

Discussion Paper – Summary

Next Steps in Community Energy:

Mobilising the demand side: building stronger communities and a just transition to a low carbon energy system in the wake of the COVID-19 pandemic

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Introduction

In the context of the post-COVID-19 recovery, the ongoing Climate Emergency and slow progress in the decentralisation of the energy system, this paper highlights the need for community energy to be seen as an activity which is essential for the large-scale integration of renewable energy into the system. It starts with our 'vision' of what we are aiming for when we speak of 'community energy' and then works through what we see as key areas requiring action to achieve it.

But this is not a call to enable community groups to generate more energy *per se*, but to create a policy, regulatory and support environment that empowers them to drive the reduction and flexible management of energy demand at a local level, across Scotland. In other words, to help groups do what they do best: to inspire, support and motivate local people to act for our collective best interest.

In principle, many community groups, especially 'community anchor organisations'¹ present a ready-made route for investing in to speed up this process, not least as part of a green recovery from the Covid-19 pandemic. This is because of their ability to engage effectively with local people on a range of issues which are fundamental to social cohesion and wellbeing and because there is a foundation of sustainable energy practice to build on.

Such investment could not only build local resilience to future global shocks, it would also help to ensure a just transition to a low carbon economy – with communities at its heart.

There are a number of issues, ranging from regulatory barriers to community awareness and capacity, which will have to be systematically addressed if we are to meet the potential.

This report is in four parts: **Part 1** reviews the impact of the COVID-19 pandemic and associated lockdown and how it has exposed our vulnerability to global level shocks and has caused us to consider the resilience of systems which underpin our economy and way of life. It then focuses on the implications for the energy system and community energy activity in particular.

Part 2 looks in detail at the current context and practice in key areas of interest; and **Part 3** outlines a set of measures that we believe would help guide and unlock the considerable potential of community organisations to contribute to the energy transition. **Part 4** concludes with a plea for urgency given our now clear vulnerability to global level shocks.

This is a discussion paper which we hope will stimulate discussion and debate on the future of community energy in Scotland and, perhaps, lead to the actions we have identified. At the very least it will inform our own strategy. We welcome all comments, views and corrections (we don't claim to have got everything right!) and will be pleased to discuss any aspect of the paper.

¹ [Definition and examples of community anchor organisations](#)

Where we want to be with Community Energy by 2025

Community-led action to inspire and support local people to reduce energy demand and adopt low carbon behaviour is widely seen as an essential part of the national effort to enable a more secure, more just, and more flexible low carbon energy system, powered by renewable energy. 'Community energy' is no longer a nice to have adjunct to an otherwise inaccessible energy system.

The supply and consumption of energy (power and heat) has been highly decentralised in a way which has enabled the development of local markets in energy supply. These are closely matched to local energy demand and integrated with the operation of the national grid and, where appropriate, gas grids.

Community organisations are seen as key partners in many aspects of this localised system, owing to their ability to engage and support local people, especially those who are harder to reach and less able to help themselves. They are supported by government and energy companies to work closely and in partnership with electricity and gas system operators, local authorities and energy developers and suppliers, with a common interest in the well-informed operation of the system in a way that takes account of local circumstances.

This growth in well-planned local energy partnerships has been enabled – and required – by the National Community Energy Plan, mandated by the Scottish Parliament. The plan sets out strategic priorities, partnership obligations and delivery mechanisms. A key tenet of the plan is to ensure decentralisation does not lead to inequality, by supporting and developing the capacity of local groups, especially in areas where there is no or little coverage, or are disadvantaged.

Initiating and leading the delivery of measures such as collective energy efficiency retrofits, bulk supply and installation of heat pumps, direct and on-site local renewable energy supplies, electric vehicle car clubs & charging points as well as disseminating information and advice, community anchors are enabling a highly localised national impact. They are able to take advantage of how the new decentralised system works and are rewarded for their contribution to its greater efficiency. They are also adept at working together at scale when there is an advantage in doing so – such as in the procurement of equipment and services. They play a key role in delivering solutions that enable everyone to benefit from smarter, flexible and more localised energy trading with low or no upfront costs – not just those who are able to pay.

The decentralised energy system has enabled the growth of a new tier of local energy suppliers who are contributing to a wider process of economic localisation, retaining more value in local communities and helping to underpin a renaissance of community life. Local production and supply of essential goods and services – the foundations for a good quality of life and resilience – is widespread, with safe and sustainable local transport options, powered by local energy.

The full integration of renewable energy into our energy system has been made possible through a combined national effort harnessing both the scope and expertise of large-scale renewable energy developers and community-led action on energy demand. We have achieved a robust and sustainable system, with high level of public participation, awareness and contribution to decision-making.

Executive Summary

The new context

The COVID-19 pandemic and lockdown has disrupted all aspects of Scottish life, creating a full economic recession and signs of a fundamental shift in perspective, from GDP growth to wellbeing as the primary indicator of a successful and sustainable society.

