

POLICY PAPER

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# GALVANISING COMMUNITY-LED RESPONSES TO CLIMATE CHANGE

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## ACKNOWLEDGEMENTS

The primary evidence base for this paper is the experience of the ten community initiatives that were the finalists for the Big Green Challenge. The ten finalists presented their own progress reports throughout the competition year 2008/2009 and they have been the subject of detailed evaluations commissioned by NESTA. The last of these was carried out in the last few months of 2009 by Brook Lyndhurst and included focus groups and stakeholder, participant and finalist interviews, with the findings reported to NESTA in February 2010. This evaluation evidence is used extensively in this paper to highlight the lessons that can be drawn from the finalists. In addition, evidence is drawn from 17 other community-led initiatives that entered the Big Green Challenge (which are now receiving funding from DECC), and the Eden Forum (a project in the South West of England part-funded by NESTA).

NESTA would like to thank the members of the community organisations for the time, effort and enthusiasm they have shown in responding to the numerous requests for information and comments about their initiatives during the Big Green Challenge:

The Green Valleys, Brecon Beacons - [www.thegreenvalleys.org](http://www.thegreenvalleys.org)

Home Energy Services, Ludlow - [www.h-e-s.org](http://www.h-e-s.org)

The Isle of Eigg Heritage Trust - [www.islandsgoinggreen.org](http://www.islandsgoinggreen.org)

Low Carbon West Oxford - [www.lowcarbonwestoxford.org.uk](http://www.lowcarbonwestoxford.org.uk)

Waste Oil Recycling in Prisons Project - [www.nesta.org.uk/big-green-challenge](http://www.nesta.org.uk/big-green-challenge)

St Bede's Catholic High School, Lytham - [www.easy2begreen.co.uk](http://www.easy2begreen.co.uk)

Back 2 Earth, Hackney City Farm - [www.hackneycityfarm.co.uk](http://www.hackneycityfarm.co.uk)

Faith and Climate Change in Birmingham - [www.faithandclimatechange.wordpress.com](http://www.faithandclimatechange.wordpress.com)

Global Generation, Kings Cross, London - [www.globalgeneration.org.uk](http://www.globalgeneration.org.uk)

The Meadows Ozone Community Energy Company, Nottingham - [www.meadowspartnershiptrust.org.uk](http://www.meadowspartnershiptrust.org.uk)

This paper has been written on behalf of NESTA by Trevor Houghton (Houghton Research) and draws on consultations and direct contributions from Peter Capener at NESTA and Jayne Cox, who with colleagues from Brook Lyndhurst, undertook the independent evaluation of the Big Green Challenge.

# EXECUTIVE SUMMARY

**A**longside action by government and business, community-led innovation will be central to the UK's ability to achieve its CO<sub>2</sub> emission reduction targets. In order to galvanise community-led responses to climate change, government will however need to be more active in creating the conditions within which community leadership can flourish. This paper draws out the lessons for UK government climate change policy, drawing on communities' experience of NESTA's Big Green Challenge. It proposes a series of practical recommendations by which government could ensure that communities are more willing and able to take action in their own right with respect to climate change.

The Big Green Challenge demonstrates that, together with other government initiatives, community-led innovation can be a powerful means for delivering national strategic objectives – at a lower cost to the public purse and with less bureaucracy than traditional grant funding processes for community and voluntary groups.

The Big Green Challenge was an innovation competition to stimulate and support community-led responses to climate change with a £1 million prize fund. The challenge to entrants was to develop and implement sustainable ideas for reducing CO<sub>2</sub> in their communities. The Big Green Challenge winners achieved reductions in CO<sub>2</sub> emissions of between 10 per cent and 32 per cent in just one year. When these reductions are set against the UK target of achieving a 34 per cent reduction by 2020 it can be seen that these community-led initiatives have delivered substantial cuts in emissions in a very short time span and have the potential to deliver deep cuts that will exceed the UK 2020 target in a matter of years.

The main lesson that should be drawn from the experience of Big Green Challenge finalists is that the simple process of acting together is a powerful force for changing people's perception of their own capabilities and has the potential for generating collective action to tackle big problems like climate

change. The Big Green Challenge finalists were able to start the process of culture change in their communities, namely in collective beliefs and behaviour. They were able to achieve this because participants felt more strongly that they should be doing something, through meeting people to share ideas with and becoming more convinced they could actually make a difference.

From this, and in a very short time, the Big Green Challenge finalists have strengthened the capacity of their communities to act, by for example developing legal structures, the ownership of physical infrastructure, new organisational forms, and skills in business, financial planning, and networking.

As a result of this, community initiatives have the potential to become self-sustaining. Having realised the strength of collective action, communities actually require relatively light touch (though no less important) interventions from central government to take forward initiatives in their own localities or communities of interest.

A key part of the innovation revealed in the Big Green Challenge was communities taking control of their own energy supply or performance as a means to generating income to support other community climate change activities. However, the experience of these projects shows that in some instances the design of programmes, the forms of regulation and bureaucratic processes put in place by government, its agents and key partners such as energy companies, actually hinder rather than aid the development of community-led initiatives.

Given the prospects of substantial cuts in public spending into the foreseeable future, realising the potential to create self-sustaining community-led initiatives should be an integral part of government policies to tackle climate change.

Government needs to design programmes that align more closely with the ways in which community-led initiatives work most effectively. This will depend on a more outcome-driven approach, one that provides

space to local organisations to innovate and devise appropriate solutions in their communities (for example, conditions in programmes that disallow ‘DIY’ approaches and the use of local contractors need to be revised while maintaining controls on quality of installations). Regulatory regimes need to be appropriate to small-scale projects, and bureaucratic processes should be simpler and speedier.

But the most important thing for government to do is to help community-led initiatives to become more self-sustaining and less reliant on short-term grant funding. Community-led initiatives require appropriate financing mechanisms. This could include providing seed corn finance and business development support in the initial stages of getting an initiative off the ground, and underwriting some of the financial risks of initiatives to make them more attractive to private investors. Further, government needs to recognise the need to support the core administration of community-led initiatives, not to assume an inexhaustible pool of volunteer labour.

Longer-term, government needs to be seeking advice and input from community organisations about the development of smart grids, as these offer many opportunities to create a favourable environment for local initiatives.

There are six main ways in which government could galvanise the community-led responses to climate change, with specific recommendations as detailed below. These changes would represent a significant and valuable shift in policy – from regarding communities essentially as passive recipients of initiatives to working with communities to unleash their potential, and from focusing mainly on the individual household or business to building a much stronger sense of collective action and purpose.

## 1. Creating an independent income stream for community-led initiatives

### Supporting community ownership of renewable energy

Government should:

- Promote community ownership of renewable energy schemes where revenues are to be reinvested in other carbon emission reduction measures. This should include, as well as basic advice, support through national planning policy and support mechanisms for initial development.
- Investigate and put in place mechanisms for giving access to capital finance on preferable

terms to community-led initiatives developing renewable energy schemes.

- Provide or support the development of early-stage investment for communities looking to carry out at-risk work on renewable energy projects and to invest in organisational capacity development.

### Feed-in Tariffs and the Renewable Heat Incentive

Government should:

- Ensure processes for accessing FITs and the RHI are kept simple and straightforward for community-led initiatives.
- Provide guidance and some form of hand holding service to communities to ensure they can access this support.
- Exempt community organisations from having to pay back capital grants in order to benefit from FITs.

### Access to distribution grids

Government should:

- Follow through on ensuring appropriate licensing arrangements are put in place to make it easier for community energy schemes to interact with the wider electricity system and ensuring that these work.
- Include community organisations and social enterprises in the consultations about developing smart electricity grids and earmark some of the existing development funding for addressing how to integrate community-based schemes into the future vision.
- Recognise the role of community-led schemes in developing low carbon heat supply by ensuring that such schemes are included in local heat planning.

## 2. Building community capacity to develop carbon emission reduction initiatives

Through the EST and other agencies, government should further develop and fund support services for community-led initiatives. These should be developed in collaboration with community organisations.

- Give emphasis on networking community organisations to provide peer to peer support/mentoring.
- Provide differentiated support and funding for



initiatives at different stages of development.

- Strengthen the range of specialist advice available to communities, including legal support.
- Work with potential funders like the Big Lottery Fund and other charitable trusts to develop focused funding for community capacity building around sustainability and climate change issues.

### 3. Supporting community-led initiatives as social enterprises

Government should:

- Promote and financially back the development of 'trade association'-type support bodies to enable peer to peer support among community-led initiatives.
- Give a specific remit to RDAs to provide business support services to social enterprises focusing on carbon emission reduction.

