

Submission On:	Accelerating Renewables Discussion Paper
From:	Community Energy Network
Date Submitted:	27 February, 2020

1. Introduction

Community Energy Network (CEN) is made up of 18 members throughout the country who are deeply committed to improving the health and resilience of their communities. Our members are all charitable trusts and community/social enterprises that, amongst other programmes provide a healthy housing and other energy services. Over the past 15 years CEN members have insulated more than 110,000 homes, funded primarily through the Warmer Kiwi Homes programme (and previous versions). CEN members have also been very successful in cultivating long term relationships with community based third party funders who have contributed substantial additional funds towards WUNZ, significantly extending the number of homes insulated.

CEN is now leveraging this extensive network and widespread trust in our members to develop a programme that is focused on supporting communities to develop their own renewable energy projects. This support will include technical design of community owned generation (and storage), negotiation with utility and retailer organisations, and enterprise organisation/management. CEN is working with other stakeholders on an early pilot project in the Waikato. Unlike other community energy projects in New Zealand, that we are aware of, the goal of this pilot is to establish the systems and services that will be available to support any community to engage in and own their energy generation, storage and management assets.

The key outcomes for CEN are:

- Improving the lives of vulnerable families through genuine community engagement and reach.
- Delivering effective energy solutions for warmer homes, job creation and healthier communities.
- A charitable organisation working for good, not profit - providing services which are transparent and fully accountable to the communities we work with and our funders.

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2. Overall Comment on Discussion Paper

CEN strongly supports many aspects of this discussion paper especially regarding the need to improve engagement in the energy sector to all parts of our society.

A core theme for CEN is that all of Government should recognise the link between energy efficiency, community renewable energy, and the *Just* transition to a low carbon economy. In our view a truly just transition implies an elimination of energy hardship. Solar power systems will not be as effective as they should be if the households use too much energy (e.g. for heating and cooling). Dwellings must be energy efficient if solar power and community energy projects are to improve life for low income families.

CEN acknowledges that community energy, as a tool for increasing renewables, addressing energy hardship and increasing resilience, is at the very early stages of development in New Zealand Aotearoa and that the Government is considering whether or not it is a cost effective mechanism to create the impacts required to meet national and international targets. Using community energy has a tool for achieving locally generated solutions across these work streams is an achievable goal provided there is a cohesive strategy across Government (such as the response to the Energy Price Review, energy efficiency and health interventions such as the Healthy Homes Initiatives and Warmer Kiwi Homes, and the Just Transitions Unit work) to encourage and support communities to engage in renewable energy projects.

We have highlighted some of the areas of this document that have not identified or underestimated the value of engaging communities, usually in favour of engaging individual 'consumers' or working with large incumbent institutions. If the opportunities of engaging with communities was better understood and valued this would have a large positive impact on how effective the 'just' aspects of accelerating renewable generation.

Policy documents such as 'Switched On; Achieving a green, affordable and reliable energy future', written for the ICCC in March 2019, provide excellent analysis of the changes required within the electricity sector from an economic and infrastructure viewpoint, but fail to discuss any aspect of how people/communities are supposed to engage in what will undoubtedly be a highly disruptive and technical transition. For example, CEN has yet to read a recent document regarding the energy sector that places any real emphasis (when compared to infrastructure) on the ability to develop an effective

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approach to education across all parts of society, regarding energy efficiency as well as renewable energy. This discussion would be greatly enhanced if the Government took a whole of community perspective as opposed to splitting sectors such as industry, investors, consumers and generators – our communities include all these groups.

We accept that many of the submission points below will come across as repetitive but we have done this to highlight the issue that people and their communities are more than ‘consumers’ and that Government should recognise the value of harnessing a community first approach.