The pandemic has revealed the weaknesses of long global supply chains in a time of crisis, sharply exposed inequalities in our society and highlighted the importance of local infrastructure and community support networks. Governments across the world are implementing unprecedented economic interventions to stimulate recovery, within which resilience and decarbonisation should be central and urgent considerations. These factors require an urgent re-think of the role of community energy, and have re-set the context for action.

Community resilience and energy decentralisation

Strengthening resilience at the local level is part of the UK's national resilience strategy but, in practice, localisation has been in decline. Also, resilience is not just a question of being able to 'bounce back' from an adverse impact. Personal vulnerability, whether physical or mental, lack of capacity, lack of agency and control and lack of a supportive social environment are key issues which need to be addressed.

The crisis has revealed how local community organisations can play a vital role in connecting with and helping local people, especially those who are the most vulnerable. Decentralisation and a general transition from passive consumption dependent on long fragile supply chains to informed 'prosumption' – production and consumption at a local or household level are similarly key elements of resilience.

Planning for a new local layer of community-based energy action

The UK energy system was already undergoing a period of significant change, transitioning from a centralised fossil-fuel based system to a more decentralised, low carbon system. Lockdown had a huge financial impact on the global fossil-fuel business, and resulted in what has been described as a 'postcard from the future'; with much lower demand and resulting in a higher proportion of renewable energy, but also the need for urgent balancing measures by the National Grid.

An essential pillar of the green recovery will now be investing in building our future low carbon energy system. The role of community energy may be most important not in terms of community owned energy generation but in enabling the transformation of energy demand, enabling energy users to become active and empowered components forming a new 'local' layer in our energy system.

As yet this 'local' is a largely overlooked scale in analysis of the changes needed for decarbonisation. The DSO transition represents networks beginning to address this shortfall, but there is no 'DSO transition' equivalent for energy supply companies or many of the other elements of the energy system. Failure to engage at a local level is already becoming a substantive barrier to decarbonisation of heating, transport and the creation of electricity demand flexibility; all of which require locally attuned actions and significant behaviour change by energy users. Scotland lacks local level democratic institutions, leaving community anchor organisations (and especially Development Trusts), as the only viable organisations able to act effectively at this finely tuned scale.

Local level energy action does not supplant the need for coordinated action by national government, but should be carried out in new partnerships with local authorities and other public and private sector organisations, guided by a National Community Energy Plan.

Community energy and the demand side

Community-led energy action now needs to be seen as a key element for influencing the demand side in the energy system, not just a minor player in power generation. Community anchor

organisations, if supported to operate at scale, are key to this process, given their position and influence in the community. Key actions which are a basis for community-based action are identified: promoting energy demand reduction & 'prosumption', local supply, community transport and community capacity building.

Part 2 examines these actions in detail, setting them in the context of current policy and activity and the issues involved in driving change. The overarching issue of demand reduction is challenging. Although energy consumption in Scotland is falling, most energy consumption (over 80%) is still attributable to the burning of fossil fuels. The rate of installation of energy efficiency and low carbon heating measures needs to massively increase if Scottish targets are to be met.

Expanding the scope of Energy Efficient Scotland

The flagship Energy Efficient Scotland programme urgently needs expansion in a way which can reach hitherto untouched places. Levels of prosumption remain low and the 2020 renewable heat target is unlikely to be met, with just 15,224 accredited domestic Renewable Heat Incentive (RHI) installations at the end of March 2020, out of 2.46 million Scottish households. Effective solutions for tenement properties are not emerging quickly enough. Fuel poverty has been decreasing but still affects 25% of households, with those in homes below EPC level C far more likely to be affected.

Progress to date has been based on the easier measures, but the bulk of households in the 'able to pay' sector have not been addressed and there needs to be a different approach to encourage householders to act – and there is little incentive for private landlords to act either.

Citizen Advice Scotland argue that the current range of financial incentives should be increased as they are not sufficient to encourage people, especially owner occupiers, to upgrade their homes, especially fuel poor households. There should be a major new public information and awareness campaign via a 'one stop shop' system. In our view, there is plenty of behavioural evidence that demonstrates that local community-led initiatives are far more likely to be successful than centralised national campaigns or call centres in this process.

Harnessing the role of local groups

The embedded and trusted role of local community organisations should be harnessed for this – just as they have been in the COVID crisis. The challenge for local groups is to be able to convert this into action at scale within their communities and to overcome the argument that it is too expensive to deliver the required outcomes through multiple small players, rather than national contractors. We believe that the answer to this lies in striking a better balance between the two, with local organisations being empowered to do what they do best – work with and support local people in the uptake of measures. We highlight a number of approaches by which local groups could have greater impact through collective procurement approaches.

Wider factors affecting energy consumption

However, it is important to note that energy consumption in the home only accounts for around one quarter of total energy consumption by households – the rest arising through consumption of products and services. We highlight energy supply and transport as two key areas to address. Local renewable energy supply in the form of electricity and heat could play a very significant role in strengthening community resilience and energy security and community groups have a key role to play in this.

