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change

business in
community
hands

Evaluation of the Next Generation programme for Community Energy - innovation

Executive summary of Year 3 report



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About Power to Change

Power to Change is the independent trust that strengthens communities through community business. We use our experience to bring partners together to fund, grow and back community business to make places thrive. We are curious and rigorous; we do, test and learn. And we are here to support community business, whatever the challenge.

We know community business works to create thriving places when local people take ownership of spaces that matter and deliver services that communities need. Our 2021-26 strategy sets out how, using strategic funding, trusted partnerships, rigorous research, policy insight, and a strong network of remarkable community businesses we will back the sector, creating the ideas, evidence, and exemplars that make the case for others to back them too. Ultimately, we will amplify the efforts of community businesses and put them at the heart of a fair economy.

About the authors

CAG Consultants is an employee-owned co-operative with more than 30 years' experience of high-quality research and evaluation on economic, social and environmental issues, with particular expertise on evaluation and sustainable energy. www.cagconsultants.co.uk

About this summary

This document summarises findings from the Year 3 report on CAG Consultants' evaluation of the Next Generation programme. The programme was delivered for Power to Change by a consortium led by the Centre for Sustainable Energy. While the overall programme started in June 2018, CAG Consultants, in partnership with Fiveways, were commissioned by Power to Change to evaluate the Next Generation programme in April 2019. The programme aims to support the community energy sector in two ways:

- By bringing more solar farms into community ownership whilst maximising the financial, environmental and social impact for their local communities (CORE)
- By supporting the development of innovative business models for the community energy that are not dependent on Feed-in-Tariff subsidies (Innovation).

The full Year 3 report presents final evaluation findings about the innovation strand of the Next Generation programme, covering the processes used and outcomes/impacts. It also shares learning from the programme for the benefit of community groups, policy makers and other community energy stakeholders

Glossary of abbreviations used in the report

Abbreviation	Description
CE	Community energy
CEB	Community energy business
COVID	Coronavirus – COVID 19
CREW	CREW Energy
DNO	Distribution Network Operator
DSO	Distribution System Operator
EV	Electric vehicle
FCA	Financial Conduct Authority
FiTs	Feed-in-Tariff
LED	Light emitting diode (low energy lighting)
PEC	Plymouth Energy Community
PV	Solar photovoltaics
PV + EV	Solar photovoltaics with electric vehicle chargepoint(s)
RHI	Renewable Heat Incentive

Executive summary

Introduction

This paper presents CAG Consultant's 'summative assessment' for the third and final year of the Next Generation innovation programme. It presents the evaluation's overall assessment of process and impact and draws out learning to inform future work in the community energy (CE) sector by Power to Change (Power to Change) and other stakeholders.

Background

Power to Change's Next Generation programme aims to support existing community energy businesses (CEBs) to make a step change in the nature and scale of their current business. With the demise of grants and subsidy schemes such as the 'Feed-in-Tariff'¹, community energy schemes needed to pursue different approaches to ensure their ongoing sustainability. New opportunities were thought to be available through the creative use of technologies to develop commercial linkages between community businesses and their customers. Other opportunities appeared to be offered by energy storage, demand-management technologies and crowd-funding mechanisms. The Next Generation innovation programme offered an opportunity to investigate and demonstrate how community energy businesses could identify and exploit these potential opportunities and thereby capture value for local communities.

A total of 11 innovation projects received grant support from the Next Generation programme. These ranged from complex projects (e.g. community aggregation of demand side response, community-led energy systems for zero carbon homes, an electric vehicle (EV) car club, an energy service company approach for schools, and an affordable domestic solar PV scheme) to simpler initiatives (e.g. 'pay as you save' scheme for installing Light Emitting Diode (LED) lighting buildings, heat pump installations in community buildings, apps for analysis of smart meter data and EV chargepoints linked to solar photovoltaic (PV) installations).

