BEHAVE 2016
4th European Conference on Behaviour and Energy Efficiency
Coimbra, 8-9 September 2016

ENERGY EFFICIENCY MOVING THE FOCUS FROM INDIVIDUAL TO COMMUNITY BEHAVIOUR

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Keywords: Community, Energy Efficiency, Social Capital

Abstract: Energy efficiency is an important tool in the global response to climate change. Efforts to engage individuals are having limited success. Focus is now shifting to working with people in groups. This paper presents on-going research into the community energy sector in Ireland. It explains the concept and its role and why community engagement can work. It outlines the extent of Irish involvement and policy support, and how this compares internationally. Short descriptions are given of three Irish groups, followed by a discussion on the learnings emerging from the study, how this relates to the UK experience, and the conclusions that can be made.

The emphasis of much of the response to the climate and energy challenge thus far, has been on fostering individual behaviour change - with limited results. It is now more widely accepted that we need to look beyond the individual, and to the influence of social practice, peer groups, social and cultural norms, and to institutional and systemic barriers. Working with people in groups is seen as having more impact, and out of this thinking has emerged an interest in community energy.

This paper focuses on the on-going research on community energy groups in Ireland, which is part of an Environmental Protection Agency (EPA) funded project called 'Climate Change, Behaviour and Community Response'. The research is using the methodological approach of grounded theory, which acknowledges that conditions and events evolve and this has a bearing on what happens and how actors react.[1] The analysis aims to uncover these conditions, and to determine people's responses and their impact, while also recording the changes as they take place. The research has, so far, included: the organisation of a day-long workshop with representatives of six community energy groups, and members of the Irish Department of Communications, Energy and Natural Resources (DCENR) and the Sustainable Energy Authority of Ireland (SEAI); the attendance at 10 community energy related events; and 13 semi-structured, face-to-face interviews with group members.

It is tempting to compare Ireland's performance with other high-achieving countries in Europe. Figures for 2013, showed that in Denmark, 70-80% of wind turbines were considered to be under community ownership, and half of installed renewables capacity in Germany was community owned.[2] However, it must be acknowledged that differing social, cultural and environmental contexts have all contributed to where each

country is today. Therefore, it is of more use to compare the Irish experience to that of its nearest neighbour, the UK, and in doing so to acknowledge that the Republic of Ireland, with a population 4.7 million people, and little more than 10 active groups, is definitely behind the community energy curve. Scotland, with a population of 5.2 million, has 400 groups.[3] The UK, with a total population of 53 million has over 5,000.[4] On the one hand, the low Irish performance could be a cause for concern, on the other, it can be seen as an advantage, in that the country is in a position to learn from the challenges already faced, and overcome, in other jurisdictions.

It is encouraging to recognise that national energy policy has recently shifted with the publication of the Irish White Paper on Energy (2015), which states that the energy transition 'will see the energy system change from one that is almost exclusively Government and utility led, to one where citizens and communities will increasingly be participants in renewable energy generation, distribution and energy efficiency'.[5] Community energy is a broad term, which allows for a range of interpretations. Overall, it involves 'citizen and local ownership and participation in renewable energy generation, distribution and energy efficiency'.[6] It is generally agreed that a catch-all definition allows for flexibility in relation to approach, participation and implementation.[6-8] It also facilitates experimentation.[9] The lack of any required structure or outcome enables groups to respond to local contexts, conditions and needs, as well as the beliefs and aspirations of their members.

Community energy projects are seen as being conduits for the spread of sustainable energy awareness and knowledge, and the promotion of energy related behaviour change.[8] Involvement in a local energy initiative can increase people's understanding

and acceptance of renewable energy per se,[9] and a degree of community ownership and gain can go a long way towards fostering approval for local renewable installations.[10, 11] Community energy groups and other NGOs can have a key role in supporting local authorities to cut their own carbon emissions.[12] Benefits can accrue to the local community in the form of lower energy costs, job creation and investment, the fostering of a sense of engagement and civic duty, the development of resilience and stronger local networks, and the influencing of policy.[6, 13]

