



# Scottish community energy and growing projects offer food for thought

'Community assets' is JRF's programme of research and development that is exploring the role of community-owned land, buildings and other assets in the development of neighbourhoods.

Its seminar series is a forum to discuss policy development issues relating to this agenda.

Community energy and food-growing projects can build economic and social as well as environmental resilience – but they need to overcome a host of challenges. Julian Dobson reports from the third of the Joseph Rowntree Foundation's (JRF's) community assets seminars.

## Main points

- An increasing variety of community energy and local growing schemes are being pioneered in Scotland and across the UK.
- The emerging models provide examples of both climate change mitigation and adaptation, reducing carbon outputs and dependency on imported food and energy, and creating local food and energy security.
- Community energy and growing projects have important secondary benefits, bringing local people together, helping to provide new facilities, and generating jobs and skills development. Successful community projects build economic and social as well as environmental resilience.
- The challenges facing community-led schemes can be formidable and overcoming them demands a high degree of persistence and inventiveness.
- New ideas are emerging that, given sufficient support, can help to overcome these challenges.



## Creating resilient communities

Even a challenge as simple as finding some land to use to grow fruit and vegetables can be fraught with pitfalls.

When it comes to installing wind turbines or other forms of renewable energy, the hazards can appear insurmountable. Yet communities across Scotland are finding ways of overcoming them, blazing a trail for others to follow.

The third event in JRF's series on community assets focused on the Scottish experience of building resilience to climate change, examining how local control of land and energy could help to reduce fossil fuel dependency and create skills and capacity within communities.

Already there is plenty of experience to learn from, with around 800 community energy projects in Scotland and a rapidly increasing number of local growing schemes. Most of them are very small scale. But as Nicholas Gubbins, Chief Executive of Community Energy Scotland, pointed out: 'They may start very small with one solar heating panel but whenever people start they want more. We see it as a step towards creating confident resilient communities.'

Energy projects may start with an ambition as limited as powering a community building. But as local people gain experience, they may consider more ambitious schemes such as wind farms or small-scale hydro power. Growing schemes tend to be smaller and simpler, but even these can face complex issues in gaining access to land.

## A patchwork of inventiveness

While commercial models of food or energy production tend to be easily categorised, community projects have spawned a diversity of approaches, remarkable for their inventiveness in responding to local circumstances and opportunities.

At the smallest scale the solutions tend to be simple and easily replicable. Many local groups have acquired or borrowed patches of unused land for local growing projects, sometimes through unofficial 'guerrilla gardening' activities, which may have no legal sanction but are allowed to go ahead because they visibly improve an area.

At Eriskay a community venue uses a small wind turbine to power storage heaters; others have installed biomass boilers. Such schemes are relatively inexpensive but the impact may be limited to a single building – though it may have deep significance in the locality it serves.

As schemes get bigger they get more complex. So far this has been much more of an issue with energy than with growing projects. Nicholas Gubbins identifies four general models in a briefing paper prepared for the seminar. First, there are investment co-ops or industrial and provident societies, where members of a community can invest in privately developed renewable energy projects and benefit from a share of the revenue they create. Such schemes have so far only been used for wind power developments.

The second model is joint ventures between community organisations and private renewable energy companies. Community Energy Scotland is supporting twelve such schemes. The risk is generally taken by the developer, but the community gains a stake – sometimes as a way to secure support for a scheme that might otherwise provoke opposition. The joint venture can either be through a distribution of shares, or by a physical separation of the private and community parts of a wind farm. The second option leaves the community with a physical asset (and the responsibilities that go with it) as well as a revenue stream.

The third model is where community organisations develop and own their own renewable energy facilities. There are four so far – on the islands of Gigha, Tiree and Westray, and at Findhorn in Morayshire – but many more proposals are being developed. At Westray, for example, a 900kW wind turbine is bringing in £100,000 a year for the islanders. However, the project took almost six years to complete, with particular difficulties in gaining connection to the National Grid and buying the turbine.

