Powering Community Energy Through More Effective Segmentation Practice

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Powering Community Energy Through More Effective Segmentation Practice

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Abstract

Community energy is a key part of the UK Government's plan for decarbonising the energy sector, yet public engagement with the sustainability agenda remains low. This paper explores the importance of community energy groups in this process, drawing on a study examining how to increase local engagement with energy projects. The findings reveal striking diversity in what constitutes a community, the range of community energy projects being undertaken, the journeys communities are taking towards sustainability and the factors that shape those journeys. This diversity has implications for whether and how communities become engaged in energy projects. The findings also suggest that there is potential to use commercial approaches to achieve better targeting of carbon-reduction initiatives.

Introduction

Community energy is a key part of the UK Government's plan for decarbonising the energy sector, yet public engagement with the sustainability agenda remains low. This conceptual piece explores the importance of community energy groups in this process, drawing on a study examining how to increase local engagement with energy projects. The findings reveal striking diversity in what constitutes a community, the range of community energy projects being undertaken, the journeys communities are taking towards sustainability and the factors that shape those journeys. This diversity has implications for whether and how communities become engaged in energy projects. The findings also suggest that because communities have some features in common with public and private commercial organisations, there is potential to use commercial marketing approaches to achieve better targeting of carbon-reduction initiatives. The use of tools such as market segmentation to tackle the wider social, health and sustainability challenges facing society falls within the social marketing domain. We show that using a social marketing approach to more directly address the needs and characteristics of these communities, could lead to more nuanced and better targeted energy policy and practice.

Background

Social marketing is used to change behaviour with the aim of tackling the wider social, health and sustainability challenges facing individuals and society (Hastings, 2007). Whereas commercial marketers measure success in terms of building brands, selling more products, or increasing market share, social marketers aim to change behaviour in ways that will improve societal wellbeing (French, 2011). Sustainability and the need to reduce carbon are typical examples of the societal challenges that social marketing aims to address. to address. However, despite the increasing use of approaches such as market segmentation in such contexts (Andreasen, 2002; French and Gordon, 2015), progress is slow and their use is less prevalent and sophisticated than in the commercial sector (Andreasen, 2012; Dibb, 2017).

In relation to segmentation's use in social marketing, there are several reasons for this gap (Dibb, 2014). These include insufficient expertise and resources (Neiger, Thackeray, Barnes and McKenzie, 2003), concerns about the ethicality of targeting social interventions at particular groups (Dibb and Carrigan, 2013; Newton, Newton, Turk and Ewing, 2013), as well as the propensity for a mass market approach to delivering policy (e.g. http://www.greendeal.co.uk/). There has been a tendency instead for a 'one-size-fits-all' approach to policy and practice that is insufficiently tailored to inspire or meet the needs of those it is designed to target. In this paper, we argue that more should be done to draw on expertise gleaned in the commercial world to deliver more nuanced policy and practice.

We use the example of community energy to explore how these commercial marketing tools could usefully be employed to increase engagement with community-based energy projects. The example is taken from a recent research project which develops an interactive website to support involvement in community energy projects. We found the communities in the study shared similarities with small commercial organisations, especially in relation to the resource constraints they face and the limited capabilities on which they can draw. Based on these similarities we argue there is a profound case for applying commercial marketing approaches in this kind of context.

In particular, we highlight the need for a more segmented approach to policy and practice. The communities we studied were strikingly diverse in their forms, the range of projects they undertook, the journeys they followed to develop projects, and the factors that shaped those journeys. This diversity suggests that the 'one-size-fits-all' policy approach to community-based carbon reduction fits poorly with the heterogeneity exhibited by communities and their needs. There is a strong case we suggest for making greater use of market segmentation and targeting; principles that are routinely and effectively used by commercial organisations to focus their efforts. While there is some evidence of such approaches being used in social marketing contexts, such as in relation to sustainability, there is latent potential to do more. In the context of community energy, the variation in needs, motives, types of project and communities, suggests that a more segmented and subtle approach is warranted to policy development that supports a wide range of motivations including sustainability, generating energy and community and social benefits.