Ireland has pledged to reduce its household energy demand through energy efficiency measures by 20% by 2020. Within energy efficiency, the two most important measures are retrofitting buildings so that they use less energy, and changing people's behaviour so that saving energy becomes a normal thing to do.[14] It is now becoming obvious that this will not be done without the buy-in of the general population. However, at present, cutting back on energy use is not a priority for most people. Energy is 'seemingly pure, invisible, clean and cheap'. People do not understand what it takes to ensure that lights come on at the flick of a switch.[15]

Moreover, alongside most western countries, even Germany,[16] Ireland is grappling with the 'energy efficiency gap',[17] whereby people are not investing in upgrades even though, if they do, they will save money in the long run.

The thinking behind community energy is that people are failing to make the necessary energy changes on their own, and so need to work on the solution together. This tallies with the notion that, in the main, people are 'carriers' of social practices.[18] Practices are what they do to 'reflect the pursuit of shared goals (comfort, mobility) within a particular socio-technical setting'. If we are to change our ways, 'new forms of living, working

and playing' will have to take effect.[19] The theory of normative social influence proposes that people act in accordance with the behaviour of others. Such influence can lead individuals to give answers that are obviously false.[20] It can convince people to become 'bystanders' if others are doing nothing.[21] On the positive side, social norms can have a bearing on the public good. Knowing that their neighbours are conserving energy can encourage people to change their ways.[22] Innovation theory suggests that new ideas and innovations should be visible, so that people can discuss and evaluate them with their peers.[23]

Working at a local level can also help to encourage the development of social capital and resilience that will be required to meet the challenges ahead. Social capital refers to 'the social ties, shared norms and relationships among people and communities',[24] and to the neighbourly 'eyes on the street'.[25] Social capital facilitates trust and a group will accomplish more if it trusts and is trustworthy.[26] It 'greases the wheels' that allow communities to function smoothly.[27]

The community energy sector is in its infancy in Ireland. Only ten projects have been identified as emerging from the 'grassroots'.[13, 28] Three of these are solely focusing on renewable energy production, one of which is currently producing about 15 GWh of wind power per annum. While the remaining groups may have aspirations to produce their own energy down the road, they are presently concerned with introducing energy efficiency measures into their community. Much of the momentum has been supported to date through the Better Energy Communities (BEC) grant funding programme, administered by the Sustainable Energy Authority of Ireland (SEAI), a state sponsored body promoting 'sustainable energy structures, technologies and practices'. The aim of the BEC

scheme is to bring together groups of buildings for retrofit and therefore to 'facilitate community-wide energy improvements more efficiently and cost effectively'.[29] It has been recognised in policy circles that a broader approach is required in order to support and nurture more community initiatives throughout the country. SEAI is currently promoting its Sustainable Energy Communities (SEC) model, where 'everyone works together to develop a sustainable energy system' with the aim of being energy efficient, using renewable energies and developing 'decentralized energy supplies'. An SEC can include 'all the different energy users in the community including homes, sports clubs, community centres, churches and businesses'. Groups are being encouraged to join the SEC Network 'to help build capacity and share skills across communities'.[30] €500,000 has been made available to fund the Network, with financial, and practical support in the form of technical advisors and mentors soon to be offered to member groups. This development is new and will no doubt impact on the community energy sector. Exactly how has yet to be seen. To give a flavour of the Irish community energy sector the following are short descriptions of the activities of three of the groups.

Group 1: The Energy Communities Tipperary Co-Operative (ECTC) initiative arose in 2010 out of a community level discussion in the rural parish of Drombane/Upperchurch in Co. Tipperary about how to halt the tide of emigration that had plagued their area since the economic crash. With the support of the North Tipperary Leader Partnership (NTLP) and the Tipperary Energy Agency (TEA), an Energy Team was formed to concentrate on energy conservation and efficiency. In 2011, the group carried out a door-to-door energy survey which showed that a 25% reduction in energy usage could save the

parish €250,000. The group participated in the pilot phase of SEAI's BEC programme in 2012 and subsequent years. Seven new village communities had been recruited by 2015 and at the instigation of SEAI, the eight communities came together to form a co-operative. Over the four years, a total of 295 homes and 6 community buildings have been upgraded. The ECTC is run on a voluntary basis. 2 members from each community sit on the ECTC Board. A project manager is paid under the grant to oversee the BEC work. Ongoing facilitation, secretarial, and leadership support is provided by the NTLP and technical advice from TEA. An application has been made under the 2016 BEC call and the ECTC has applied to become a Sustainable Energy Community and a member of the SEC Network.

