future, including addressing key issues such as our climate change response, housing affordability and child poverty

<p><b>Alignment to Government goals</b></p>	<ul style="list-style-type: none"> <li>• <b>Accelerating the recovery and rebuild from the impacts of COVID-19</b> - This initiative stimulates investment in firms and communities involved in the renewable energy sector, and direct investment in New Zealand communities pursuing community energy projects.</li> <li>• <b>Laying the foundations for the future, including addressing key issues such as our climate change response, housing affordability and child poverty</b> - This initiative supports our climate change goals through promoting innovation in the energy system, and assisting a just transition for communities affected by climate change, through lower energy costs and increased resilience to natural hazards.</li> </ul>
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### 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.*

## BUDGET-SENSITIVE

### Contribution to Wellbeing Objective(s)

This initiative directly supports the **Just Transition, Physical and Mental Wellbeing** and **Child Wellbeing** objectives, through:

- lower energy costs and greater resilience to natural hazards for target communities (e.g. storm or flood events that may interrupt electricity supply)
- lower energy costs and a more resilient energy supply can have direct effect on household heating and temperature – leading to improved health outcomes.

**This initiative indirectly supports the Māori and Pacific objective**, through

- lifting Māori and Pacific incomes, skills, and opportunities, including through access to affordable, safe, and stable housing for those communities that are supported in the fund.

Section 5: Delivery

**Section 5A: Fit with existing activity**

*The answer must not exceed 1-2 paragraphs.*

<p><b>How does the initiative link with existing initiatives with similar objectives?</b></p>	<p>This bid is complementary to a suite of other initiatives and services aimed at increasing energy affordability and healthy homes. There are opportunities to align funding in this initiative with other initiatives – for example implementing Warmer Kiwi Homes funding for insulation in a community with a community energy project, or combining a community energy scheme with government support for Māori housing development.</p> <p>Existing services and initiatives include:</p> <ul style="list-style-type: none"> <li>• Māori housing initiatives– e.g. various funds of the MAIHI programme</li> <li>• The Warmer Kiwi Homes programme – subsidising heating and insulation costs for owner-occupiers</li> <li>• Winter energy payment – an extra welfare payment to help with the cost of heating homes over the winter months</li> <li>• The MBIE Supporting Energy Education in Communities programme, which includes funding for to build and expand the network of community-level energy education services</li> <li>• The Public and Māori Housing Renewable Energy Fund</li> </ul>	
<p><b>Is the initiative an expansion or a cost pressure for an existing initiative?</b></p>	<p>Y</p>	<p>This initiative expands the scope of the existing Public and Māori Housing Renewable Energy Fund, by enabling a wider range of communities to be eligible for funding, and larger projects to be funded.</p>

## BUDGET-SENSITIVE

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)					Total					
	2021/22	2022/23	2023/24	2024/25	2025/26 & outyears						
Existing funding for this/similar initiatives	3.000	4.000	5.000	n/a	n/a	12.000					
Total funding sought for this initiative	Confidential advice to Government										
% change between existing funding and funding sought	Confidential advice to Government										
Comments (optional)	The Māori housing component of the existing Public and Māori Housing Renewable Energy Fund (funding levels referenced above) provides funding to Māori organisations and communities for development of renewable energy projects. The projects funded under the Public and Māori Housing Renewable Energy Fund are Confidential advice to										
	Capital Funding profile (\$m)										Total
	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
Existing funding for this/similar initiatives											
Total funding sought for this initiative		Con									Con
% change between existing funding and funding sought		n/a									
Comments (optional)											

### 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 has been costed as a new standalone function delivered by MBIE. Confidential advice to Government										
Input – Operating	Funding profile (\$m)					Total					
	2021/22	2022/23	2023/24	2024/25	2025/26 & outyears						
<b>Input Information</b>											
Grant funding		Con									
External engagement costs		Con									
Evaluation		Con									
Other costs (incl grant admin system)		Con									
FTE-specific Input Information (if applicable)											

## BUDGET-SENSITIVE

New FTE funding			Con								
New contractor funding											
Additional FTE overhead funding			Con								
<b>Total</b>			Con								
<b># of FTE's (employees and/or contractors)</b>	Confidential advice to										
<b>What's the % increase in FTE compared to baseline FTE numbers</b>	Currently, 1.5 FTE work on the Maori housing component of the Public and Maori Housing Fund (which is closest in nature to this initiative). An additional CFTE would represent a Con increase for the two financial years in which the two initiatives would overlap.										
	<b>Funding profile (\$m)</b>										<b>Total</b>
<b>Input – Capital</b>	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	
		Con									
<b>Total</b>		Con									Con
<b>Appropriations</b>	A new appropriation would be established.										