Community Energy

Community energy is seen by the UK Government as a way to help meet carbon emissions targets, with the potential by 2020 to produce between 0.5GW (2.2%) and 3GW (14%) of installed energy (Department of Energy and Climate Change (DECC), 2014). Reducing carbon emissions and securing supply without over-loading the energy infrastructure, could also provide opportunity for new players (Eadson and Foden, 2014). As well as contributing to tackling climate change, community energy schemes can deliver varied benefits, including meeting local needs, maintaining energy security, saving money and wider social and economic benefits (Walker, Hunter, Devine-Wright, Evans and Fay, 2007). These initiatives also have potential to support the growth of stronger communities, improve skills education and generate work experience and satisfy needs for social esteem (Cherrier et al., 2012, DECC, 2014).

However, community engagement with the sustainability agenda remains low, as does awareness of community energy. With relatively few citizens actively involved in energy projects, these initiatives are not considered normal practice (Rettie et al., 2012). DECC sees the key barriers to community energy as involving problems with access to finance; reliable

income streams, such as the Feed in Tariff; the difficulties of becoming a licenced energy company and the wider problems of trying to navigate the regulatory systems for planning and network access (DECC, 2014). The UK government recognizes that the regulatory system for financing and the sale of energy has lagged behind practice, and has recently published regulations to promote flexibility that supports a wider energy trading market. These regulatory changes are intended to make it easier for individuals and communities to benefit from renewables and energy storage (Ofgem/Beis, 2017).

If community energy projects are to meaningfully contribute to reducing carbon emissions, they need to be supported by policy and research. However, little research exists that shows how people use energy in the home or how they respond to the installation of new technologies. Initiatives which have emerged in recent years, such as Green Deal and ECO have not necessarily led to the anticipated carbon and energy reductions, due to a rebound effect from consumers preferring to raise their comfort levels rather than reducing consumption (ICF International et al., 2015).

These issues highlight the need to develop our understanding of how policy and funding can be prioritised to decarbonise the energy sector at a grassroots level. Energy consumption practices are not solely at the discretion of the individuals, but influenced by their immediate household and extended networks, through which daily patterns of consumption are negotiated (McDonald et al., 2012). A greater focus on the community as the unit of analysis could therefore be a useful approach. However, this focus alone is unlikely to be sufficient. Not surprisingly the profile, levels of expertise, motivations and behaviours of these communities varies. This variety suggests that broadly-focused policy initiatives such as Green Deal and ECO that have sought to reduce carbon at the grass roots level may be insufficiently tailored and overly complex. It is against this backdrop that our recent study set out to look at what it takes to get communities involved in local energy projects.

The CAPE Study

The Community Action Platform for Energy (CAPE) study funded by InnovateUK, involved Coventry University Centre for Business in Society researchers working in partnership with SmartKlub, a sustainability SME, the Satellite Applications Catapult, Tech Mahindra, The Open University, Milton Keynes Council and Community Action MK. The project was based in the Milton Keynes area, with work now underway to extend its coverage to other locations across the UK. Community energy is considered by government to cover 'aspects of collective action to reduce, purchase, manage and generate energy' (https://www.gov.uk/guidance/community-energy). Estimates suggest that in the last five years around 5,000 community groups have become involved in initiatives that involve energy. Community energy projects can include encouraging energy-saving behaviour change; and installing energy-saving measures, such as roof and wall insulation; to joint purchasing of fuel and energy; the installation of renewable technologies, such as solar photovoltaic (PV) panels, ground source heat pumps and wind turbines; and trialling smart technologies in conjunction with industry partners.

CAPE has developed an interactive website that is a one-stop-shop for communities seeking to be involved in local energy projects. An agile process of development was followed to ensure the suitability of the platform for communities and business users. CAPE is different from other websites and resources, because it puts Big Data tools in the hands of local communities. These tools bring together satellite images of local buildings, with energy performance data, energy usage data and socio-demographic information. As shown in

Figure 1, satellite images can be used to show heat loss from local buildings and the potential for solar PV panels based on roof orientation and area. In combination with other data from the website, users can work out things like how much energy they might generate or how much money they might save from installing solar PV panels on their roofs or ground source heat pumps in their gardens.