Group 2: The three Aran islands - Inis Mór, Inis Meáin, and Inis Oírr, off the west coast of Co. Galway have been a focus for renewable energy initiatives for some time, including a three-year trial of electric cars overseen by SEAI. Following an initial meeting of interested islanders, the Aran Islands Energy Co-Operative (AIEC), was established in July 2012. Modelling themselves on the Danish island of Samsø, the group's aim is to work towards becoming self-sufficient in locally generated renewable energy, and free from dependence on oil, coal and gas by 2022. The plan includes developing a closed smart micro grid between the three islands.

The group participated in the 2012 BEC pilot and subsequent years. In all, 130 homes and a number of public and community buildings have been upgraded, and other homes have carried out their own retrofits. A bicycle business now rents out 14 electric bikes, powered by 2 kW of PV. In 2014, the AIEC proposed the installation of a wind turbine on Inis Mór. However, the potential site was objected to, but the main objector has now joined the group and the location is currently being reviewed.

The Aran Islands Energy Co-Operative is non-profit and has 40 island members. The group partners with an outside construction company to implement the BEC scheme. An application has been made to the SEAI BEC Scheme under their 2016 call and the group has applied to become a Sustainable Energy Community and member of the SEC Network.
Group 3: Clonakilty is a small town located in the south west of Co. Cork, and is known for its civic mindedness and environmental awareness. In 2006, the Sustainable Clonakilty (SusClon) group was set up in response to the challenges of climate change and peak oil. The Swedish 'Natural Step' process for sustainable communities was adopted. Various local events were organized, including an annual energy week, to help inform and mobilise the local community. A number of small grants were received, one which funded a study tour for five members to Güssing in Austria, another paid for a local energy audit. In 2010, SusClon received funding for the development of the Clonakilty Renewable Energy Roadmap, which detailed how the town could shift towards energy neutrality by 2020. In early 2011, the group partnered with Cork County Council and the Cork County Energy Agency and applied to become one of SEAI's initial five Sustainable Energy Communities. SusClon was not chosen, which was a major blow for the community group. The disappointment of not receiving this recognition and support, coupled with the impact of the economic downturn on volunteer numbers and energies, and the retirement of their voluntary co-ordinator, pushed the group into temporary recess. Over the next few years their activities were sporadic and low key. In 2014, SusClon rejuvenated and partnered with a Cork based community insulation company and received a BEC grant. Upgrades were made to a local hotel, restaurant and the rugby club. The grant

also supported the development of a Cycle Scheme, open to local residents and tourists, with docking stations in the grounds of participating hotels. Other nearby towns are now looking to replicate this idea. SusClon could not secure enough local interest to apply under the 2016 BEC call. It was felt that the fact that implementing the 2015 BEC programme had been so challenging, may have put people off. The remaining members of SusClon have agreed to downscale their ambitions as the carbon neutral target is unrealistic. They are now looking at smaller projects such as growing trees to offset their members' carbon footprint and holding bi-monthly public meetings on sustainable topics.

Sustainable Clonakilty is registered as a Company Limited by Guarantee, with charitable status and is run on a voluntary basis. A prominent group member volunteered part-time to co-ordinate activities from 2006 until mid-2012. At its height, over 230 people were on the email contact list, with 70 paid up members. 50 members remain.

DISCUSSION

As these descriptions demonstrate, how a group emerges, the task it sets itself, the support it gets along the way, and the local context can all determine the outcome. A community energy practitioner needs staying power and the ability to respond to whatever challenge comes around the corner. In general, there is a feeling amongst members that community energy should not be over-hyped and policy makers must not expect miracles from local volunteers. It can be challenging and hard work. Sometimes, the group will face opposition from outside and will need to respond carefully and with understanding. In the case of the AIEC, the main person objecting to the wind generator proposal is now part of the group.