Summary of progress

The Next Generation innovation programme generated considerable learning about innovative business models for community energy and about how CEBs can add value (e.g. acting as 'trusted intermediaries'; providing services in niches less attractive to commercial providers; being responsive to community needs and generating social value (e.g. through community benefit fund donations)). This learning was shared with the wider community energy sector. The programme also helped participating CEBs to develop in a number of different ways: building their capacity, confidence and competencies, raising their profile locally and nationally, helping them to progress project ideas, acting as a stepping-stone to

¹ The Feed-in-Tariff (FiTs) provided subsidy for renewable electricity generation. It was available for community energy installations commissioned by end March 2020. Other types of energy providers received FiTs on installations commissioned by end March 2019.

further innovation or development funding and helping them to broaden their activities from renewable electricity generation to include energy or transport services for members of their local communities.

Five groups made good progress in implementing their business models, albeit to a slower timetable than anticipated because of COVID and other external factors. They have been flexible and dynamic in responding to challenges and delivered at least some measures on the ground. A sixth group was held up by a regulatory issue but finally obtained limited permission for a viable 'pay as you save' scheme for community buildings. The viability of these business models was mixed: some are viable in certain circumstances, with most being only marginally profitable, while others would require further development or different circumstances to reach viability. The conditions for improved viability of each model (e.g. cost reductions, price increases, technical know-how, targeting, policy changes) are set out in Appendix 3 to the main report.

The five remaining groups pursued their business models as far as possible within the Next Generation programme but found that they could not proceed with implementation of measures. There were two main reasons why these three groups were unable to progress their business models: firstly, the economics of their business models were marginal; and secondly, they were adversely affected by external factors (e.g. decisions made by partner organisations and the end of the Renewable Heat Incentive (RHI) subsidy scheme). Nevertheless, these groups generated learning and developed financial models/other tools that should benefit the wider CE sector.

Success factors and challenges

Projects that made most progress were led by individuals with commitment and perseverance, who had the necessary capacity and expertise to implement the projects. The more successful projects were managed in a flexible, agile and resilient way, with lead organisations following professional standards of project management and user engagement. In these more successful projects, the lead organisations developed a clear mutual understanding of roles with partner organisations. Those projects that made most progress also tended to exhibit at least some of the following factors:

- More organisational capacity (e.g. one or more member of paid staff).
- Less complex dependencies on multiple partners.
- The business model being less innovative (and hence less risky and complex than more 'cutting edge' business models).²
- The project not being held up by external regulatory factors.

² Subject to the caveat that all the projects involved business models that were more risky and complex than the 'traditional' CE business model of FITs-supported installation of renewable electricity generation.

Those that demonstrated more impact on local users tended to be more closely engaged with their local community, responding to the needs that they were aware of through this engagement.

Our assessment of evaluation evidence suggests that the main reasons why the programme faced challenges in identifying replicable, profitable business models for community energy were:

- The choice of projects supported by the innovation programme, a few of which were dependent on time-limited subsidies.
- Cases where the organisational capacity of the CEB was a constraint (e.g. the process of gaining approval from the Financial Conduct Authority (FCA) was found to be challenging for volunteer groups that cannot offer a 24 hour complaint/support service to their credit customers).
- Factors external to the projects (e.g. changes in the level of subsidy or policy support for different types of initiative; changes in the commitment or availability of project partners).
- Some COVID effects on levels of usage within certain projects (e.g. lower than expected use of EVs during the pandemic).

Those organisations with most experience of cutting-edge innovation emphasised that real innovation involves a slow, steady journey. Innovation is particularly challenging for community benefit societies because they cannot take significant risks with funds raised from community shares or bonds. The speed of the innovation journey depended on the organisational capacity of the CEB. Some of the Next Generation groups took a participatory approach to project design and delivery, in consultation with potential local stakeholders and community members. While this meant that they were more responsive to local needs, it added to the time required.

With hindsight, it may have been unrealistic to expect Next Generation (offering up to £100k of support per project) to deliver commercial and replicable business models within 2-3 years, particularly for more innovative projects. A more realistic expectation might be that the programme would enable projects to move along a step or two in their innovation journey, with other 'successor' sources of support helping them with later stages of the journey. Support from the Next Generation programme helped several projects to obtain significant levels of funding from other sources³ for further development or roll-out of their projects.

³ In at least two cases, the follow-on funding was several times higher than the Next Generation funding.