We note that some renewable energy systems, such as solar, require changes in behaviour (as well as the adoption of storage technology that is perhaps not quite ready to be economically deployed at a large community scale) to maximise their potential. In the solar example, people will maximise the value of this type of generation only if they change their behaviour to use energy at different times of the day. We would suggest that small price signals will not be overly effective in achieving this behaviour change. It will almost certainly require a range of incentives; some will be financial while others will need to directly reflect the social and environmental values of a community. These values are best identified and developed through deep engagement with each community.

Submissions points

Section	Discussion
1. Introduction	<p>1. The Energy Transition The first sentence of this section states that “The package of policies that will enable the energy transition will affect technologies, natural resources, infrastructure, markets and institutions. This should also include mention of society and communities.</p> <p>2. Co-benefits of transition to a low emissions economy The bullets under this section highlight the secondary benefits from achieving a low emissions economy. This should also include a regional and local increase in resilience to climate change impacts. The focus on economic and energy sector infrastructure</p>

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	<p>marginalises what should be a stated core outcome for this work, which is a range of beneficial impacts on the wellbeing of people in their communities.</p> <p>With these impacts not mentioned here, there is a decreased ability to influence other aspects of Government decision making, such as ensuring there is adequate resourcing for measuring the impact on our wellbeing – through reduction of energy poverty for example.</p> <p>3. Renewable Energy Strategy work Programme</p> <p>The first and third bullets in this section put the emphasis on outcomes relating to the ‘consumer’. Again, this approach ignores that fact that the ‘consumer’ is a part of a community with a large network of ongoing and deep interactions that could and should be harnessed to further the goals of this strategy.</p>
<p>Introduction to Part B</p>	<p>There is considerable emphasis on the value of transitioning to renewables to reduce our carbon footprint. CEN agrees that this is a critical focus. As well, the resilience of communities to future climate change impacts that have already been locked in should also be recognised. For example, local generation and storage could have a large positive impact on local resilience if/when network infrastructure has been damaged or is otherwise disconnected. There are several assumptions and implications to that statement. One of these is that utilities and communities will need to work together closely to develop systems and infrastructure that meets their needs. It appears to CEN that in most cases/regions neither utilities or communities have the capability or capacity to develop this sort of relationship. We think that the Government is best placed to support the development of these relationships through resourcing organisations that can provide these skills and in policy changes, some of which are discussed below.</p>
<p>Section 7</p>	<p>Proposal 7.1</p> <p>In principle, CEN is very supportive of a review and rewrite of aspects of the RMA to facilitate a smoother consenting process for renewable projects. Blueskin resilient Community Trust is a member of CEN and so we were involved in the case study provided on page 58. The costs and timeframe for regulatory approval (in this case declined) is especially onerous on smaller community energy</p>

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	<p>projects. Clear and consistent guidelines would have assisted Blueskin Energy in assessing the likelihood of success in implementing this project. We strongly support the revision of the NPS-REG.</p> <p>Note that CEN has read Blueskin Energy Ltd’s submission and fully supports all points made in their analysis of Section 7. CEN is of the opinion that both solar and wind technology, as a minimum, will be required to be part of a community energy sector suite of platforms – we expect that many communities will want to use both over time.</p>
<p>Section 8</p>	<p>Option 8.1 Introduce PPA Platform</p> <p>CEN supports the idea of using PPAs to encourage investment in community energy projects especially in regard to how this approach could help create a useful impact investment market, be they private or philanthropic. These investors will be accepting a lower return based on a return of social and environmental outcomes being measured and reported. In our recent work, CEN members have already received some positive interest from some regional philanthropic supporters in this regard.</p> <p>Being able to negotiate a PPA and therefore ensure that debt is repaid on time would also allow a community to plan and implement projects that are directly focused on reducing energy poverty in their area. This is a significant added benefit to that community and to Government agencies that are providing social services to those people. As well, in projects where the majority investors are either community members or a community organisation(s) with clear rules around distribution of profits for community good, the net benefits are retained within the community. For these reasons alone, there is a broad benefit for Government to adopt Option C.</p> <p>The discussion includes a comment about how the PPA would be used for solar farm projects in that the demand and generation profiles, especially at the start (before behaviour changes have occurred) would not align well. This could be offset either partially or completely with installation of large storage infrastructure. At this stage we consider this is probably uneconomic but also something that should be adopted as soon as possible. CEN suggests that the Government explore opportunities for PPAs to be used to enable projects with a large R&D component involving large scale batteries.</p>