Speeding up the transition

The decentralisation of the energy system is underway but is proceeding very slowly and community engagement in the process is negligible. Legislative hurdles mean that local electricity supply is rarely a viable option and there are very few community-led heat networks. There have been important pilots that have demonstrated technical viability and there are routes to speed up progress, such as license exempt sale and 'split metering' for electricity supplies, but for both electricity and heat approaches are currently limited to small pilot projects. This might change rapidly if a right to a local supply is established in law, for which support is growing.

In the absence of a conducive regulatory environment, local supply projects typically are swimming against the current, marginal, and relegated to the 'off-grid' category. In fact, with the right metering, smart grid and local market arrangements they could play a useful role in a more efficient national grid. In some ways, low carbon heat has the opposite problem: consumer protection regulations are undeveloped & there remain significant technical challenges with low carbon heat networks. In both cases, however, local community organisations have the potential to play a significant role.

Unlocking community-level flexibility

The other key aspect of energy security – 'flexibility' – is not well developed at the community or domestic level, but needs to be. There is an unparalleled opportunity emerging for consumers to engage in and support the transition to a low carbon and flexible energy system which rewards demand reduction and enables local supply arrangements in ways that contribute to its integrated operation. Communities could be empowered through improved legislation and 'demand side response' mechanisms to provide a significant contribution to local and national balancing of the electricity system, harnessing significant unused and growing potential and enabling a greater emphasis on renewable supplies in the energy mix.

Electric vehicles, home battery systems, storage heaters and heat pumps all involve an element of energy storage and are often flexible in when they can be charged, which could be in response to market or grid operator signals. Aggregation of small scale energy storage and demand is key to this and it is possible to envisage a community-led aggregation service, which could complement the large-scale commercial aggregators currently in operation. Local direct matching of supply and demand is also technically viable and is particularly relevant in areas where the grid is constrained and surplus power cannot be exported.

Local energy: decarbonising local transport

The massive drop in travel and the likelihood of an even greater 'bounce-back' in car use owing to the COVID risk with public transport raises important questions relating to our hyper-mobility and the community, energy and carbon advantages of greater localisation of services and community transport and active travel options. There are important positive links to build on between community led energy measures and the development of better and more sustainable local transport options which also help to circulate funds in the community. Community led electric vehicle clubs, local supply to charging stations and bulk purchase and installation of domestic chargers, as well as collective procurement electricity supplies are all routes to get a step change in uptake. Whilst some of these measures have been piloted by some community organisations, progress so far has been disparate and piecemeal. The urgency of recovery from COVID-19 and the Climate Emergency demands a shift to a more comprehensive and planned programme which brings together all the key players in well planned local projects.

Strengthening community groups' capacity and coverage

Whilst there is a good foundation of experience in some community groups, coverage is patchy and can be skewed to more affluent areas. Also, community leaders need help to get up to speed on recent developments in the energy system and how they can engage in the sorts of measures outlined here. Whilst there are good sources of project advice and training courses for energy advisers, there is no capacity-building provision for community groups other than Community Energy Scotland's pilot 'Community Energy Futures' programme, which provides a structured approach to learning about community energy and the smart energy transition.

Measures required

Part 3 outlines a set of measures which we believe would be significant in helping community groups expand the scope and scale of their energy action. A strategy is now needed which rewards communities for their role in reducing energy demand, developing local supply, increasing flexibility, developing local sustainable transport options and strengthening community capacity to act. It needs to place more significance on their role in the energy transition. Pilot projects, general support measures, policy and regulatory measures, capacity-building and

geographically defined approaches all have a part to play in this strategy. Key measures (described in more detail in our full paper) include:

- **A new National Community Energy Plan**, which takes account of the new context for community energy
- **'Local energy zones'** in the Western Isles, Glasgow & Dumfries & Galloway, to take forward the full range of measures in an integrated way
- **A Community Energy Demand Reduction Incentive** that, if set correctly, could stimulate creative approaches to local energy demand reduction
- **A large-scale, community-led bulk procurement and energy efficiency retrofitting scheme**, to reinforce current Energy Efficient Scotland provision
- **Support the right to local electricity supply**, lobbying Westminster to enable local trading on electricity distribution networks
- **A 'Community Contracts for Difference' in Scotland** – Investigate potential for procurement of power from community generators by public sector bodies
- **Unlock PV on tenement buildings** and develop the scope for local generation and supply from vacant and derelict land
- **Fossil fuel substitution with renewable energy**, to drive local development in grid constrained areas
- **A more supportive regulatory framework**, to enable community level flexible demand response
- **Formal recognition of EV car clubs as an essential public service**, with area EV & e-bike hire targets
- **A national 'Community Energy Futures' programme** to build community group capacity to take forward local 'smart' energy demand reduction measures

Conclusion

Finally, in **Part 4**, we conclude that there is an urgency in acting to address the vulnerabilities and inequities exposed by COVID. If taken together, the measures will help lever the role of community organisations in the development of a more sustainable and resilient energy system, whilst reinforcing community resilience and a Just Transition.