

Initiative summary – Enhancing energy resilience for New Zealand communities through distributed renewable energy

Basic initiative information										
Initiative title (max 120 characters)	Enhancing energy resilience for New Zealand communities through distributed renewable energy									
Lead Minister	Energy and Resources.	Agency	MBIE							
Initiative description (max 800 characters)	<p>This initiative provides funding for community-based renewable energy and energy resilience projects, including grants for project development costs and fund implementation costs. The main components are:</p> <ul style="list-style-type: none"> \$30m funding boost to the Community Renewable Energy Programme to help lower energy costs and build greater resilience to natural hazards for target communities (e.g. storm events that may interrupt electricity supply). This would be delivered through collaboration with target communities. \$5m per annum in innovation funding for deployment of small scale distributed renewable energy and demand response to act as ‘virtual power plants’ to help manage peak network demand and improve network resilience. This funding would be driven through partnerships with firms offering these services. 									
Priority area	<input checked="" type="checkbox"/> New Spending – Invited operating initiatives	<input type="checkbox"/> New Spending – Invited capital initiatives (outside the Investment Panel process)	<input type="checkbox"/> Climate Emergency Response Fund (CERF)	<input checked="" type="checkbox"/>						
Is this a cross-Vote initiative?	No									
Summary of funding profile										
Operating funding sought through Budget 2023 (\$m)										
2022/23	2023/24	2024/25	2025/26	2026/27 & Outyears	Total					
-	9.839	13.389	13.441	13.483	50.152					
Capital funding sought through Budget 2023 (\$m)										
22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	Total
-	0.006	0	0	0	0	0	0	0	0	0.006

Proposed policy

- NZ's electricity system is based around large grid-scale generation, often far from the point of consumption. Some communities, particularly those in remote areas and islands, do not have reliable access to affordable energy. For example, some communities are not connected to NZ electricity grid, while others may be at high risk of energy outages from natural hazards such as earthquakes, storms, and floods.
- Renewable energy generation close to the point of consumption can significantly reduce energy costs and support community resilience. Additionally, some remote NZ communities have the highest energy prices in NZ and are most exposed to severe weather events that can cause power outages, which will become higher risk and more frequent with climate change.
- This initiative has two components. The first is the expansion of the Community Renewable Energy Fund programme (an additional \$30m over four years) to provide grants/co-funding for small-scale community-based renewable energy projects This would still be focused on low-income communities and those with insecure energy access.

4. The second component of this initiative is an innovation investment of \$5m per year. This would fund the provision of community and household-scale distributed renewable energy with demand response capability (e.g. solar and battery arrays on households that are connected via internet). These may have the ability to act as 'virtual power plants' to help manage peak network demand and improve network resilience. To achieve the described wider public benefits, any mechanism to support the installation of batteries should ensure the technology is 'smart enough' to allow the owner to permit interoperability and visibility.
5. The key difference between this and the first component is the demand management capability of the provider. The investment would not be focused on specific communities, it could involve, for example, multiple single households with batteries acting in a coordinated network. This requires overcoming significant coordination challenges among households, electricity distribution businesses, retailers etc. The aim of this component is to both deliver real peak shaving benefits, and to help prove the concept by addressing these barriers so that it is easier for the market to deliver more similar projects in future.

Design and implementation considerations

Scope

6. The scope of the resilience component will be aligned with the existing Community Renewable Energy Fund. There is capacity to target it to geographic regions if that makes the most sense.
7. The innovation path would not be targeted to a particular region or recipient group necessarily, as it may restrict the ability of potential providers to create viable offerings. We would have to consider how the grants might best be targeted (i.e. would we require grants for equipment specifically to go to households or communities in a particular deprivation index level) given it will be public money for the purchase of equipment and delivery of operational services. We recommend setting high level policy objectives and running an open procurement process to understand what is feasible.

Delivery agency and timing

8. MBIE would administer the funding – with the Community Energy Fund ramping up slightly after year one. We expect we would hold multiple rounds of procurement over the forecast period. 9(2)(g)(i)

Market capacity

9. There are a range of market providers that can deliver the smaller scale resilience projects around the country (such as solar and battery systems). We have heard anecdotally that the sector expects solar and battery prices to begin coming down again in the next few years as global supply chains free up.
10. There are a few market operators able to deliver the distributed generation and demand response options under the innovation component. MBIE will undertake a procurement process to ensure good value for money and fair opportunity.

Māori / treaty implications

11. The Community Renewable Energy Fund delivers projects in concert with many iwi / Māori groups already. We anticipate that these groups will continue to be a source of demand for the fund's resilience support.

Value for money

12. The types of resilience projects that the fund would target provide two value propositions; reduced instances where communities lose power, and reduced energy costs for communities that are also typically lower income. In the time available we have not had an

opportunity to estimate savings costs and benefits numerically. However we expect they would be similar to the existing Māori and Public Housing Renewable Energy Fund projects, as there appears to be a significant level of unmet demand. The market is not likely to deliver these projects for isolated and vulnerable communities because of a combination of low-income buyers, coordination failures, and uncertainty.

13. The innovation path has the capacity to demonstrate the potential of distributed demand response, and further stimulate the demand response market. There are also system level benefits that come from marginally reducing peak loads.

High level costings / cost breakdown (operating)

	23/24	24/25	25/26	26/27 & Outyears	Totals
Community Energy Renewable Fund (grants)	\$4.0m	\$7.5m	\$7.5m	\$7.5m	\$26.5m
Innovation pathway (grants)	\$5.0m	\$5.0m	\$5.0m	\$5.0m	\$20.0m
Administration (including additional 2 FTE)	\$0.839m	\$0.889m	\$0.941m	\$0.983m	\$3.652m
Total	\$9.839m	\$13.389m	\$13.441m	\$13.483m	\$50.152m

Next steps and further work needed

14. The Community Renewable Energy Fund is an existing programme. To add these additional components and expand the delivery of it will require some scaling up and consideration of the best approach for targeting.
15. The work will also need to progress alongside the Cyclone Recovery Taskforce work to avoid investing in stranded assets / complicating recovery efforts.
16. We still need to identify the best possible procurement approach for delivering the innovation path.