The community engagement part of the study comprised a literature review of academic and policy documents, semi-structured interviews and a workshop. Participants included representatives from local authorities, community energy groups, NGOs, landlords, suppliers and academics. A purposeful sampling approach was used to identify individuals that have relevant knowledge and experience in community energy, and as a group, represent a wide range of perspectives.

Figure 1 Satellite Images

Findings and Implications

Our findings are characterized by many levels of diversity. The communities themselves were diverse, taking on many different forms, having become established for a wide variety of purposes, and formalized in a range of unincorporated and incorporated organisational structures. The journeys to sustainability which had been taken were similarly diverse, determined partly by whether reducing carbon had been a prime motivator. Finally, a wide variety of contextual factors was found to shape the journey which had been taken. These ranged from the nature of community leadership to the availability of suitable funding. Put together, this diversity has implications for applicability of concepts and tools from commercial marketing that could be used in this social marketing setting. In this section, we discuss these areas of diversity and explore some implications for policy and practice

The first type of diversity concerns the characteristics of the communities themselves. While some specifically identified themselves as energy communities and had been set up with this aim in mind, other groups had initially been established around very different activities, prior to becoming involved in energy projects. These communities ranged from local women's groups to sports clubs and faith communities. Notwithstanding these differences, we also observed that these communities had similarities to other kinds of organisations. Indeed, for a community to set up and run a community energy project they may need to formalize their organisation to help structure their work and finances.

Depending on the type and size of the project in which a community is engaged, there are several options of organisational structure. Since an underlying aim of community energy projects is to improve the environment and/or the local community, many not surprisingly are set up as social enterprises. In effect using commercial strategies for social good. However, these organisations can come in many forms. Unincorporated organisational structures have no legal status and are essentially a group of individuals who come together for a reason other than to make a profit (for example, a voluntary group or a sports club). They are quick and easy to set up, being better suited to smaller community groups with memberships, short-term goals, low incomes, and no aspirations to employ staff or acquire property in the immediate future. In contrast, charitable incorporated organisations, such as companies limited by guarantee, community benefit societies, community interest companies and charitable incorporated organisations, are more formal in structure and as such are better suited to larger projects. The organisation is a separate legal entity that allows for the company to enter into contracts and hold property. It has the advantage of being limited liability, although it is more complicated to set up and more closely controlled by the law.

The second type of diversity concerns the differing sustainability projects and journeys towards sustainability being taken. The communities we studied were involved in a wide variety of projects that differed in terms of their complexity and costs. At one extreme, the aim was to change citizens' behaviour and habits, such as by turning the lights off, turning the heating down, or taking shorter showers. At the other, communities were getting involved in energy installation projects involving solar PV panels, wind turbines or ground source heat pumps. How many projects they had undertaken, as well as the journeys between them, also differed. For example, one community energy group had started with a project to generate income from installing solar PV panels on the roofs of public buildings, with the aim of reinvesting the income to enable local citizens to insulate their solid-wall Victorian homes. This need had been clearly identified as a priority by local people:

So what people were saying was, we're fed up with living in draughty, cold Victorian houses, but we love them, and we want them to be not draughty and not cold, but we still want them to be Victorian. So the challenge was set really to look at ways in which those homes could be made more energy efficient. (Interviewee, Community Energy Group).

One of the faith communities in the study had followed a very different path, becoming interested in community energy because they were building a community centre, where planning permission had required them to use sustainable design, including having solar PV panels on the roof. Although there was some support in the community for the build to be sustainable, this was not necessarily a choice that the building management group would have made had it not been required to do so.

The different journeys experienced by the communities were influenced by a range of contextual factors, which is the third area of diversity we found. These factors included the type of community people live in, the energy efficiency rating of their homes, the availability of funding or grants, the level of relevant expertise in the community, and whether there is inspirational leadership. Another important factor illustrated in these two examples is whether the original driver to become involved in community energy was top-down or bottom-up. Notwithstanding the considerable effort involved and the barriers it has had to overcome, the community energy group has been a very successful bottom-up project. The initial motivation came from a strong, inspirational leader, who gained the support of the community, enabling local people to unite behind a common goal:

So you know, our ambition is for [name of community] to be grid independent within, you know, within a period of time. So you know, so when everyone else's lights go out, we'll be okay, you know? And that sounds extremely selfish but actually, you know, we're doing it for us too, because we live here. (Interviewee, Community Energy Group).