The fourth model, so far, is a one-off: Fintry Development Trust has negotiated a deal with a private wind farm developer, Falck Renewables, in which it effectively takes out a mortgage on a single turbine within a development, gaining more revenue as it pays off the capital cost.

Although projects can be categorised to some extent, the circumstances prompting each are unique and the responses are finely tailored to local conditions. The Eigg micro-grid, for instance, was conceived as a solution for an island community that is not connected to the National Grid and previously had to buy in fuel to power diesel generators. Although it is a much surer and more sustainable energy supply, the capacity is limited. So residents have agreed a usage quota, with a lock-out and reconnection penalty for those who exceed it. If that sounds harsh, the sanction has never had to be imposed; people have got used to monitoring and regulating their own usage.

## **Adaptation, mitigation and more**

The schemes discussed at the event and in the related briefing papers all help to build community resilience to climate change. But they do more than that, and this is why their apparent complexity and the difficulties of working at scale should not be seen as deal-breakers.

While energy schemes usually have a mitigation effect, reducing the amount of carbon dioxide pumped into the atmosphere, growing schemes are potentially helpful as adaptive measures too, providing local produce that will grow in changed conditions as well as reducing the carbon outputs associated with global food distribution systems.

Some might see the volume of carbon dioxide reductions as relatively insignificant compared with the scale of the problem of climate change and the need to act swiftly to meet UK and Scottish carbon reduction targets. But this would miss the value of energy and growing projects in building resilience on a broader front. In Ainess, Highland, for example, the installation of a biomass boiler in a community-run leisure centre not only resulted in lower heating costs but enabled the centre to put on more activities, thus bringing in income from an extra 8,500 visits a year.

One of the most important aspects of resilience is the ability of a community to work together in the common interest, taking decisions and implementing plans together. To achieve that, projects need to be rooted in local identity and culture.

Joseph Murphy, Research Councils UK academic fellow at the Sustainability Research Institute at Leeds University, explained how the proposed Barvas wind farm on the west side of Lewis stirred up more than 10,000 objections – at least some of them because the plans appeared to ride roughshod over the islanders' heritage, erasing or ignoring important cultural landmarks. In contrast, a much smaller scheme has now been approved, devised and owned by the islanders themselves after they bought their own land. The amount of electricity generated may be much lower, but it is produced to meet local needs and in a way that respects local identity.

Resilience can be seen, too, in terms of increasing local skills. Most projects result in skills development in that community members gain technical knowledge, project management experience and negotiating and brokering skills, which can be used in other contexts. Eigg's residents insisted on being trained to service and repair their own energy installations, arguing that when the island was cut off by bad weather external contractors could not be relied on.

A third aspect of resilience is self-determination. It's significant that in many cases land acquisition and energy projects have gone together, and the revenue generated has gone to meet local needs. In the case of Gigha, the money financed long-overdue improvements to unfit housing, creating a virtuous circle of revenue raised from new renewable energy, invested in energy efficiency for existing homes, resulting in reduced energy demand. It's worth noting that the programme of physical improvements that has begun in Gigha stemmed from a concern to rectify social injustice. This is an aspect of resilience that can only stem from action at a community level.

A fourth aspect of resilience is diversity. Landscape, an experiment at Schumacher College, Dartington, Devon, aims to break up a 700-acre dairy farm and create a multiplicity of land uses. The aim is to use the land to support interconnected businesses working in what is described as 'industrial symbiosis'. There are already twelve schemes on site, ranging from mushroom growing to ecological horticulture, and it is hoped that having a range of complementary activities will allow much more productive use of the land than through traditional farming.

## Overcoming challenges

While community projects clearly offer a wide range of benefits that are not achievable through commercial schemes, they also face difficulties that commercial enterprises often do not have to overcome. The list below illustrates some of the key issues raised through the presentations at the event and during workshop discussions:

*Access to capital:* it is difficult for a community organisation to raise money for capital-intensive schemes such as wind turbines. Community share issues or creating co-ops can be time-consuming ways of raising money with no guarantee of success.