Impact findings – Power to Change strategic outcomes

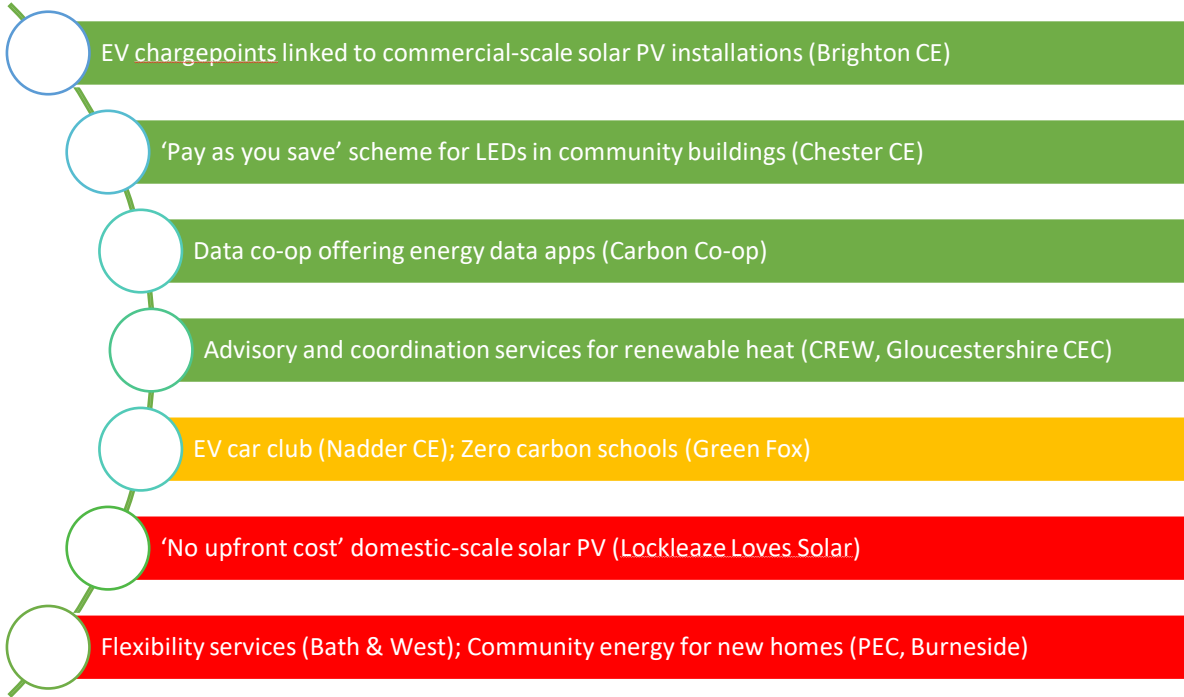
The evaluation assessed the impact of the Next Generation innovation programme in relation to Power to Change's strategic outcomes. Perhaps unsurprisingly, the projects generating most impact within the timeframe of the programme were those involving less innovative approaches. Power to Change's strategic outcomes do not fully capture the potential longer-term impacts of more innovative projects. Findings were that:

- **More impactful and resilient community businesses:** there was some evidence for all the groups researched in Year 3, including strong evidence for some groups about the broadening of their offer to include more user-facing activities.
- **Growing understanding of and support for community businesses:** there was some evidence for all but one group researched in Year 3, relating to improved relationships with external stakeholders or their local community.
- **A more diverse and inclusive sector:** there was very little evidence of this from Year 3 research, other than two groups serving some users from disadvantaged groups.
- **The contribution of community businesses to addressing society's challenges increases:** there was some evidence of a contribution to the climate challenge for all the groups researched in Year 3, with relatively strong evidence for three groups.
- **Funding and support for community businesses increases:** there was strong evidence from several groups that reported using their learning and experience from their Next Generation project as the basis for successful funding bids from other funders.
- **The Community Business Sector grows:** there was some evidence from groups that are already supporting other CEBs in learning about their emerging business models. But impact has been limited to date as few of the business models are yet viable.