In the second example, the driver was top-down, in that it occurred as a requirement of the planning conditions. Successful community support and hence implementation of this project proved much harder than for the first. There was not the same strong inspirational leadership, with decisions being made by the building management group and the sustainability champion having been just one voice in that conversation. This lack of cohesion behind a common goal perhaps reflects that the project was imposed top down, rather than being one they had created. The fact that sustainability was not sufficiently core to their values making it difficult to engender wide spread support. As the faith group interviewee explained, this context profoundly shaped the outcomes:

…at the moment we have just got an ordinary gas boiler, but we're thinking, if I can persuade them - there is like a building management group that makes the final decisions on all of these sort of practical things - persuade them that going for a biomass boiler might be a better alternative than just an ordinary gas boiler. (Interviewee, Faith Community group).

Acknowledging these differences in community, contexts and journeys to sustainability is crucial if effective policy is to be formulated and implemented. These differences, we argue, signal the excellent potential for segmentation and targeting principles to be applied in this setting. Approaches which, at the very least, distinguish between varying community forms

and which reflect the top-down and bottom-up drivers could yield more productive policy initiatives. The content, tone, and messaging of initiatives could then be tailored to meet the needs of different 'types' of communities. These community 'types' (or 'segments' using the commercial language) will exhibit different needs, motivations and preferences for energy projects, according to factors such as the initial drivers, the community's main purpose, the type of leadership in place, access to financial and other resources, including access to capabilities such as planning, legal and financial expertise. These elements have consequences, too, for the journeys the communities are taking towards community cohesion and building social capital.

A segmentation framework that groups communities with similar needs and characteristics into segments could be developed through research to capture this diversity and guide community energy policy. Based on our findings, this framework might at its highest level distinguish between different communities of interest, differentiating those which were specifically established to develop energy projects from those set up for other reasons, such as sports clubs, faith organisations and hobby groups. Given its relationship with access to suitable capabilities and resources, we also see community size as a key differentiator. Contextual factors for communities, such as whether they are instigated in a top-down or bottom-up way, whether they are geographically located, and the nature of their leadership, will inevitably overlap between the different types of community. Such a framework would shed light on the diversity and complexity of communities and, therefore, the usefulness of a segmentation approach.

In drawing the various dimensions together, segments based on different needs and motivations are likely to emerge that have implications for how policy is shaped. For example, an initiative to promote the adoption of renewable technologies might be more effective if it takes these differences into consideration. For a locally-based sports club seeking to generate income from its clubhouse, non-technical guidance on the available alternatives would be needed. This group might be more amenable to technologies that are a familiar sight in the local area, such as solar PV, than those that are not. Clear signposting to financing options and resources to support applications through planning permission would probably be needed. The question of how to access such communities should be carefully considered. These communities might, for example, be more likely to engage with initiatives promoted by the local council than with bodies whose focus is specifically on promoting sustainability. In contrast, a group that has been established with the aim of getting involved in community energy is likely to have a clearer understanding of the technologies and may have access to some of the relevant legal and financial capabilities. Such groups may more readily engage with unfamiliar technologies, may be better able to handle technically worded communications, and be more willing to engage with bodies set up to reduce carbon.

Concluding Comments

Although the examples we give in the preceding section are for illustrative purposes, our study suggests they have good anecdotal credibility. There is, we believe, considerable potential for studies to develop a segmentation framework to support the development of better-tailored and more effective policy. The community groups studied in this project share features in common with other kinds of organisations, including those set up for commercial ends. Indeed, communities that become involved in energy projects must often be formally set up as organisations, if they are to deliver their objectives. Acknowledging this connection with the commercial world, highlights what commercial marketing tools and concepts such as

segmentation can bring to the community-based setting. More needs to be done to routinely consider how approaches such as these, which are more usually used in commercial settings, can be put to work to address social marketing problems.

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