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Question 8.3

CEN expects that the CE projects we are involved in will include the local utility and a retailer that is willing to work closely the community involved. In that way the mismatch in generation and demand can be managed by the utility. CEN is requesting that Government consider the best mechanisms to ensure utilities are willing and able to engage in these types of negotiations in a fair and equitable manner. As the number and scale of CE projects increase, we would expect the need for adoption of different generation and demand management technologies alongside large scale storage to ensure the profiles are aligned.

Demand Response

From our perspective there are two approaches to DR in residential/community CE projects. The first is actively encouraging behaviour change through education and price incentives. The Peer 2 Peer system being trialed by Blueskin Energy is a good example of that. While very supportive of the behaviour change approach to DR, CEN believes that this approach should be conducted in parallel with demand management technology that controls aspects of each home (with the permission of the homeowner/renter). Again, this could have the potential of supporting community-based energy hardship initiatives if the community itself was able to implement these tools in partnership with the utility and retailer.

Option 8.3

CEN strongly supports the outcome of large-scale improvement in the efficiency of our homes. As a way of focusing the resources, CEN suggests that this type of intervention firstly targets communities with a high energy hardship rate. There would need to be housing performance assessments made and a commitment to ensure that people receiving efficient heating, lighting, essential appliances and insulation knew how to use them properly.

There may also be an assumption in the current analysis that if households receive more effective and efficient heating, lighting, etc then the household energy demand will reduce. This may not be the case where energy spend is restricted by the impacts of poverty

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and the home is performing well below healthy levels before the intervention. In this scenario the energy use may remain the same with the only (but very significant) impact being a warmer, dryer and healthier home.

While the outcome of a healthier home is probably outside the scope of this discussion document, it is still very relevant to broader picture and is a core focus of CEN member programmes. CEN notes that this is a topic discussed at length in the Electricity Price Review. CEN submits that these two issues should not be separated as they are so closely linked that any decisions based on just one of these issues is likely to have unintended or at least unplanned consequences on the other.

Question 8.11-13

Our experience is that investment from retailers and lines companies in energy efficiency interventions on domestic scale is negligible. This includes both generic energy efficiency interventions and those that target vulnerable households. In contrast, Energy Company Obligations (ECO) in the UK deliver the majority of energy efficiency/fuel poverty interventions that deliver on the UK’s fuel poverty strategy. Mandated requirements for retailers and distributors, in our view, is the best means for delivering benefits at scale.

The response of retailers and lines companies to date with regards to the Electricity Price Review recommendations have been underwhelming and in some cases counter-productive to energy efficiency goals (e.g. support for dropping the Low User Tariff). Businesses constituted to deliver benefits to their shareholders (including government) are not well placed to voluntarily deliver efficiency or social or environmental goals that may affect their bottom line. We believe that direct regulation or the threat of direct regulation with clear KPI’s for efficiency interventions will yield a step change in household efficiency, health outcomes and demand reduction benefits.

Our members work across a wide range of demographics from upper to lower-income households. As stated above, through analysis from surveys and interventions in households experiencing energy hardship we reiterate that “efficiency” interventions may not move the demand needle as the homes are already chronically overheated. However, the opportunity for improving efficiency across each