Findings about the viability of specific business models

Findings about the potential viability of different business models provided important learning points for other CEBs and for funding/support organisations working with the community energy sector. Figure 1 below provides an overview of the potential viability and replicability of the business models explored by the Next Generation programme. Further details about the business models, their 'innovation journey' progress, the circumstances in which they would be viable/replicable, and the grounds on which the Red-Amber-Green (RAG) assessment were made, are presented in the main report.

Figure 1: Overall RAG recommendation on Next Generation business models



Key:

Green – 'near viable' (i.e. profitable in some contexts) and accessible by quite a wide range of CE groups

Amber – currently more tricky, but may be worthwhile for groups in certain contexts (e.g. car clubs in rural areas)

Red – require more development and/or only suitable for groups with considerable expertise, capacity and risk appetite

The diagram does not include viable business models outside the Next Generation programme (e.g. investment in larger renewable electricity projects (e.g. solar PV > 50-100 kWp on schools/businesses/halls) and domestic solar schemes targeted at 'able to pay' households).

Key learning points for policy makers, energy systems stakeholders, local authorities

Added value from CE involvement

- CEBs can add value to flexibility and energy efficiency projects as 'trusted intermediaries' who can help to engage individuals within their local communities.

- CEBs can deliver energy and transport-related services in niches that are too marginal for commercial providers.
- CEBs can help to identify and respond to community needs (e.g. responding to ‘fuel poverty’ and ‘transport poverty’ in the local community).
- CEBs can add ‘social value’ to service delivery compared to commercial providers (e.g. social objectives; surplus being contributed to community benefit funds).
- For lower risk projects, CEBs can raise capital funds via community share or bond raises.
- The level of professionalism within community energy organisations is high. This is particularly evident for groups that have paid staff. But both paid staff and volunteer directors are often experts in their fields.

Scope for partnership working

- CEBs can offer local authorities assistance in progressing their strategic objectives (e.g. Net Zero, Climate Emergency, local economic development, social engagement, fuel poverty reduction) while partnership with local authorities can contribute to income security for CEBs. For example, CEBs can be funded by local authorities or social care partnerships to provide energy efficiency or fuel poverty advice to vulnerable people within the community.
- CEBs can play an important role in Local Area Energy Planning processes, helping to ensure that local people have a say in big decisions about their local energy system.

Remaining policy barriers

- The lack of a supportive environment to encourage Distribution System Operators (DSOs)/Distribution Network Operators (DNOs), local authorities and other public sector organisations to collaborate with CEBs on projects, despite the added ‘social value’ they can contribute compared to commercial providers
- The lack of incentives for renewable heat installations in communal buildings
- Restrictions on ‘peer to peer’ trading of electricity
- For small CEBs, the challenge of obtaining limited FCA approval
- Incompatibility between different flexibility services and lack of standardisation across DSOs
- The value of flexibility services being based solely on ‘avoided grid costs’ rather than ‘avoided carbon savings’ from load shifting

- The lack of common open data standards for smart meter data, to enable CEBs to participate in energy services on a level playing field

Key learning points for funders of community-led climate initiatives

Given both the cost of living crisis and Climate Emergency, funding might usefully be targeted at encouraging more CEBs to expand into energy efficiency, low carbon heat and retrofit activity. There are business models that are close to being viable for the 'able to pay' market and public-funded models outside the Next Generation programme that have already been demonstrated to work in the 'fuel poverty' market.⁴

Funders could support the roll-out of these and other more viable models across the CE sector (e.g. through skills development and capacity building). They could also fund further development and feasibility work on promising innovative models that are too risky for CEBs to fund using community shares or bonds. And, where the viability of CEB business models improves with scale (e.g. EV car clubs, flexibility services, renewable energy investment), funders can provide grant funding for development work on larger scale initiatives across groups of CEBs.

Volunteer fatigue can be a significant constraint for small CEBs. By helping to fund 'at risk' development work on potential income-generating projects, funders can help to develop CEB capacity and make CEBs more financially secure in the longer term.

Key learning points for community-led groups considering energy initiatives

Larger renewable electricity installations (e.g. solar PV installations of 50-100 kW) remain one of the most viable business models for CEBs, despite the end of FiTs.