Feedback throughout this study indicates that outside agency support is key to the successful development of the sector, and it needs to be consistent and for the long-term. Such support can help to bridge the experience and knowledge gaps. For instance, the ECTC has benefitted greatly from the key involvement of both the NTLP and TEA. In the case of SusClon, the blow experienced by the organisation when expected support did not materialise left an indelible dent on group morale and momentum. Funding is another big issue for group members. The BEC grant only goes towards retrofit and project management costs, it does not fund the running of the group. Stress and volunteer burnout is a problem. The BEC scheme is very complex, and requires a level of financial, technical and administrative skill that is beyond the average volunteer. It is particularly hard for community groups to compete for funding against business consortiums. Also, the scheme is so time intensive that it is difficult for group members to focus on other areas like energy generation or behaviour change. Interviewees also made reference to the fact that it is hard to expect people on the ground to respond to the energy transition if there appears to be no national plan, and no leadership. People need to see that others are also making practical and lifestyle changes, particularly those at the top.

The community energy sector began to emerge in the UK in the mid 1990's. A survey of 190 community energy groups,[8] shows that the sector is primarily grass-roots and citizen-led. 59% of groups were established by individuals and a further 34% by pre-existing groups. 82% of the groups were involved in the generation of renewable energy, 86% in energy conservation, with 68% saying they were focusing on both. Despite the fact that community energy has more access to funding sources in the UK than in Ireland, many of the

challenges faced are similar to those in our study. Interestingly, in the UK, 79% of the projects surveyed were less than five years old, and the average age of groups was just over 4 years, which raises questions about long-term viability. In general, the number of project supporters was quite low, with 24% reporting up to 10 supporters and 50% up to 30 (the figure is somewhat higher in the Irish examples). The authors state that there are inherent tensions in the community energy model and, while they are optimistic about the future, they question the ability of groups to scale up, and to become more professional and commercial, especially if they continue to operate on a voluntary basis. After all, one of the biggest challenges faced by community energy initiatives is that they are promoting practices which run contrary to a 'wider unsustainable regime'.[28]

In order to gain local buy-in, the Irish groups in our study feel they need to capitalise on a community's sense of identity and pride of place, to talk about issues such as job creation, savings on energy bills and more comfortable homes, to promote community ownership of energy "profits", and to highlight the community rewards, such as support and recognition from outside, and a shared interest in seeing the community thrive. They want to promote the sense of community, of camaraderie and shared experience that can be derived from involvement in such an initiative. This is all over and above the carbon savings.

CONCLUSION

Energy efficiency is hard to achieve. Efforts to foster behaviour change by focusing on individuals are having limited success. Focus is now shifting to working with people in groups and, in particular, in communities. This paper has outlined why this approach is of interest, and it looks at on-going research into the

emerging community energy sector in Ireland. It outlines the current and evolving policy support agenda, presents three group examples, and mentions some of the learnings from the study, with reference to the experience in the UK.

The research highlights that, while community energy cannot be seen as the silver bullet or the cheap option, it can, if given the appropriate supports, contribute to the energy efficiency challenge. However, the sector will not survive on its own. Grassroots community energy groups, arising from the bottom up, need funding and outside agency support. Their distinct needs, which are separate to those of businesses and other stakeholders, should be reflected in policy supports. Community groups cannot be lumped into one single category as how they operate is determined by who sets them up, the local context, what they aim to do, and the supports available. This may make them difficult to replicate and up-scale, and there are questions about long-term viability, but when community energy groups work, they can create benefits that stretch far beyond energy efficiency units, and into areas relating to the acceptance of change and new technologies, and the development of social capital and community resilience. Nevertheless, one concern arising from this research is whether the development and spread of the sector can occur at a pace that is commensurate with climate change targets. For this reason, it would appear prudent for policy makers to accept that community energy, while very important, is but one part of a multi-pronged approach.

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