

ZCB and community energy

Community owned renewable energy: an agent for opinion change

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A zero carbon Britain by 2030 may appear to be a wildly ambitious target but, when broken into its constituent parts, it becomes less speculative and more manageable. Here we look at one of the fastest changing of those constituent parts – electricity production. We assess the role that local ownership of renewable energy generation is playing in shaping public attitudes towards renewable energy and energy use behaviour.

Over the past two years, SCENE has carried out research and consultancy work focused on community ownership of renewables. Our organisation's core belief is that a rapid expansion of installed renewable energy capacity coupled with mass cuts in energy use is essential to achieving the emissions reductions required to avoid catastrophic climate change. However, through our work with communities, we have found that despite a present concern for global-scale issues like climate change, community renewables projects are predominantly driven by more immediate community interests, such as economy and energy security.

This is neatly shown in our research paper *A Report on Community Renewable Energy in Scotland* (Harnmeijer et al., 2012), which assesses the primary motivations of project leaders in establishing community energy projects. As displayed in the report, lowering the carbon footprint/increasing community awareness of energy issues lags far behind economic factors where motivation for community energy projects is concerned – it holds weight at just 16.8% compared to 70%.

We see five major benefits of successful community owned energy projects:

- 1) **Dispersal = Resilience.** Energy production in the hands of local communities creates islands of security during grid outages and contributes to voltage stability.
- 2) **Financial and other benefits.** Community renewable energy projects provide economic, environmental and social opportunities.
- 3) **Heightened energy efficiency and consciousness.** Ownership of renewable energy generation helps to promote greater energy efficiency and awareness of energy use.
- 4) **Ownership = Support.** Local community project ownership helps overcome public opposition facing renewable energy development in general.
- 5) **Market access and sectorial synergy.** Communities present an important potential source of investment, and revenue from community-led renewables projects is often recycled back into the renewables sector.

As the number of community energy projects in the UK grows, we are seeing that the 'softer' benefits, (3) and (4), are becoming evident and are beginning to have macro-scale effect. Ownership is starting to change the way people think about energy use and renewable energy development in general. This is far above and beyond the impact that the project leaders aimed for initially – that is, financial benefit (2). We have even found that community projects cause these positive secondary impacts even if they fail to reach the operational stage – stemming from the deeper understanding local people gain of how energy is generated and used.

As a consultancy, we have been involved in a range of projects with varying degrees of community support and opposition. However, what we have witnessed is that ownership of renewable energy developments has a powerful impact in changing community attitudes. In some cases, the ownership of a single turbine in a large wind farm has changed a whole town's perception of not only that wind farm but also all the other renewable energy developments in the region. A recent client of ours is looking to develop a hydropower scheme through their town.

The potential financial benefit to the community has not only changed the opinion of the community council towards the project, but has also spurred talk of energy meters and insulation projects for all.

With more than 900 community energy projects ongoing in the UK (now mapped through our SCENE Connect project), we believe that such secondary benefits are not only having an impact, but are gaining momentum and should be explored in further detail. We believe the wider attitude changes caused by community ownership of renewables will prove to be vital.

One particular area that requires more analysis is the influence that community renewable energy projects have on energy consumption behaviour at a household level. A significant body of research indicates that households that install renewable energy systems are inclined to reduce their energy consumption. This is generally the result of increased education and communication amongst individuals, which is driven by the presence of their own renewable energy system. This knowledge encourages 'soft' benefits, such as energy conservation and load shifting (changing habits in order to use more energy when the renewable resource is available).

Whether or not community owned renewable energy systems have a similar effect is unknown. However, it has been suggested that community energy organisations create a unique social environment that may influence behaviour (Devine-Wright et al., 2007), and may create "a positive social context for individual action" (Rogers et al., 2011).

SCENE/University of St Andrews researcher, Ashton Whitcomb, is currently undertaking such research, exploring the effect of a 9.3 kW community owned solar photovoltaic (PV) project on the energy use of individuals in Eskdalemuir, Scotland. Whilst this study is currently incomplete, preliminary analysis suggests that the project has led to an increase in the understanding of energy use and conservation behaviour amongst community members. As one respondent said,

"Since the installation of the PV, everyone's thinking about it more."

What is clear from our own experience is that community owned renewable energy projects can act as powerful agents for change amongst citizens, impacting communities above and beyond the bottom line aimed for initially by the majority. A zero carbon Britain requires this sea change in education and opinion change, allowing a thriving renewable energy sector coupled with a deeper understanding of energy itself. Local ownership of renewables is the perfect catalyst.

About the author:

Vijay Bhopal is Operations Director at SCENE, an Edinburgh based social enterprise which specialises in community energy research and consulting. Darcy Pimblett is a Project Coordinator at SCENE, a new arrival from Melbourne, Australia – he has a background in energy efficiency in the built environment.