### Section 5C: Options analysis

<b>Options analysis</b>	<ul style="list-style-type: none"> <li>A key barrier to community energy projects proceeding is a lack of access to funding mechanisms to meet the high up-front costs. There are no other government funding mechanism for such projects, nor a mature private/philanthropic sector funding market.</li> <li>Reprioritisation of funding is not possible because there are is no suitable appropriation for delivery of this fund, nor is there a suitable quantum of funding available for reprioritisation.</li> <li>There are a number of different government-related energy interventions that would support some outcomes of this initiative. For example, insulation or energy education initiatives can contribute to improved energy affordability. However, these initiatives cannot substitute this bid's unique focus on community-based energy generation, nor address security of supply issues.</li> </ul>
<b>Counter-factual question</b>	<p>Given there are no reliable alternative funding sources for community energy projects, the implication of not funding this initiative is that potential community energy projects will not proceed – deferring the potential various benefits.</p> <p>In the absence of this initiative, departments would continue to implement other work around energy hardship, such as Warmer Kiwi Homes, the SEEC programme funding and the Energy Hardship Expert Panel.</p>

### Section 5D: Scaled option

<b>Option overview</b>	<p>This bid is highly scalable – i.e. the quantum of funding simply increases or decreases the number of projects that could receive funding.</p> <p>Given that community scale projects will need to be relatively large in scale to maximise impacts, and there will be a high demand for funding, we consider a 'de minimus' funding amount is <b>Confide</b></p> <p>The administrative and engagement costs of the initiative are unlikely to change in direct proportion the amount of grant funding, because a high degree of community engagement will be required no matter what the size of the fund.</p>
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## BUDGET-SENSITIVE

*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.*

<b>Formula and Assumptions</b>	This option assumes a lower level of FTE resourcing, and trims other costs (e.g. external engagement and evaluation) to enable a material amount of funding to be available for grants.										
	<b>Operating Funding profile (\$m)</b>										
<b>Input - Operating</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26 &amp; outyears</b>					<b>Total</b>	
Grant funding	Confidential advice to Government										
External engagement costs											
Evaluation											
FTE and overheads											
Other costs (incl grant admin system)											
<b>Total</b>											
	<b>Capital Funding profile (\$m)</b>										
<b>Input - Capital</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>25/26</b>	<b>26/27</b>	<b>27/28</b>	<b>28/29</b>	<b>29/30</b>	<b>30/31</b>	<b>Total</b>
		Con									Con
<b>Total</b>											Conf
<b>Appropriations</b>	A new appropriation would be established for this initiative.										

### Section 5E: Monitoring and Evaluation

**Conf** has been allocated to scheme evaluation. This would include appointment of an expert independent scheme evaluator.

Monitoring and performance reports would be negotiated for individual projects – e.g. milestone reports for project development as suits the timeframes and circumstances on different projects. Project impact reports would be required annually from completed projects so see the impacts of community energy projects across annual seasonable variations.

Summary reporting information include performance measures such as:

- number of projects completed
- number of households and people benefitting
- quantification of energy system impacts – e.g. energy generation and savings, effects on power bills
- qualitative householder experience surveys – e.g. interviews, households sensor data
- information on the frequency and duration of power outages
- innovation evaluation reports – e.g. case studies, quantification of costs and benefits.



## BUDGET-SENSITIVE

### Section 5F: Implementation readiness

<b>Workforce: Are additional FTEs or contractors required?</b>	<p>Y – estimated C O FTE</p>	<p>The key skills required include:</p> <ul style="list-style-type: none"> <li>project management/fund administration expertise</li> <li>community engagement</li> <li>energy policy sector knowledge.</li> </ul> <p>We estimate a high level of interest in these roles, and there are synergies with other work in government, including the Public and Māori Housing Fund and EECA energy funds, which will lead to greater transferability of skills between these projects if required. In the event that in-house resources are hard to recruit, there is the opportunity to partner with the community energy sector on some key project tasks (e.g. scoping projects, community engagement).</p>
<b>Workforce: Resourcing considerations</b>	N/A	
<b>Timeframes</b>	<p>Confidential advice to Government</p> <p>A key dependency for project delivery is COVID-19 related global supply chain issues for relevant equipment (e.g. solar panels, batteries).</p>	
<b>Delivery Risks</b>	<p>The key risks are:</p> <ul style="list-style-type: none"> <li>A lack of suitable projects / applicants. This risk would be mitigated by close engagement with the community sector to identify suitable projects and support their development. We also consider there is a significant pipeline of projects identified through work on the Public and Māori Housing Renewable Energy Fund, and a number of potential projects have been identified by the Community Energy Network. If not many projects are 'shovel ready' in short course, allocation of the fund could be 'back-loaded' to the final two years.</li> <li>Project failure risk. This risk would be mitigated by close engagement with project partners, and direct support to overcome problems as they arise.</li> </ul>	
<b>Market capacity</b>	<p>There are a limited number of firms in New Zealand that specialise in the design and operation of the projects anticipated under the initiative. We do not consider this is a risk to project delivery because a relatively small number of projects would be funded.</p>	
<b>Previous delivery experience</b>	<p>Other relevant initiatives include the Public and Māori Housing Renewable Energy Fund, and other EECA and MBIE funds such as GIDI and SEEC. Key lessons relevant to this initiative include:</p> <ul style="list-style-type: none"> <li>the importance of having the right funding infrastructure in place up front to reduce administration costs – e.g. stakeholder and invoice management systems</li> <li>community/Māori groups will take some time to scope and develop projects – government needs to support them and let them progress at their own pace</li> <li>the importance of clear eligibility and assessment criteria to ensure an open and transparent process for allocation of funding.</li> </ul>	