### 4. Sending the right signals – consistency and outcomes

National, regional and local government and agencies should:

- Aim to send consistent long-term signals on carbon reduction to local communities by setting out clear outcomes in programmes. This includes avoiding the negative signals generated by the experience of the 'stop-start' delivery of some financial support mechanisms such as the Low Carbon Buildings Programme and major energy efficiency programmes such as CERT.
- Utilise an approach that joins top-down messaging with bottom-up action to raise awareness and promote behaviour change, for example utilising examples of local community action in national campaigns or resourcing local action to consolidate the impact of national campaigns.

### 5. Scaling-up and replication

Government should change its approach to spreading the impact of community-led initiatives by:

- Relying less on direct replication of 'best practice models'.
- Focusing more on creating the opportunities

for communities to develop their own solutions, learning from each other but not based on models imposed from the centre.

- Accepting that it is part of any innovatory process that a proportion of initiatives will fail and for this to be openly recognised by decision-makers.
- Reviewing the interface between communities and energy suppliers, local authorities, central government on climate change issues and working to remove the barriers to effective partnership with community-led initiatives.

This approach should also be reflected in the design of key programmes such as the energy suppliers obligations under the Community Energy Saving programme and the Carbon Emissions Reduction Target, FITs and Renewable Heat Incentive, the EST's Green Communities programme and DECC's Low Carbon Communities Challenge and any follow-on initiative.

### 6. Measuring and recognising success

Government should fund the development of a single standardised carbon footprint methodology and toolkit linked to NPI 186 that can also be used at a community level. It should ensure that the methodology:

- Is developed with the input of community-led initiatives.
- Allows for lay people to collect appropriate data and process it for their own use.
- Is applicable to a very wide range of carbon emission reduction actions.
- Is suitable to very different local contexts, for example different kinds of housing stock, sources of reduction (business, housing, farms), and local fuel mix (for example where there is no gas supply and heating fuel is bought occasionally in bulk).

Government should also:

- Encourage energy suppliers and local insulation scheme managers to make monitoring data available to community-led initiatives.
- Develop a national community award to give recognition to communities that have achieved particular milestones in carbon reduction.

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## PART 1: LESSONS FROM THE BIG GREEN CHALLENGE – THE VALUE OF COMMUNITY-LED INITIATIVES

In order to make appropriate interventions to realise the full potential of community action, government needs to understand the processes behind community-led initiatives and how they can be used to reach further and achieve more. Here the lessons from the Big Green Challenge are used to show what factors enable community-led initiatives to work effectively to deliver deep cuts in carbon emissions.

### The Big Green Challenge

Launched in October 2007, the Big Green Challenge was an innovation competition to stimulate and support community-led responses to climate change with a £1 million prize fund. The challenge to entrants was to develop and implement sustainable ideas for reducing CO<sub>2</sub> emissions in their communities. The Big Green Challenge was innovative in being a staged process: unusually open and ‘light touch’ in its early phases to invite participation from a wide range of groups and communities, but progressively more demanding in its later stages to bring forward the development of projects with the greatest potential. It was most importantly ‘outcome-driven’ in that it was looking for creative community-led solutions to reduce carbon emissions. This approach ensured a large number of entrants – more than 350 communities in the first stage – but it has also produced significant results in cutting emissions from the winning communities.

There were five competition criteria for the Big Green Challenge.

1. The primary outcome was carbon emission reduction. In aggregate, the ten finalists cut carbon dioxide emissions by between 1,773 and 2,083 tonnes over the competition year during a period when they were laying the foundations for more substantive work and

much larger further cuts.<sup>1</sup> Measuring what has been achieved as CO<sub>2</sub> emissions reduction for a community-led initiative is not a straightforward exercise. In practice it was not possible to capture all the reductions achieved by the Big Green Challenge finalists in their first full year of activity as they included such a wide range of actions. The baselines for each community were also very varied because of the big range of size and type of initiative. The winners achieved carbon emission reductions in the range 10 per cent to 32 per cent reductions over their baselines in the competition year. When these reductions are set against the UK target of achieving a 34 per cent reduction by 2020 it can be seen that these community-led initiatives have delivered substantial cuts in emissions in a very short time span and have the potential to deliver deep cuts that will exceed the UK 2020 target in a matter of years.

2. A key objective of the competition was to promote innovation. The winners have demonstrated a great inventiveness in their approaches to cutting emissions and activating their communities, which is described later in this paper.
3. The ten finalists were largely community-led projects and were judged for their community engagement. Up to 5,800 people were engaged in the finalists’ work with around 2,000 involved in a substantive way.
4. A range of organisational and management models were adopted by the finalists and these were judged for their sustainability. The winners have established themselves as legal entities (such as co-operatives or community interest companies) and have set up structures that are capable of growth and development while fully involving their local communities.
5. The finalists’ approaches were also judged

## The Big Green Challenge finalists

The three winners (each receiving £300,000):

- **The Green Valleys** is an initiative that is developing community-owned micro-hydro schemes, and improving the energy efficiency of homes in the Brecon Beacons National Park.
- **Household Energy Services/Lightfoot Enterprises** is a community-based energy service company that helps households to reduce carbon emissions, improve energy efficiency and save money on fuel bills. It operates in the Welsh borders.
- **Isle of Eigg Heritage Trust.** Residents of the Isle of Eigg are working together to create a green island by generating renewable electricity, installing insulation and solar panels, producing local food and developing low-carbon community transport schemes.

The runner-up (receiving £100,000):

- **Low Carbon West Oxford.** The community is working together on energy efficiency with 35 households and five businesses each year, by planting trees, and by working on local transport and food projects. The resources to support this work are provided by West Oxford Community Renewables, an Industrial and Provident Society for the benefit of the community that is developing a portfolio of renewable energy projects.

The other finalists:

- **Faith and Climate Change** brings together a wide range of organisations in Birmingham to address environmental issues in places of worship and in faith communities.
- **Global Generation's** Living Buildings – Local Links project gives young volunteers opportunities to develop food-growing spaces, biodiverse green roofs and plant-filtered grey water systems on office rooftops, school grounds and development sites in the King's Cross area of London.
- **Hackney City Farm** is home to Back 2 Earth, an environmental project which is pioneering 60 ideas for achieving a 60 per cent reduction in carbon emissions across the farm site and in the wider community.
- **The Meadows Ozone Community Energy Company** is a community-owned energy services company in Nottingham providing local people with advice on energy efficiency and interest-free green loans. Their initiative aims to combat fuel poverty at the same time as reducing carbon emissions.
- **St Bede's High School** in Lytham is aiming to become one of the first ever carbon-neutral schools by installing renewable energy equipment and creating a green culture throughout the school.
- **Waste Oil Recycling Prison's Project** at HMP Ford in West Sussex is reducing carbon emissions at the same time as helping offenders to develop new skills.

In 2008, all the finalists had received £20,000, plus mentoring and business support from NESTA to develop their initiatives over the following year.



for their scalability/replicability. The winners have provided some organisational and legal models capable of replication and with a number of elements that could be used by other community-led initiatives.

The Big Green Challenge demonstrates that, alongside other government initiatives, community-led innovation can be a powerful means for delivering national strategic objectives – at a lower cost to the public purse and with less bureaucracy than traditional grant funding processes for community and voluntary groups.

### **Defining communities and community-led initiatives**

For the purpose of this paper, communities are considered to be self-defining groups of individuals or organisations brought together by geography, identity or interest. The Big Green Challenge finalists are predominantly communities defined by geography but include some communities of identity or interest such as Faith and Climate Change.

Throughout this paper, the Big Green Challenge finalists are referred to as ‘community-led initiatives’. There is a variation in the degree to which communities have actually led these initiatives, with some being more a partnership between communities and NGOs while others have grown out of grassroots action and are clearly led by the local community. The word ‘initiative’ is used to indicate that these are ongoing processes and are not time-limited as might be implied by their description as a ‘project’.

### **Going beyond the technical fix**

Even if we were to accept that most of our necessary carbon emission reductions will be made through technological change, it has to be recognised that human behaviour can completely negate any technological improvement (for example, the homeowner who insulates their home but then chooses to fly on overseas holidays three times a year). But at a much more fundamental level the human factor has a large impact on:

- The level of take-up of technical measures to cut carbon emissions, within as many households as possible.
- The range of carbon emission reducing actions undertaken as a result of individual decisions, within any one household.
- The adoption of carbon emission-reducing

behaviours.

- Innovation in developing new approaches to reducing carbon emissions.

In the space of one year, some of the Big Green Challenge finalists have achieved substantial cuts in carbon emissions and have the potential to deliver deeper cuts in just a few years.

These communities are frequently working on activities that are at a scale that the official centralised programmes wouldn’t spot or want to get involved in (because it is too resource-intensive to do without volunteers), or wouldn’t be good at (because centralised programmes are not responsive or trusted enough). In particular the more successful of these community-based initiatives are pointing the way to the delivery of in-depth systemic change. Some also provide a path to creating self-sustaining and self-motivated initiatives.

