

Models of a zero carbon future

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Recent years have seen a surge of interest and activity in small-scale, sustainable energy projects led by local communities. Innovative community energy projects (CEPs) provide a variety of benefits and could contain seeds crucial to nurturing a zero carbon Britain. At the same time, the everyday realities of community energy are far from trouble-free. Whilst often inspiring, exemplary projects can struggle even to survive, let alone to help diffuse innovations for a more sustainable world. This article reviews the Community Innovation for Sustainable Energy (CISE) research project, conducted by the Universities of Sussex and East Anglia, into the challenges the community energy sector faces and the kinds of support projects need to realise their potential.

Community energy projects: diverse, dynamic and growing

The community energy sector is growing fast. Recent estimates suggest that over 1000 projects are active in the UK alone. There is also immense diversity within the field. In CISE 12 in-depth case studies and a survey of 190 initiatives were completed on a wide range of groups in different locations. These groups used various combinations of energy technologies, awareness raising activities and demand reduction. They included, among others, the South Wheatley community-owned wind turbine in Cornwall; Brighton Energy Co-op in Brighton & Hove; and Carbon Conversations – a group-based approach to low carbon living, which uses key ideas from psychotherapy to examine the role of carbon in modern lifestyles and identities. Community energy is not just a UK phenomenon either. It has a longer history in Denmark, Germany and Austria, whereas in other countries it has only recently started to emerge.

Even though CEPs usually focus on sustainable energy action, projects can have wider remits than just delivering on energy-based objectives. As CISE reveals, CEPs are not only diverse in their set up and organisation, they also have varying motivations and approaches. Community groups can get involved in sustainable energy projects as much because of energy costs, fuel poverty and climate change, as to do something together in their neighbourhood or simply improve a local community building (see Table 1).

Despite the diversity of projects and their motivations, community groups often face similar challenges. These usually include:

- Lack of available resources (e.g. dedicated time, volunteers and technical expertise).
- Technical issues with the project.

- Changes in government policy (e.g. the feed-in-tariff)
- Planning hurdles
- General public disinterest in sustainable energy

Group dynamics are also critical, with some groups operating more harmoniously than others.

As the projects are so diverse, community energy initiatives face a wide range of lessons and challenges. There can be no one-size-fits-all blueprint for success, but some common themes have emerged within CISE. Successful groups tended to go through steep learning curves, drawing upon the skills and networks brought by participants. They also developed new group skills and often extended these networks to other community energy projects and organisations.

Table 1: Objectives of UK community energy groups (Seyfang & Park, 2012).

Objective	% of respondents
Economic	96%
Saving money on energy bills	83%
Generating income for community	52%
Tackling fuel poverty	47%
Skills development	31%
Local job creation	27%
Environmental	88%
Reducing carbon dioxide emissions	80%
Improving the local environment	48%
Social	73%
Community wellbeing and health	43%
Improving education	40%
Social cohesion	39%
Social inclusion	37%
Creating volunteering opportunities	29%
Political	73%
Community empowerment	57%
Influencing sustainability/energy policies	44%
Community leadership	27%
Infrastructural	68%
Improving energy security	60%
Community building refurbishment	33%

Other key success factors for community energy groups are:

- A committed organising group
- Material resources like funding
- Social resources like credibility and trust
- Good project management
- Support from other organisations
- An enabling policy context, such as local authorities being aware of community energy and its potential.

Networking amongst CEPs is also significant in the UK. Speaking to other community groups and advisory organisations can help gather information and advice on training, resources, lobbying and publicity. However, whilst projects are increasingly sharing their learning and knowledge with each other, they are often not sharing with key decision-makers. This means that, all too often, policy decisions fail to reflect the realities of community energy development. In some cases, too, learning gets lost. This may be due to lack of support, changing contexts in which groups develop, and limited systematic evaluation of different projects. Despite the hard work of key intermediary organisations, such as funding bodies and national community energy networks, and the existence of technical information and project design tools, much of this experience is not captured, shared, or built upon to make community energy easier to diffuse and scale-up.

Developing a zero carbon future

Community energy is very much a product of local, social and political contexts, and projects will need to be approached differently in different settings. Local communities often know best what fits in their circumstances. However, in order to become more mainstream the sector requires more thoughtful and sophisticated support. Community energy is a hotbed of innovative solutions and financial support is important, but so is the development of 'soft skills' – such as advice on how to utilise tacit local knowledge, develop partnerships and engage with different types of stakeholders. The sector also needs policy measures that are less focussed on 'carbon reduction' or 'energy generation', but more respectful to the diverse aims and objectives of community energy groups.

Furthermore, policy makers need to realise that sudden changes in policy, such as the changes in the feed-in-tariff in the UK, can have dramatic effects on the viability of different CEPs. There is a need for a long-term perspective that is communicated to groups well in advance. CEPs are far more vulnerable to policy changes than more mainstream energy actors. A great number of people and networks are already involved in community energy and building a zero carbon Britain today. This presents a pool of innovative ideas and experience for others to draw upon. Policy makers should tap into these dedicated groups as gateways of access and knowledge on wider community development, enabling the building of vibrant and resilient zero carbon communities.

References

Seyfang, G. and Park, J. (2012) *The UK Community Energy Sector* Grassroots Innovations Research Briefing 16 (Norwich: University of East Anglia and Brighton, University of Sussex)

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Community Innovation for Sustainable Energy (CISE) research project

The Community Innovation for Sustainable Energy (CISE) project researches the diffusion of community energy projects in the UK, and involves researchers in the Sussex Energy Group (SPRU, University of Sussex) and 3S (University of East Anglia). CISE runs from October 2010 to September 2013, and is funded by the UK Engineering and Physical Science Research Council (EPSRC) and the European Centre Laboratories for Energy Efficiency Research (ECLEER) of EdF Energy. For more information, and access to the latest findings of the research, please visit: <http://grassrootsinnovations.org>

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