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	household, for example hot water cylinder upgrade, insulation, heat pumps to replace plug-ins, low-flow showerheads, and in-house education can realise higher in-home temperatures for a similar outlay.
<p>9: Facilitating local and community engagement in renewable energy and energy efficiency</p>	<p>1. Benefits and costs of community energy projects</p> <ul style="list-style-type: none"> ○ Economic impacts: <ul style="list-style-type: none"> ▪ Support first paragraph, especially for the recognition of the multiplier effect of buying local. This could provide a very useful economic measurement of increased community wellbeing. ▪ Support second statement about increasing competition but only if community energy projects can develop projects at a suitable scale. This issue will require well directed support to grow capacity and capability in a community energy ‘sector’, which is largely unformed at this stage. CEN expects that when a community energy project is up and running in a region, and resourcing is available to enable other nearby communities to learn and adopt locally specific projects then economies of scale will be achieved. The nature and cost of negotiations with the utility, retailers, technology providers and other services such as legal could all be reduced in subsequent regionally based projects. In keeping with the community enterprise sector in New Zealand, it is highly likely that expertise from early adopters would be made available to new entrants at a lower cost than commercial providers. ▪ Tension around personal expectations of lower costs versus impact on national or regional grid costs could be ameliorated through a community approach rather than individual households. Our opinion is that many wealthier individuals will be willing to engage even though they may get no added financial value, provided they can see tangible benefits flowing into other parts of their community. That this concept is contrary to the dominant economic theory is not lost on CEN. This position is based on conversations our members have in their communities. ○ Social Impacts:

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	<ul style="list-style-type: none"> ▪ The first paragraph should include recognition of providing a pathway to increased resilience in the face of ‘wicked issues’ such as Climate Change. Alongside energy hardship, CEN believes this is the most important benefit of these types of projects (mitigation is critical, but we have already locked in a series of climate change impacts over the next decades that will require resilience to overcome). Noted here that resilience is not just about surviving the negative impacts of Climate Change but also identifying and making the most of opportunities as well. ▪ The risks mentioned in last paragraph around slow decision making and increased development time and costs are a fair concern. However, CEN believes that the increased engagement, over a long period (decades), from community members in all aspects of their energy use vastly outweighs this early investment in time. Doing the hard mahi at the start would allow other opportunities, such as locally designed and implemented education/behaviour change programmes and energy efficiency measures, to be more effective. <ul style="list-style-type: none"> ○ Environment Impacts <ul style="list-style-type: none"> ▪ CEN accepts the discussion points made in this section. Policy settings that encourage investment and development of community energy projects will have long term impacts over a range of environmental, social and economic areas. The most significant being the reduction or elimination of energy poverty while becoming more resilient to climate change impacts over time. These long-term benefits need to be part of the discussion and recognition of these is critical to development meaningful Wellbeing measures. ○ Distribution networks and security of supply <ul style="list-style-type: none"> ▪ Agree with the comments in this section. The risk of unfair distribution of costs and benefits is a valid one. Once again, this could be fully mitigated or at least minimised if a community approach, rather than individual consumers, was supported. People living on the fringes of community energy projects (such as farmers on the
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	<p>same transmission line), who are still part of the community involved would, by definition, be included in the project.</p> <p>Questions</p> <p>9.1 New Zealand is lagging significantly behind other nations that we usually benchmark ourselves against. As mentioned in the 'Switched On' report however, this is not always a bad place to be so we can learn from where large scale interventions have created a number of unintended outcomes, such as increased costs and smaller than expected impacts of carbon footprint reductions.</p> <p>That said, there is a large untapped opportunity to provide a high level of engagement in the just transition work through developing community scale projects that are not just about cheaper energy but also increasing ability to provide meaningful education opportunities, eliminating energy poverty, and increasing local resilience to the potentially wide range of climate change shocks.</p> <p>9.2 CEN believes that the communities themselves should decide what sort of community energy project they should engage in. In broad terms, this is already the case in many communities where CEN members are providing a wide range of services relating to energy. These services have been established alongside many organisations and individuals within their communities. The appropriate expertise should be made available so that they are able to make an informed decision. This will require investment and support from Government to enable this capacity and capability development. That said, in broad terms, the use of solar and wind as generation, demand management technology and new types of large-scale battery storage would likely be the preferred types of technology.</p>
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9.3 The support of Community Energy projects should be one tool in a suite of actions. In that context, the key benefits are that communities and the individuals within them will become significantly more engaged in their energy and the wider issues (such as energy poverty, housing quality, and climate change).