Three main factors have been identified to explain the impact and reach of the Big Green Challenge finalists:

- Starting the process of culture change.
- Building the capacity to act.
- The potential to become self-sustaining.

## **Starting the process of culture change**

### **Changing collective behaviour, beliefs and value systems**

There is much talk of behaviour change as a necessary factor in achieving carbon reductions. The Big Green Challenge has shown that community-based initiatives can initiate a process of culture change in the community which reinforces and sustains individual behaviour change.

In this instance, culture change can be defined as a change in collective behaviour, beliefs and value systems. The process will involve, in the jargon of behaviour change theory, creating new ‘descriptive norms’ which specify what is done, based on the observation of the majority of others (Darnton 2008) and ‘personal norms’ such as a belief that it is possible to take action that will make a difference. This underpins a shift towards normalising behaviour that seeks to cut carbon emissions, supported by a belief that collectively a community can make a real

contribution to tackling climate change and that it is a joint responsibility to take action. Without this degree of social change it is unlikely that targets for CO<sub>2</sub> emission reductions will be met.

The experience of the Big Green Challenge finalists suggests that the process of culture change is predicated on a number of factors. The experience of acting together is a key part of such change where participants receive support from each other, reinforcing a sense that they can make a difference collectively. Being surrounded by enthusiastic people, they are able to act where before they were alone and passive. This involves creating a safe space where it is okay to put views into practice and to adopt what might have previously been perceived as marginal viewpoints or identities (such as being ‘green’).

The views of peers are part of this ethos. Belonging to the community becomes an inspiration to action that is matched by a feeling of obligation to support common aims. This context then creates an atmosphere where people feel they are being helped by their community to do what they want to do (as opposed to feeling they are being made to do something) and this can then lead on to being more ambitious and taking further steps that previously appeared too difficult.

*“I’ve seen the potential for the fun that can be had; I think that’s where I’ve shifted culturally. I’ve always shied against it in the past, as I’ve said, the earnest worthy feel to it all.”*

**Participant interview, St Bede’s**

The Big Green Challenge finalists demonstrated five main motivations or reasons for adopting new behaviours that underlie the process of culture change:

- Participants feeling more strongly that they should be doing something (personal norms).
- Meeting new or more people to share ideas with (social norms/learning).
- Being convinced that they could actually make a difference (personal norms).
- Being more confident that they could actually do it (personal norms).
- Finding it to be less difficult than they thought it would be (personal norms).

There was also strong evidence that collective endeavour is a strong motivating and supporting

force for behaviour change. Common feedback from participants was the feeling that ‘doing it together’ had helped them adopt new practices or change how they live, not least by giving them an overall sense that it was easier to do than they imagined. Participation also led to changes in habits:

*“And it becomes a way of life. It is like changing bad habits for new habits, but good habits. So that you don’t actually think about it, it just becomes a way of life.”*

**Focus group, Isle of Eigg**

Key behavioural success factors included:

- Providing a range of options so that people could join in at a level at which they felt comfortable.
- Lack of preaching about climate change and the scale of what needs to be done.
- Locating carbon reduction issues at a personal and local level, for example highlighting local impacts of climate change.
- Providing the means to action as well as a call to action, through direct contact and practical, hands-on support.

As a result, participants generally feel more strongly that they should be doing something, they are more convinced they can make a difference, are more confident they can achieve change in their own lives, and have a sense that it is less difficult than they thought it would be. This applied both to behavioural change and to wider community development, including community-owned micro generation.

### **Directed but responsive leadership**

The most successful of the Big Green Challenge finalists showed that effective leadership provided a directed but responsive approach which resulted in tangible outcomes. Unpacking what effective leadership means in this context highlights the following factors as being important. This leadership is provided by:

- ‘Catalytic individuals’ who have a clear sense of direction and preparedness to take some risks with an entrepreneurial approach.
- People who are ‘embedded’ in their community with strong links to a range of individuals and local organisations.
- Individuals with some relevant experience of

management derived from their ‘day job’.

- People capable of identifying and connecting with the experts/professionals who can provide them with appropriate support both within their communities and from outside organisations.

Such leadership is capable of breaking the mould and innovating. It may in some instances fall to individuals to provide such leadership but several of the most successful Big Green Challenge finalists were led by small groups which managed to balance preparedness to take risks with expertise and experience.

### **The trusted local face – reaching the parts that others cannot reach**

It is often a claimed strength of third sector organisations that they are capable of reaching the parts that others cannot reach (Appleby 2009). This is not universally true, as it is dependent on the capabilities of community organisations and the degree of their embeddedness in their communities. However, in the case of the Big Green Challenge, the finalists have shown a capability to use existing local networks, face-to-face contacts, word of mouth channels and trusted individuals to communicate ideas, and to motivate action by a broad range of ordinary people in their communities.

While it remains true that some of those who have become involved were already motivated and active, there was also evidence that many finalists brought in new people with varying levels of environmental interest who would not have taken action otherwise. While Big Green Challenge finalists found it difficult to reach out to more marginalised groups in their communities; there were some notable successes. For instance Global Generation gave a specific example of how aspects of personal identity had encouraged the young people it worked with to become involved. For some of their ‘Generators’, who are sometimes from low income or ethnic minority backgrounds, being involved in gardening projects with high-profile businesses (such as the Guardian newspaper) was about improving their future employment prospects as much as gardening, and this may have helped them get support from their parents to be involved.

It is also important to recognise the limitations of what community organisations can do with largely voluntary labour. The finalists showed that often the trusted local face also needed the back-up of expertise and this was often provided by outside professionals (such as from the Energy

Saving Trust or an NGO) though in some instances this also came from within the community by local businesses providing *pro bono* support. For instance Low Carbon West Oxford received extensive free advice from a local law firm. Some initiatives also indicated that there was a finite pool of voluntary capacity in any one area.

### **Reaching out**

The Big Green Challenge finalists have been inventive in coming up with ways of communicating their experiences.

A wide range of methods have been used by the finalists to engage with their fellow citizens in their communities. Many of the most successful have simply invited other people to join them in doing some activity, such as creating growing spaces and allotments, having a picnic or planting trees. The Green Valleys have made much use of the artists in their community to create artworks that symbolise what they are trying to achieve. An ongoing project is to weave a gigantic woollen blanket which will be a work of art but will then be laid down to help remediate an area of damaged upland peat bog. The wool, which has little commercial value, has been donated by local farmers, coming from the sheep that have contributed to the damage through overgrazing.

Some have made particular efforts to link up with other similar communities wishing to emulate their example. The Isle of Eigg Heritage Trust has for example set-up an online resource to share its knowledge and experience with other small island communities that want to become more sustainable. The website showcases the work being done on Eigg and on other islands that they are working with, and aims to encourage others to follow in their footsteps. Another finalist, St Bede’s, developed a website which is designed to help other schools run their model, as well as being a means of engaging their own community. Faith and Climate Change has used Twitter to reach out to faith groups in the Birmingham area.

At the heart of what has been achieved in dissemination activities by the finalists is that ordinary people are relating their own direct experience to other ordinary people, motivating them to become involved and take action. This can be seen to be a much more powerful way of motivating people than advertising and exhortation by experts or politicians. It does however have big resource implications and many of the finalists struggled to balance dissemination activities with actually running their initiatives.

### **Putting it together**

By combining the experience of collective action with directed but responsive leadership, using trusted local people and reaching out both within and beyond their communities, the Big Green Challenge finalists have put in train a powerful process that is beginning to create a new culture of taking responsibility to act to cut carbon emissions.

### **Building the capacity to act**

The Big Green Challenge finalists have, in a very short time, developed the capacities of their communities to act on climate change. Building these capacities was a fundamental part of the process of culture change in these communities. Though these capacities are in most instances not specific to action on climate change, they are the essential basis for effective community action or the operation of successful social enterprises. In some instances the finalists have got to the point where they are ‘investment ready’ in that they are primed to both attract and effectively use finance from a range of sources (in the form of the Big Green Challenge prize, private investment, or further grants).

The key capacities to act include:

#### **Legal structures**

Many of the Big Green Challenge finalists have established themselves as registered Co-ops or Community Interest Companies, giving themselves a legal status. Alongside acquiring this status several have also done important work in developing model contractual arrangements (such as the Green Valleys with private owners of hydro schemes, Low Carbon West Oxford with leasing roofs for photovoltaic systems). In some instances these legal structures will underpin finalists’ ability to develop as social enterprises (as discussed later).

#### **Ownership of physical infrastructure**

Barry Quirk, chief executive of the London Borough of Lewisham, identified a number of benefits of community ownership in his report on asset transfer. These included:

- Effective asset ownership and management requires a transformation in the culture of an organisation in terms of management capacity and organisational development, which can be empowering for all those involved.
- Ownership of a capital asset can be one of the

key factors in providing collateral for further borrowing, in leveraging in additional assets, and generating surpluses to finance new activity, thus providing a springboard for further growth (Quirk 2007).