The Next Generation programme has identified and provided learning resources for a range of other business models that can be viable in certain circumstances (including 'PV + EV', 'Pay as you save' energy efficiency initiatives, energy data apps and heat pump/energy efficiency work). These near-viable models for the delivery of energy efficiency, low carbon heat and retrofit to the 'able to pay' households, as well as public-funded models for delivery to households in fuel poverty, can potentially contribute both to the cost of living crisis and Climate Emergency.

Some models such as EV car clubs currently appear dependent on scale to become viable, as this would allow sharing of overheads across multiple CE groups.

The more innovative and challenging models considered by the Next Generation programme (such as flexibility services and microgrids for new housing) could make a significant contribution to the energy transition but require more funding and development work before

⁴ For example, initiatives led by Brighton & Hove Energy Services Company, Exeter Community Energy etc.

they can be self-supporting and viable for CEBs. These models are complex and only suitable for CE groups with considerable organisational capacity.

Learning about designing and running a potential future innovation programme

There is still a need for innovation funding within the community energy sector, as only a few high-capacity, professional CEBs can realistically access funding from Innovate UK and other mainstream innovation programmes. Funders could consider providing capacity building support to CEBs on accessing innovation funding.

There is a need for further support for the more innovative funding models in the Next Generation programme as these require further work if they are to achieve viability. Similarly, there is a need for support for further demonstration and roll-out of the more viable models identified by the programme.

Use of an innovation scale is strongly recommended in any future innovation programme, both in specifying funding requirements and in assessing applications – this can be used to clarify whether the objective is to fund early stage, risky innovation or later stage projects that are close to being replicable (or both).

Funders need to be aware that development of more innovative approaches takes time, potentially requiring successive rounds of innovation funding and periodic major rethinks to reach viability and replicability. Again, an innovation scale is useful in monitoring progress on the journey towards viability.

Given the uncertain nature of innovation project outcomes, flexible management of innovation programmes is important in maximising the chance of success. But funders need to accept that, despite careful selection of projects and strong project implementation, some innovation projects will fail to achieve their objectives as they are inherently involve risk. Use of stage gates (as implemented in the Next Generation programme) is an effective way of managing funding for risky innovation projects, reducing the risk of continuing to spend funds on projects that have encountered insurmountable external barriers or are failing to meet their objectives for other reasons.

In designing any future innovation programme in the CE sector, funders should bring together Next Generation participants to help inform the design process.

Conclusions

The Next Generation innovation programme generated considerable learning about innovative business models for community energy and about how CEBs can add value, sharing this learning with the wider community energy sector. The programme also helped participating CEBs to develop in a number of different ways, generating positive impacts in line with Power to Change's strategic objectives.

Nevertheless, the Next Generation innovation programme has not achieved its original objective of identifying viable business models, suitable for replication across the CE sector, that would support development and expansion of the sector as successfully as FiTs-supported renewable electricity investment. The most profitable type of activity for CEBs still tends to be larger-scale electricity investment (e.g. solar PV above 50-100 kWp), which continues to be viable in certain circumstances without FiTs.

However, the Next Generation innovation programme has built capacity within participating CEBs and has helped them to progress project ideas and, in some cases, access further funding for the next stage of project development. The programme identified a number of models that are close to being viable and replicable. These were generally the less innovative projects in the programme but they have more potential to generate social impacts in the near term than the more innovative projects. While these models appear unlikely to generate surplus for the CE sector on the same scale as renewable electricity projects, they involve more direct service delivery to local communities (e.g. on local transport, energy efficiency, retrofit etc) and can enable CEBs to contribute more fully to the energy transition and to meeting local community needs. CEBs can potentially contribute added value through their 'trusted intermediary' role with the local community and their willingness to run services for social objectives rather than profit. Support for further demonstrations and capacity/skills building within the sector would be needed to support roll-out of these business models.

The most innovative projects in the Next Generation innovation programme (e.g. the Flex Community and microgrid projects) are still some way from viability. Given their potential contribution to the energy transition, and the potential added value from CE involvement in these projects, further policy support and innovation funding for these initiatives appears justified.