Questions

9.4 CEN considers the recently released paper by Anna Berka, Julie MacArthur and Claudia Gonnelli¹ provides an excellent analysis of the issues.

9.6 CEN submits that there is a significant gap in the knowledge and systems within utilities, most retailers, other large sector stakeholders, and in many cases local government in how to genuinely engage with communities. The EA work programme described in Table 6 does not appear to include any work to meaningfully address this. One of the best first steps could be to support the development of a community energy sector/hub/network. Note that CEN is working with Dr Julie MacArthur and Dr Anna Berka to run a networking event in Auckland in November this year. One of the goals of this event is to encourage people and organisations who are interested or engaged in community energy projects to discuss the idea of establishing an independent network. This could look similar to the role CEN has for supporting community based healthy home services providers.

What are the Options?

9.1 Ensuring a clear and consistent government position on community energy issues, aligned across different policies and work programmes.

This option is a very important component to get right and is perhaps one of the most critical elements is how to foster the ‘shared ownership’ culture. Historically our experience of both local and central Government engagement around procurement of service contracts do not follow a shared ownership model. The preference is for short term, predetermined process-based

¹ Explaining inclusivity in energy transitions: Local and community energy in Aotearoa New Zealand Anna L. Berka, Julie L. MacArthur, Claudia Gonnelli; Environmental Innovation and Societal Transitions 34 (2020) 165-182

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contracts with very little ability to realign to ensure the right outcomes. Another attribute of this top down approach is these programmes often do not measure the desired outcomes from a social or environmental viewpoint – with the focus being on achieving an agreed process only.

The analysis paragraph discussing the value of alignment across Government does not include the impact on energy hardship or community resilience – it should.

Noted reference to Local Energy Scotland as a potential model for how we could develop a CE sector in New Zealand. CEN agrees that this is a robust approach. A key feature of this approach is that it is dependent on a commitment from the Scottish Government on the value of social and community enterprise.

9.3 Government supports development of a small number of community energy pilot projects

Agree with discussion in this section. Especially support recognition of the potential for broader value of CE Projects discussed here, such as resilience and health outcomes. This implies a robust impact measurement framework (that can be used in most communities) is developed over the course of these pilots. This framework should include health outcomes, energy efficiency of performance of homes, reduction of energy hardship and reduction in climate footprint.

Questions

9.7 Community energy has the potential to greatly enhance the engagement of communities throughout NZ. This engagement could be leveraged for a wide range of programmes and outcomes. Of course, the priority is around energy with regards to energy hardship and transitioning to a low carbon economy, but other sectors would benefit such as waste and recycling, supporting local businesses and biodiversity projects, and deepening local/regional partnerships. These types of local outcomes can develop other resilience based programmes and would create a positive feedback loop to support local and regional development.

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Final statements

If community energy is going to be successfully implemented in New Zealand, at scale, then a critical element of Government support is to acknowledge that communities should feel empowered to be a leader in its own growth. CEN considers that this may be a challenging concept for most Government agencies (local and central) as it would require a genuine partnership and codesign model where the financial support is not used to assume leadership of the programme. CEN acknowledges that this has several risks attached: not least being requirements for frequent adaptation of processes and models being used throughout the period of funding as well as flexibility/responsiveness around timeframes.

However, CEN considers that using the standard approach (such as the need for communities or a network hub to tender for short term process-based contracts) to support the development of a CE sector, would most likely fail or at the very least slow down progress significantly. If looking for a precedent, CEN would encourage MBIE to look at the contract and process used by the Department of Internal Affairs to work with Akina to develop the Social Enterprise Sector Development programme.

CEN looks forward to engaging with Government in the development of a cohesive and empowering Community Energy strategy and suite of actions.

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