Several Big Green Challenge finalists have gone down the road of ownership of assets – such as owning or renting community buildings or plant generating renewable energy. Ownership of assets also gives a visibility to an organisation and, where this is combined with renewable energy technologies, provides a demonstration and inspiration to the community.

An important aspect of community ownership of renewable energy plant is that it can generate an income stream (for example from electricity or heat sales) for further community initiatives and reduces dependence on grant funding that is typical of many community projects and in some instances is a limiting factor on their development. This capacity is key to initiatives becoming self-sustaining as discussed below.

#### **Organisation**

Some of the Big Green Challenge finalists have established democratic structures to administer and manage their organisations and their finances. They have also been innovative in creating structures that provide an input into decision-making for community members (the Green Valleys). Several of these are based on an ‘expert hub’ serving a largely volunteer base of local community/action groups. This federal type structure maintains a central decision-making role for representatives of the local groups who sit on a board or management committee overseeing the work of the whole initiative.

#### **Business and financial planning**

Big Green Challenge finalists have utilised retired business people and accountants, university MSc students and *pro bono* support from local professionals to develop their financial and business plans. They have developed expertise in producing funding bids. In a few instances (for example, the Green Valleys) they have produced full business plans and risk assessments that will greatly enhance their ability to go out to funding bodies and particularly private investors to finance their initiatives.

#### **Skills**

All the Big Green Challenge finalists have developed the skills base in their communities. These have varied from communication skills (as Green Ambassadors, Hackney City Farm), technical skills (such as turning waste cooking oil

into biodiesel in Waste Oil Recycling in Prisons), energy surveying (such as the local volunteers working alongside professionals with Home Energy Services) or woodland management (the Green Valleys). They have also developed softer skills such as how to support each other and work together. This can be important in raising the confidence and abilities of ordinary people in decision-making (for example around large sums of money) and to sustaining voluntary inputs.

### **Networking**

The most successful of the Big Green Challenge finalists have been very effective at networking the organisations and individuals in their communities, enabling them to act collectively and cohesively. For instance Faith and Climate Change has established partnerships between faith organisations. Some have shown adroitness at accessing and mobilising the expertise within their communities (the Green Valleys) or in their localities, for example Low Carbon West Oxford and Waste Oil Recycling in Prisons made use of the expertise of their local universities.

## **The potential to become self-sustaining**

### **A new context – the squeeze on public spending**

From 2011, public spending is projected to rise by only 0.8 per cent a year in real terms until 2014 – a sharp adjustment for public services which have grown accustomed to relatively steady increases in investment. Given that some services are likely to be privileged over others, this will mean significant cuts for some areas. The Institute for Fiscal Studies has estimated the total cuts required by 2013-14 at £35.7 billion. Even with the cuts and efficiency savings set out by the current government, there remains a gap of £15 billion of savings yet to be identified.

Given the prospects of substantial cuts in public spending into the foreseeable future, realising the potential to create self-sustaining community-led initiatives should be part of government's approach to tackle climate change. The Big Green Challenge finalists provide some examples of approaches to creating independent funding streams and accessing private finance that might supplement or completely replace grant and project funding from the public purse. Developing independent funding streams allows initiatives to make long-term and innovative plans without the restrictions or the uncertainties of having to rely on grant funding. Here, four examples are described.

### **Training and education services**

Several of the finalists are providing training and education services which generate an income stream. For example Waste Oil Recycling in Prisons has developed the only accredited training programme on small-scale biodiesel production from waste oil as a training product.

### **Green loans and credit unions**

Meadows is operating in an area of high deprivation, with many people affected by debt and fuel poverty. To tackle these issues they have developed an interest-free green loans scheme in partnership with a local credit union. The loans help homeowners and tenants to purchase energy-efficient appliances and make energy-saving improvements to their homes.

### **Ethical/green community investors**

Low Carbon West Oxford has sought to harness financial support by issuing a share offer. This will provide a core of share capital for investment in a portfolio of renewable energy projects schemes which will provide a long-term income stream to sustain their initiative. Much of this income will go into financing carbon reduction measures in local homes and in the community.

### **Accessing private risk capital**

The Green Valleys have realised that any single micro-hydro scheme is too small and insignificant to attract standard private finance, so they are aggregating 40 micro-hydro projects to provide an attractive investment portfolio with relatively low levels of risk given the tried and tested nature of the technology. This will ultimately enable the Brecon Beacons to become zero-carbon and an exporter of renewable electricity. Much of this revenue will be reinvested into carbon reduction measures in the community.

In the same way, Low Carbon West Oxford has developed a portfolio of projects using different renewable energy technologies, thereby spreading the technical risks for investors and balancing ease of installation (photovoltaics) against technologies (wind and micro-hydro) that have a longer development process but a bigger financial return. A key part of their offer to investors is full accounting of not just a financial return but a carbon and social return as well.

As can be seen these approaches are leading to the position where initiatives have a semi or fully independent income that is being reinvested in the local community. Money that previously was flowing out of these communities (paying for carbon intensive energy) will in the future be retained, strengthening the local economy and



adding to the well-being of these areas.

### **Lessons for government interventions**

The main lesson that should be drawn from the experience of Big Green Challenge finalists described in this section is that the simple process of acting together is a powerful force for changing people's perception of their own capabilities and the potential for collective action to tackle big problems like climate change. Having realised the strength of collective action, communities actually require relatively light touch (though no less important) interventions from central government to bring forward initiatives in their own localities or communities of interest. Appropriate small interventions might include increasing access to expert support and assistance with networking – the sort of support already being provided through the Energy Saving Trust's Green Communities programme.

The most significant interventions that could be provided by government could be around helping community-led initiatives to become more self-sustaining and less reliant on short-term grants. This might include providing seed corn funding and business development/mentoring support in the initial stages of getting an initiative off the ground, and underwriting some of the financial risks of initiatives to make them more attractive to private investors. Specific recommendations linked to these types of intervention are explored further in the final section of this paper.

## PART 2:

# FOSTERING COMMUNITY-LED INNOVATION AND ACTION ON CLIMATE CHANGE

This section deals with two aspects of creating a favourable and open environment to foster community-led innovation and action. The first concerns identifying the negative factors that are impeding community-led initiatives such as poor working relationships with key partners and mismatches in the design of programmes and forms of regulation. The second concerns the positive factors that could assist community-led initiatives such as creating independent income streams and providing support for entrepreneurial approaches.

### Negative factors that impede community-led initiatives

#### Misalignment between community needs and current mechanisms for CO<sub>2</sub> emission reduction

The experience of the Big Green Challenge finalists shows that in some instances the design of programmes, the forms of regulation and bureaucratic processes put in place by government, its agents and key partners such as energy companies, actually hinder rather than aid community-led innovation and action.

Here some examples are provided of the misalignment between the way in which the finalists want to work and the design of programmes and the regulatory context in which they operate. This is important because the interface between communities and the main mechanisms for delivering CO<sub>2</sub> emission reduction are often complex, inaccessible, and don't reflect community needs, thereby greatly reducing the potential impact communities can make in terms of CO<sub>2</sub> emission reduction.

#### Creative packages of actions

Much of the innovation demonstrated by Big Green Challenge finalists has been in devising creative 'packages' of actions that combine to make an integrated, deep approach to reducing carbon emissions. For example Low Carbon West Oxford combined actions on renewable energy

generation, domestic energy efficiency, land use management, and production of local food. Other finalists had packages that also addressed sustainable transport and waste/recycling.

The barrier experienced by the finalists was that such combined approaches cut across a number of policy boundaries and so were not well geared to the narrow single stream approaches of many government programmes.

#### Do-it-yourself approaches

Community-led initiatives are frequently focused on a 'DIY' approach based on volunteers or local experts donating their time with limited support from paid staff. A large part of the success of the Big Green Challenge finalists was in accessing and mobilising this low or no-cost volunteer input.

The finalist experience was however that this does not fit well with government, its agents and energy suppliers requiring specially accredited,<sup>2</sup> professional contractors (who are often national as opposed to local companies) to carry out works associated with their funding programmes. For example the Green Valleys was very effective in finding local and often free expertise (engineering/financial/construction) to install micro-hydro schemes at very low cost which meant it was not worth them applying for government funding which would have required them to use accredited paid contractors – significantly adding to the total costs.

The costs of special accreditations can stifle the development of capacity amongst small local contractors for the manufacture and installation of energy efficiency measures and microgeneration technologies. Set against this is the need to ensure good standards and to clamp down on 'cowboy' installers. So a balance is needed to ensure the market place is not heavily skewed in favour of large national companies who can afford the relevant accreditations.