*Land ownership and acquisition:* small-scale energy projects such as turbines or biomass boilers designed for a single building do not usually require land purchase, but wind energy schemes may involve having to buy or lease the ideal site for a turbine. While there are many 'meanwhile' local food

projects using land on a temporary basis, creating more permanent gardens or vegetable plots can be problematic. Some local authorities are unwilling to allocate land for allotments as the law then requires the Secretary of State's approval if the authority wants to change its use.

*Local buy-in:* the Barvas proposals illustrate the importance of schemes that fit within local culture and identity. Wind schemes can be especially contentious because of their visual impact.

*Scale:* community energy and growing schemes may be seen as a sideshow in the wider task of coping with climate change. Governments are traditionally more willing to work with large private sector organisations that can build quickly and on a large scale. There is relatively little support available for local projects.

*Public funding:* while there are incentives for small-scale energy producers through the feed-in tariff there is little access to loan or grant funding and limited support available to build technical and organisational capacity. The funding climate is getting harsher and many projects will not get going without help.

*Planning:* a frequent complaint from both energy and growing projects has been that there are too many bureaucratic hurdles. One participant spoke of different officers within the same local authority giving conflicting advice; several commented that there was no consistency between different authorities.

## **Finding new solutions**

While there are numerous difficulties that place community organisations at a disadvantage when trying to address climate change impacts, the seminar revealed a well of determination and creativity. There is a high degree of willingness to explore and test new solutions, and a readiness to share information and co-design new approaches.

Four of these are especially worth highlighting. One idea promoted by Nicholas Gubbins in his briefing paper is to establish a revolving loan fund to finance community energy projects, enabling capital to be released for new schemes as mature ones repay their loans. Community Energy Scotland has begun to investigate how such a fund could be set up. In parallel with these discussions, the Scottish Government is considering a significant increase in its investment in renewable energy.

A second option, proposed by Highlands and Islands historian Professor James Hunter, suggests imposing a levy on large-scale commercial renewable energy production, which could be used to finance community land buy-outs and energy projects. In this way there could be an explicit link between commercial exploitation of renewable energy resources and building community resilience.

A third suggestion, developed in one of the workshop discussions, could be to set up one or more community energy services companies (ESCOs) that could attract money from charitable donors, investors and pension funds. This would remove the complexity and duplication involved in fundraising for a plethora of small local projects – the ESCO would act as an intermediary, bringing together investors and local partnerships to support projects with a viable business model.

The fourth innovation is being developed for local growing projects, but is similar in principle to the ESCO idea. This is to create a community land bank to make land available for local food projects. The land bank would be an intermediary, working with landowners to negotiate leases and to uphold best practice in land management, and could also hold land in trust for the community.

The land bank idea is being developed by the Federation of City Farms and Community Gardens and Local People Leading in response to a rapidly increasing demand for land for food growing – the federation’s membership in Scotland rose from 10 to 73 between 2005 and 2010, while Scotland now has 6,000 people waiting for allotments.

These ideas still require much work, time and financial support – we are some way from seeing a mature community energy and land sector that can support a mix of sustainable projects capable of building long-term resilience. In particular, there are few schemes of any scale in urban areas, especially those disadvantaged areas that are more vulnerable to the failings of the private market and the withdrawal of public sector support.

But we have come a long way down this road in quite a short time. A movement that looks fragile and vulnerable now may prove to be the backbone of many communities in Scotland and elsewhere in the UK within a few years.

The briefing papers, *The role of community energy schemes in supporting community resilience* and *At the edge: community ownership, climate change and energy in Scotland* are both available from the Joseph Rowntree Foundation at <http://www.jrf.org.uk/events/community-assets-seminar-series>

## About the author

This summary was produced by Julian Dobson for JRF. Julian is a writer, speaker and commentator on regeneration, placemaking and social policy. He works as a trainer and facilitator, helping organisations find creative solutions to the problems of place. Julian was the founding editor of New Start magazine.

## Coming up in the Community Assets Seminar Series:

February 2011: The role of community assets in new developments

April 2011: Finance and business models for community organisations

June 2011: Experiences of community control of assets in practice

Please note: dates are provisional and subject to change. Locations to be confirmed.

## Other formats available.

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