#### Outcomes, risks and incentives

The finalists praised the approach of the Big

Green Challenge in putting the emphasis on achieving the outcome of reduced emissions and leaving it to the inventiveness and risk taking of the community initiatives to decide how to deliver. The finalists reported that the incentive of a prize did raise the scale of their ambitions. The space to take risks, and for some approaches to fail while others succeed, was highly valued by the finalists.

Several finalists compared this approach with the output counting required by some government and energy company programmes. A key impact of this was to foster a regime of playing it safe in order to meet the required target which in turn stifled innovation.

#### ***Linking top-down messages and bottom-up activity***

It was significant that where Big Green Challenge finalists' goals positively aligned with the strategic goals of local, regional and national tiers of government and government agencies, it greatly aided partnership working and the impact of the initiatives. At a regional level, the Green Valleys and Low Carbon West Oxford benefited significantly from their links to the Brecon Beacons National Park Authority and SEEDA respectively. They both received financial support for project leaders but there was also cross-fertilisation of learning on carbon reduction activity. At a local level the signals sent through National Performance Indicators and Local Area Agreements are important. Faith and Climate Change described a very positive relationship with its Local Strategic Partnership which provided moral and financial support.

Conversely, another finalist had wanted to engage with a local authority to help deliver their NI186 commitment, but then found out that they hadn't signed up to it. This raises the question that if we want to hit our carbon reduction targets, should local authorities actually have the choice over this important national performance commitment? At a broader level the consistency and clarity of the top-down message and its linkage to bottom-up activity was shown to be a vital motivating factor. The experience of the finalist was that government still seems to think that people are better informed about climate change than they are, and that official leaflets and advertising campaigns are not necessarily getting through.

#### ***Measuring carbon emissions reductions***

The finalists highlighted that feedback from the monitoring of carbon emissions reductions was a motivating factor and could become a useful initiative-wide management tool. Some pointed to the future and the need for good monitoring

data to justify sustainable energy projects within Local Development Frameworks and in informing the design of smart grids and district heating schemes.

However, the experience of carbon footprint methodologies was frequently frustrating because of their limited scope and inability to cover the full range of activities undertaken by the finalists (for example, covering the growing of local food as well as home insulation). The CO<sub>2</sub> monitoring also placed a heavy burden on communities due to the lack of readily available alternative sources of information. In the future, larger initiatives may need a combination of access to monitoring data from energy suppliers and installers (linked to programmes like CERT) as well as having access to appropriate carbon footprint tools to obtain full feedback on their impact.

#### ***The balance between capital and revenue funding***

It was highlighted by the Big Green Challenge finalists that community-led initiatives dependent on voluntary inputs from their community do need a professional administrative core to provide adequate ongoing co-ordination and support.

The finalists identified finding funding for people and core costs as being hard to come by and something that most community groups needed. Finalists said they thought community funding was shrinking and that there was more competition for what was left. The Scottish Climate Change Challenge Fund has addressed this issue directly for example by investing in community capacity building.

#### ***Utilising the receipts from trading activities***

Some finalists were utilising funding from several sources in combination with attempts to develop their own independent income from trading activities (most often selling electricity generated from renewable energy). The latter was seen by several finalists as a critical source to be developed to help them move away from grant dependency and becoming fully self-sustaining.

However the experience of some finalists was that conditions on some funding programmes actually placed real restrictions on how money was spent and effectively prevented its use for setting up trading activities. This particularly applied to projects trying to set up income streams from generating electricity from renewable energy installations. One specific problem they faced was related to the Low Carbon Buildings Programme's restrictions on funding linked to EU law on state aid.<sup>3</sup>

### **Gaining permissions**

The Green Valleys is one Big Green Challenge finalist that has attempted to work with planning and regulatory agencies to adapt policies and practices to make them more appropriate to the large number of micro-hydro developments they are bringing forward in the Brecon Beacons National Park. This has included an extended negotiation with the National Park as the local planning authority about the use of Section 106 planning agreements (which set out the specific planning gains attached to any new development). In this instance the Green Valleys have promoted their use to ensure each hydro scheme has a condition attached to their planning permission that they should invest in conservation of the water resource/upland peat bogs. They have also worked with the Environment Agency to speed up the process of issuing abstraction licences.

Despite such positive experiences, gaining planning permission and abstraction licences remains a significant barrier to community-led projects to develop renewable energy projects. For example, this key conclusion of the Eden Forum, a network of community-led initiatives in the SW of England:

*“Costly application and planning processes and environmental impact assessments makes it extremely risky business for the investor to engage in a community energy project that may or may never become reality.”*

**Eden Forum 2009**

In addition there is sometimes a misalignment between how government policy is applied by different government departments and agencies such as DECC, the Environment Agency, Natural England and English Heritage. For a potential micro-hydro project for instance, the applicant may find herself with a proposal completely in line with government policies and commitments (regarding carbon reduction targets, generation of clean energy, etc.) but often will not receive the planning permission to install a micro-hydro site because of conservation issues with regards to either the building or the site (Eden Forum 2009).

### **Relationships with key partners**

Few of the finalists reported having productive relationships with energy companies and several were fearful of being taken over or squeezed out by these major commercial interests.

Similarly finalists had very mixed experience of working with the appropriate departments of their local authorities. This included some

misalignment on overall goals and lack of expertise on renewable energy in local planning departments.

Based on this experience, in aggregate it did not seem that the significant scale of energy activity being delivered through ‘official’ organisations was very accessible to or supportive of community-led initiatives.

### **Working with the EST**

The Energy Saving Trust (EST) is the key delivery agent for government’s policies relevant to community-led energy initiatives to cut carbon emissions. The EST’s Green Communities programme aims to support, facilitate and promote community based energy projects. EST administered a pilot of the Green Neighbourhoods programme, with the aim of giving a green makeover to up to 100 neighbourhoods in England to reduce their carbon footprints by more than 60 per cent. The EST also provides energy advice and support through a UK network of advice centres.

This support was an important contributor to the success of many of the Big Green Challenge finalists.

However there were times when the ‘fit’ with a community-led approach could have been more effective. Issues that were reported by the finalists and members of their communities included:

- Accessibility of some of the funding available through EST programmes.
- Uncertainty towards the EST as an outside organisation, unknown to the local community.
- In some cases local EST services ran counter to those of the finalists.
- A perceived lack of practical expertise on key subjects (such as microgeneration) from EST’s advice service.

Some of these issues are already being addressed by EST.

## **Positive factors supporting community-led initiatives**

### **Creating an independent income stream for community-led initiatives**

The concept is simple, a community develops a renewable energy scheme (helping to cut carbon

emissions) and makes money from energy sales, that revenue is then available to fund further carbon emission reduction measures in homes, businesses and community building.

It is recognised that government is already providing appropriate basic advice to communities wishing to develop renewable energy projects. In Scotland this has been available for some time through Community Energy Scotland which has also drawn up a guide entitled *Step by Step Guide to Financing a Renewable Energy Project* which includes case studies of communities that are currently developing their own wind projects (see: [www.communityenergyscotland.org.uk/revenue-generating.asp](http://www.communityenergyscotland.org.uk/revenue-generating.asp)).

Government announced in the UK Low Carbon Transition plan that it would be providing new funding to develop an online 'How to' guide for community energy, to be available from early 2010; this will be an information hub for anyone looking to install renewable and low-carbon heat and electricity generating technologies at community scale. The EST is now providing this advice through the Green Communities programme (see: [www.energysavingtrust.org.uk/cafe/Green-Communities/Project-Support/](http://www.energysavingtrust.org.uk/cafe/Green-Communities/Project-Support/)

Undertaking-a-community-scale-renewable-energy-project).

But further support is needed particularly to get through the initial stages of development. Here a couple of models for helping communities through that first step to becoming self-sustaining are presented and they show social enterprises could be the key actors in providing the support.

Access to investment capital is difficult for community-led initiatives and there have been a number of proposals put forward to respond to this need.

Infrastructure UK was recently established to advise government on funding infrastructure over the coming 50 years. This includes the £90 million earmarked to catalyse investment in energy and climate change infrastructure to be jointly administered with the European Investment Bank. Alongside this there have been various proposals for green investment banks (Green Alliance 2009) and a National Infrastructure Bank by Vince Cable of the Liberal Democrats. Such a bank might be a vehicle for providing finance on special terms for community-led initiatives. Another idea put forward by Green New Deal Group (2009), is creating a Green Government Bond as a savings

### Model 1: Supporting Community Ownership of Renewable Energy

Community Renewable Energy (CoRE) is a social enterprise that is putting large-scale renewable energy technology projects in the hands of local communities across the north of England. It is funded by Regional Development Agency One North East and is also receiving support from DECC through the 'Big Green Challenge Plus'.

Ross Weddle, Managing Director of CoRE, explains the organisation's approach: *"Communities come to us with ideas for renewable energy projects that will provide them with sustainable and secure energy supplies. We engage with each community to evaluate their idea and, if we feel it has enough commercial potential, we support it from initial technical development through to planning and implementation."*

Every renewable energy project delivered by CoRE is owned by the community. CoRE works with local people to develop the project and takes a share in the company set up through CoRE's energy services company (ESCo). The ESCo then manages the energy supply as well as billing and maintenance. Once the ESCo is generating an income, CoRE takes a share of that income to cover its development costs and fund further projects in other communities.

**See:** [www.core.coop/site/](http://www.core.coop/site/) and [www.nesta.org.uk/areas\\_of\\_work/public\\_services\\_lab/environment/big\\_green\\_challenge/decc\\_projects](http://www.nesta.org.uk/areas_of_work/public_services_lab/environment/big_green_challenge/decc_projects)



## Model 2: Providing investment capital for community ownership

### West Oxford Community Renewables

This is an Industrial and Provident Society (IPS) developed alongside Low Carbon West Oxford. It develops community-owned renewable energy projects and donates most of the income to Low Carbon West Oxford to support its carbon reduction activities across the community including a revolving loan fund to help householders undertake low carbon retrofitting. The IPS seeks member investors concerned about long-term broader societal and environmental goals rather than short-term financial gain. Shares are issued at the value of £1. The value of the shares could decrease or increase but is not likely to exceed £1. The minimum shareholding for 'full' adult members is £10 and the maximum permitted by law is £20,000 except for other Industrial and Provident Societies and nominee investors who can hold shares worth more than £20,000. Larger sums can be accepted as loans, grants or donations. The investments help to develop a pipeline of renewable energy projects. Once the energy projects are up and running, they will start generating revenue derived from selling the electricity to the grid. The revenue generated provides a return to individual investors. West Oxford Community Renewables is developing accounting methods that will allow it to make carbon returns as well as financial ones and it will report to its members annually on financial, environmental and social results of its investments.

Based on information provided by the project.

**Community Power Cornwall** is using a similar investment model to support communities with an ambition to set up their own renewable energy projects. In this case, the investments help communities set up their energy projects. The revenue generated provides a return to investors, supports a local low carbon fund and invests in a wider revolving fund that will have the capacity to offer loans and equity finance for future independent community energy initiatives.

**South West Energy Bond** – This idea, inspired by Community Power Cornwall's model, targets one of the main barriers preventing community-scale renewable energy projects, financing, and recognises the opportunity to develop sustainable business models. A working group of the Eden Forum is looking at scaling up renewable energy supply across the region and is investigating the possibility to design and issue a bond that will finance distributed energy projects in the South West. This South West bond proposal includes the idea to mobilise 10,000 people to support the bond which would be endorsed by the Royal Society of the encouragement of the Arts, Manufactures and Commerce (RSA) Fellowship network.

Based on extracts (Eden Forum 2009).

mechanism for both institutional (pension funds) and ordinary savers to support investment in carbon reduction.

Further examples of community-led approaches to securing community investment are outlined below.

## Making Feed-in Tariffs (FITs) and Smart Grids work for community-led initiatives

### The introduction of FITs and the Renewable Heat Incentive

Among the Big Green Challenge finalists there were great expectations about the positive impact of the introduction of FITs (for low-carbon electricity to be introduced in April 2010) and the

Renewable Heat Incentive for low carbon heat to be introduced in April 2011) as a steady and reliable revenue stream for their wider activities.

However this was matched with concern about the level and form the FITs will take. In an open letter to government published in the Guardian (18th December 2009) from 26 representatives of organisations ranging from the National Housing Federation to Friends of the Earth highlighted the significance of FITs as a mechanism for supporting decentralised renewable energy. The letter stated:

*“Local, decentralised renewable electricity generation has advantages beyond cutting carbon emissions. Businesses generating their own clean electricity will reduce their energy bills, increase their competitiveness and reduce their vulnerability to future fossil energy price rises. Communities can gain an income and a stake in the creation of a low-carbon economy, and households, social and private landlords and local authorities can cut energy bills and tackle fuel poverty. It will also generate many jobs.”*

Andrew Battersby, Chair of Mendip Power Group (an organisation representing a number of individual and community owned small-scale hydro schemes) states simply what small community generators need:

*“An effective FIT supported by the tax structure and with less bureaucracy is the key.”*  
**(REA 2009)**

The final tariff levels and details of eligibility for FITs were announced in January 2010 (DECC 2010a) and many of the most serious concerns have been addressed. However it will be important that the practical delivery of both FITs and the Renewable Heat Incentive, when it is introduced in April 2010, is monitored and that every effort is made to make the process for receiving support as simple and straightforward as possible. There are remaining concerns that community-led initiatives that have developed RE projects with grants from the Low Carbon Buildings Programme in the run-up to the introduction of FITs will have to repay these grants to be eligible to receive FITs.

Interestingly, the Welsh Assembly has recently established a fund that will directly support social enterprises in Wales with capital grants (see <http://wales.gov.uk/news/latest/100121greenenergyrgycash/?lang=en>). The fund will enable projects to then generate an income from the resulting

FIT offering the potential for reinvestment in community capacity and further action. The fund also provides initial grants to support feasibility studies and preparatory costs thereby supporting communities at a crucial stage by providing ‘at risk’ funding. It is unclear as to whether this approach will be pursued within the rest of the UK.

The development of local heat distribution would greatly aid community-led initiatives wishing to utilise biomass and other heat generating technologies and could be an important factor in scaling up their impact on carbon emissions. This is in line with government’s objective to improve the infrastructure for the distribution of heat which is very much part of the next stage of carbon emission reduction with a strong focus on low carbon heat supply.

In the 2009 Budget, the Government announced £25 million in funding for low carbon community heating schemes, allowing at least ten communities to benefit from cleaner, locally produced energy. Of this, £21.96 million is being made available through the Homes and Communities Agency to deliver low carbon projects in Growth Areas and Growth Points (see [www.homesandcommunities.co.uk/low-carbon-infrastructure](http://www.homesandcommunities.co.uk/low-carbon-infrastructure)). In the UK Low Carbon Transition Plan it was also announced that local authorities would have new responsibilities and powers regarding energy planning, heat mapping and planning powers to require new developments to connect to heating schemes (HMG 2009, 95-96). Recently CLG have also announced their plans for Local Carbon Frameworks. In addition it has been proposed that there would be an uplift in the Renewable Heat Incentive to support district heating (DECC 2010b). These are positive moves where community-led initiatives could really add value.

### **Smart Grids**

Very much linked to the introduction of FITs will be access to the distribution grids and the whole concept of the ‘smart grid’, which suggests that:

*“...many consumers will also be producers; it is likely that power will be generated much more widely by homes, businesses and communities, from low carbon technologies including solar power and small-scale wind. Networks will need to allow operators to sense power generation from multiple sources, and manage two-way flows of electricity without damage to equipment or disruption to supply.”*  
**(DECC 2009)**

### Traffic lights on the Isle of Eigg

Every home on the Isle of Eigg is fitted with an 'OWL' energy meter to enable people to monitor use (the first community to have this level of engagement); these are also set to sound an alarm when electricity use at any time goes over 4Kw. Every household has agreed to a voluntary cap on electricity use at 5Kw per household at any time. This appears to be the first voluntary demand curb in Europe.

Another layer of demand management has come with the introduction of an 'energy traffic light' system, where days are 'red' or 'green' depending on the level of power available on the island (e.g. due to level of water flow or wind). This has been possible because of the much wider recognition in the community that this is their own power system.

To reap the full benefits of owning renewable energy schemes and to aid their development, community-led initiatives will need easy access to the local distribution grids not only for electricity but, where they are developed, also for heat. Access is both a regulatory and a technical issue; the terms of access must be fair and appropriate metering technologies must work for all parties. The process of connection also needs to be as simple and expeditious as possible. The Government stated that it will introduce new licensing arrangements that make it easier for community energy schemes to interact with the wider electricity system and that further work is planned to ensure arrangements work effectively in practice (HMG 2009).

At the end of 2009 the Government launched a new 'UK Smart Grid Demonstration Fund' of up to £6 million to accelerate development in the UK. In addition Ofgem will be making £500 million available over five years from April 2010 through the 'Low Carbon Network Fund' for larger scale trials (DECC 2009). While this funding currently is focused on developing commercial opportunities for UK industry it should also include the potential for aiding community-led development of small scale renewable and low carbon electricity generation.

A particular area that might be addressed in the development of smart grids is the potential for groups of domestic or other small-scale consumers to aggregate their electricity or heat demand to participate more effectively in the wholesale market. Similarly, domestic and small-scale generators of surplus electricity or heat might be able to sell their energy directly to an end-user (at a more favourable price) if they could aggregate their generation. The

issues of appropriate metering technologies and administrative/regulatory systems would need to be addressed to realise this potential.

An important element of the development of Smart Grids is the whole concept of increasing the ability to manage demand and therefore to optimise the efficiency of electricity generation on an hour by hour basis. Most of the Big Green Challenge finalists have been including increased feedback to consumers on their energy demand as part of the package measures they have offered to their communities. One has taken this to a very advance level.

While this specific example is geared to a community that is not connected to the National Grid, it is an example of the level of co-operation on balancing supply and demand that can be achieved in a highly motivated community. It is this type of experience that needs to be fed in to the development of Smart Grids on a national scale.

### Supporting entrepreneurial approaches

Throughout this paper it has been shown that community-led initiatives do need some level of ongoing outside support to flourish and develop. The Big Green Challenge winners also demonstrate that an entrepreneurial approach is most effective. It is suggested here that a business orientated form of support may be more appropriate than some existing types of support. It is noted that the 20 winning communities in the Low Carbon Communities Challenge (operated through DECC) can access dedicated help to set up social enterprises through the Office of the Third Sector's Social Enterprise Action Research programme.

### **REalliance - a model for supporting community energy initiative as social enterprises**

REalliance is a Community Interest Company that was formed by a partnership of four networks: the Community Recycling Network UK, the Furniture Reuse Network, the Community Composting Network, and London Community Resource Network. Its principal activities are to provide development support, guidance and information for Third Sector Waste Management Organisations and to represent community sustainable resource management groups. The support provided is designed to enable organisations to sustain and develop the waste management activities they provide to their local communities.

By ensuring that policymakers at all levels of government are aware of the needs of community sustainable resource management groups, REalliance CIC aims to ensure that these groups have a favourable environment in which to operate and that any new policies and regulations treat these groups satisfactorily.

#### **REalliance is supported by WRAP (Waste & Resources Action Programme)**

WRAP itself helps to develop third sector organisations through the provision of technical, marketing, strategic or other support to directly increase capacity. Their support comprises dedicated case management combined, in selected cases, with funded independent specialist support or interim management assistance.

**See:** [www.realliance.org.uk](http://www.realliance.org.uk)

Several of the Big Green Challenge finalists are already, or are on the way, to becoming social enterprises and as a consequence it would be appropriate to look at support models based on supporting businesses. Comparisons with the support provided to community enterprises operating in the waste management sector are pertinent (see box). REalliance is effectively a 'trade body' supported by WRAP (a government-funded agency). This might be compared with the support provided by the Transition Towns Network or the Low Carbon Communities Network (see: <http://lowcarboncommunities.net/>) which both emphasise mutual support and sharing skills between community practitioners.

### **Lessons for government interventions**

The experiences of the Big Green Challenge finalists suggest that government needs to design programmes that align more closely with the ways in which community-led initiatives work most effectively. This will include a more outcome-driven environment giving space to local

organisations to innovate and devise appropriate solutions in their communities. Conditions in programmes that disallow DIY approaches and use of local contractors need to be revised while maintaining controls on quality of installations. Similarly restrictions on use of receipts need to be removed. Regulatory regimes need to be appropriate to the scale of developments – this may mean providing simplified and speedier bureaucratic processes for small-scale projects. Government needs to recognise the need for supporting the core administration of community-led initiatives and to not assume there is an inexhaustible pool of volunteer labour.

The potential for many community-led initiatives to become self-sustaining through developing renewable energy projects can be realised by government putting in place appropriate financial mechanisms to support projects in their early stages. In the longer term government needs to be seeking the advice and input from community organisations about the development of smart grids as these offer many opportunities to create a favourable environment for local initiatives.

## PART 3:

# HOW GOVERNMENT CAN INTERVENE TO SUPPORT COMMUNITY-LED INNOVATION AND ACTION TO CUT CARBON EMISSIONS

This paper has focused on how and why community-led initiatives can be effective in reducing carbon emissions. Lessons have been drawn to suggest how government can improve support and catalyse community action to this end. Here a number of specific recommendations are put forward to set out the main priorities for government in supporting community-led responses to climate change.

### The focus for government interventions

Here the emphasis is on interventions that leave communities more willing and able to take action in their own right, with respect to climate change. Mobilising communities involves tapping into local creativity, enthusiasm and the growing desire to act. It is characterised by the need for dialogue, a shift to working with communities as opposed to regarding communities as passive recipients of services, and a need to build a sense of collective action and purpose, as opposed to focusing only on the individual household or business.

Six key areas are highlighted:

- Creating an independent income stream for community-led initiatives.
- Building community capacity to develop carbon emission reduction initiatives.
- Supporting community-led initiatives and social enterprises.
- Sending the right signals – consistency and outcomes.
- Scaling up and replication.
- Measuring and recognising success.

### Creating an independent income stream for community-led initiatives

#### Community ownership of renewable energy schemes

The evaluation of the finalists found that a key part of the innovation revealed in the Big Green Challenge was communities taking control of their own energy supply or performance as a means of generating income to support other community climate change activities.

This finding could provide the basis for a revolution in community action on carbon emission reduction. Government's key role is to assist the community in taking the first step – developing the renewable energy source. After that the community has an independent income stream and can devise their own local solutions.

#### **Recommendation – supporting community ownership of renewable energy**

Government should:

- Promote community ownership of renewable energy schemes where revenues are to be reinvested in other carbon emission reduction measures. This should include, as well as basic advice, support through national planning policy and support mechanisms for initial development.
- Investigate and put in place mechanisms for giving access to capital finance on preferable terms to community-led initiatives developing renewable energy schemes.
- Provide or support the development of early-stage investment for communities looking to carry out at-risk work on renewable energy projects and to invest in organisational capacity development.



### **Revenue for community action through Feed-in Tariffs (FITs)**

The announcements on the tariff levels and eligibility for Feed-in Tariffs (DECC 2010a) and the consultation on the Renewable Heat Incentive (DECC 2010b) are to be welcomed as demonstrating that a much more accessible form of financial support for small-scale renewable electricity and low-carbon heat is being put in place. These changes should provide a mechanism for community-led initiatives to generate an income from energy sales that could help establish revolving funds for re-investing in renewable energy projects. However some concerns remain and it will be important for government to monitor the practical implementation of these support mechanisms and ensure that they work for community-led initiatives.

#### ***Recommendation – Feed-in Tariffs and the Renewable Heat Incentive***

Government should:

- Ensure processes for accessing FITs and the RHI are kept simple and straightforward for community-led initiatives.
- Provide guidance and some form of hand holding service to communities to ensure they can access this support.
- Exempt community organisations from having to pay back capital grants in order to benefit from FITs.

### **Access to local distribution grids and development of electricity ‘Smart Grids’**

The community interest needs to be recognised in advising on the development of smart grids. Currently the Electricity Networks Strategy Group (ENSG), a body dominated by the large-scale distribution and network companies, is the main stakeholder group being consulted by government. Community organisations and social enterprises that own renewable energy plant or operate through ESCOs are also stakeholders that should be consulted by DECC and Ofgem.

#### ***Recommendation – Access to distribution grids***

Government should:

- Follow through by putting in place appropriate licensing arrangements to make it easier for community energy schemes to interact with the wider electricity system and to ensure that these work.
- Include community organisations and social

enterprises in the consultations about developing smart electricity grids and earmark some of the existing development funding for addressing how to integrate community-based schemes into the future vision.

- Recognise the role of community-led schemes in developing low carbon heat supply by ensuring that such schemes are included in local heat planning.

### **Building community capacity to develop carbon emission reduction initiatives**

It is recognised that the EST’s Green Communities Programme provides support for capacity building in communities developing and running energy initiatives. One of lessons of the Big Green Challenge is that there needs to be a much more collaborative approach in devising ‘how’ support services are delivered with a bigger emphasis on peer to peer support/mentoring. In addition the experience of the Big Green Challenge finalists is that differentiated support is required that responds to different community capabilities ranging from those that are just starting out doing well trodden actions (e.g. simple energy efficiency measures in the home) to those actually attempting to develop major energy supply infrastructure (e.g. developing district heating). There is scope to provide more support for the latter through training/skills development and specific expertise around key issues through the EST’s expert panel. Several of the Big Green Challenge finalists spent considerable resources on establishing themselves as legal entities as well as devising legal agreements with partners (leasing roofs for PV, profit sharing from RE installations) which points to the need for legal support and development of standard legal models appropriate to community-led initiatives. Several of these areas are currently being addressed by a joint EST/NESTA project working in conjunction with the Community Energy Practitioners Forum.

#### ***Recommendation – Building community capacity***

Through the EST and other agencies, government should further develop and fund support services for community-led initiatives. These should be developed in collaboration with community organisations.

- Give emphasis on networking community organisations to provide peer to peer support/mentoring.

- Provide differentiated support and funding for initiatives at different stages of development.
- Strengthen the range of specialist advice available to communities, including legal support.
- Work with potential funders like the Big Lottery Fund and other charitable trusts to develop focused funding for community capacity building around sustainability and climate change issues.

### Support for community-led initiatives as social enterprises

Given that many of the Big Green Challenge finalists and other community-led initiatives are adopting a social enterprise model, it would be appropriate for business-type support to be developed geared specifically to carbon emission reduction social enterprises. Again there are good examples of peer to peer support being effective in related areas. This is an area where RDAs are already providing some services and these might be further developed.

The introduction of the Feed-in Tariff heralds a shift away from grant funding for capital works. This will require communities to develop a more commercial approach to seeking investment. In this sense community initiatives will bear many similarities to small businesses and similar approaches (adapted to the needs of communities) to supporting communities to become 'investment ready' will be required.

#### **Recommendation – Support for community-led initiatives as social enterprises**

Government should:

- Promote and financially support the development of 'trade association'-type support bodies to enable peer to peer support among community-led initiatives.
- Review the options for developing an investment readiness service for communities and in particular consider giving a specific remit to RDAs to provide business support services to social enterprises focusing on carbon emission reduction.

### Sending the right signals – consistency and outcomes

In order to build a real sense of collective action and purpose it is essential all tiers of government provide consistent signals on carbon emission reduction. The need for consistency cannot be overemphasised and this specifically applies to ensuring that financial support mechanisms provide a steady and uninterrupted stream of funding to enable initiatives to be progressed with confidence in the long-term direction. As has been heavily emphasised by the lessons of the actual structure of the Big Green Challenge, setting goals and targets within government programmes needs to be based on outcomes as this is a much more effective way of providing space for innovation and 'local fit' than focusing on outputs.

In addition, the experience of the Big Green Challenge finalists suggests that greater efforts to join top-down 'official' advertising and information campaigns with bottom-up community activity would bring dividends in achieving greater awareness of the potential for community-led responses to climate change as well as enhancing the impact of national awareness campaigns.

#### **Recommendation – sending the right signals**

National, regional and local government and agencies should:

- Aim to send consistent long-term signals on carbon reduction to local communities by setting out clear outcomes in programmes. This includes avoiding the negative signals generated by the experience of the 'stop-start' delivery of some financial support mechanisms such as the Low Carbon Buildings Programme and major energy efficiency programmes such as CERT.
- Utilise an approach that joins top-down messaging with bottom-up action to raise awareness and promote behaviour change, for example utilising examples of local community action in national campaigns or resourcing local action to consolidate the impact of national campaigns.

### Scaling-up and replication

The Big Green Challenge finalists are all local and are therefore small-scale projects affecting at most the carbon emissions equivalent to

### The potential for replication in National Parks

The Green Valleys model supports the development of micro-hydro schemes by local communities, farmers and other land owners in the Brecon Beacons National Park. The income stream from electricity sales from the community-owned schemes is then used to fund further measures to cut carbon emissions in those communities.

The replication of the complete Green Valleys package based on high head micro-hydro is constrained by the topography of the land, i.e. it is most appropriate to areas with large areas of steep uplands such as many of our National Parks but would also include some local authority areas such as those in West Wales. Many of the elements of the Green Valleys model might be adapted to other more low lying areas where alternative renewable technologies might be more appropriate such as wind or low head micro-hydro. The project's model is being promoted by other agencies throughout Wales and the Green Valleys list a number of Welsh regions who have expressed strong interest.

This initiative organised its first major dissemination event in September 2009 directed at other National Parks across the whole of the UK. The innovative linkage between micro-hydro and management of upland peat bogs makes their approach particularly relevant to other National Parks with uplands to conserve. The Green Valleys has demonstrated that there is a strong economic incentive for micro-hydro owners (farmers and local communities) to support the conservation of upland peat bogs to preserve the water supply to their hydro schemes. The Green Valleys state that: Snowdonia, Pembrokeshire, North York Moors, Yorkshire Dales, Northumberland, Loch Lomond and the Trossachs, Exmoor and Dartmoor National Park Authorities have all confirmed they will be looking to develop the Green Valley's structures in their own regions through their Sustainable Development Fund schemes throughout 2010-2011. The replication of the Green Valleys model in many of our National Parks would result in cuts in carbon emissions of national significance.

### Replicating key elements

Key elements of the Low Carbon West Oxford model can be repeated by any community irrespective of geography, particularly urban communities with many large roofs able to be leased for large-scale solar PV projects. The West Oxford model has already been repeated in new community projects, two of which have been successful in the Government Low Carbon Communities Challenge, Low Carbon Hook Norton and Muswell Hill Low Carbon Zone. Enquiries for help are now being received from communities all over the country and the first dissemination event is planned for May 2010. A package of materials to help communities repeat the model quickly and safely is being developed with the local firm of solicitors Low Carbon West Oxford worked with closely during the Big Green Challenge year.

hundreds of households, not thousands or millions of households. So it could be suggested that the contribution such initiatives can make may be very marginal to the huge task required to make a 34 per cent reduction in carbon emissions in the UK by 2020 and an 80 per cent reduction by 2050.

One response to this is that there is potential for

replication of the models developed by some of the Big Green Challenge finalists.

However there are also dangers with the idea that any community-based model can be transposed into other areas as a ready made identikit solution. The traditional top-down piloting or 'scaling-up' model falls short as it tries to implement locally devised solutions in

different contexts. An innovation that is effective in a particular local area may not be suitable for another, where local needs and resources might be very different. In scaling up a local pilot, there is the risk of losing the specificity of an innovation that is particularly appropriate to that area.

Government roll-out of local solutions can lose the local ownership and responsibility that comes with devising and implementing an idea. Despite efforts to put together methods for 'best practice', transferring a particular local solution to a different context tends to mean that practice is imposed from elsewhere and its delivery led by prescriptive targets and measures.

NESTA has produced a companion paper to this one which puts forward an alternative approach to combining localism with scale – an effective method of 'mass localism' (Bunt and Harris 2010). This paper highlights some of the lessons to be learnt from the process of the Big Green Challenge in bringing forward effective community-led initiatives. This doesn't mean running repeated challenge prizes; rather it means fundamentally rethinking how to approach major social challenges, by:

- Setting clear strategic goals.
- Not assuming the best solutions from the centre.
- Opening up funding and grant-making processes.
- Staging support.
- Working alongside communities to develop approaches.
- Rewarding outcomes rather than activity.
- Accepting that it is part of any innovation process that some initiatives will fail.

This approach would mean either reinforcing or reconfiguring government programmes. For example, in the specific context addressed by this paper this could mean a re-examination (using the points listed above) of:

- **The Community Energy Saving Programme (CESP)** which promotes a 'whole house' approach (a package of energy efficiency measures best suited to the individual property). The programme is to be delivered through the development of community-based partnerships between Local Authorities

(LAs), community groups and energy companies, via a house-by-house, street-by-street approach. This partnership working should allow CESP to be implemented in a way that is best suited to individual areas and coordinated with other local and national initiatives.

Questions that might be raised with this programme: Is it necessary to specify what measures are included in the 'whole house' approach or might this be better left open? Would it be beneficial to set an overall emission reduction target instead? Are communities being effectively supported to be involved? How can CESP leave a legacy in any locality by enhancing communities' capacity to act on climate change in the future? Would the programme be more effective if it had a wider remit – not just energy efficiency in buildings?

- **The Green Communities** is a programme delivered through the Energy Saving Trust that aims to support, facilitate and promote community-based energy projects.

Questions that might be raised with this programme: Does the programme promote community innovation or only rolling out 'best practice' approaches? Does the support provided allow communities free rein in devising their own solutions to fit their locality and context? Does the support further the new opportunities for community-led social enterprise within the context of renewable energy? NESTA is currently working with EST to support the development of the Green Communities programme to more effectively enable and nurture community-led innovation.

- The second phase of the **Low Carbon Communities Challenge**,<sup>4</sup> a two-year research programme designed to test delivery options for achieving ambitious cuts in carbon emissions at community level funded by DECC.

Questions that might be raised with this programme: Does the emphasis on rapid capital investment limit the potential for innovation and restrict the involvement of communities with significant potential but without the capacity to respond? Is there adequate emphasis on peer networking/mentoring to enable these less well established communities to learn from those that have been successful?

**Recommendation – Scaling-up**

Government should change its approach to spreading the impact of community-led initiatives by:

- Relying less on direct replication of ‘best practice models’.
- Focusing more on creating the opportunities for communities to develop their own solutions, learning from each other but not based on models imposed from the centre.
- Accepting that it is part of any innovatory process that a proportion of initiatives will fail and for this to be openly recognised by decision-makers.
- Reviewing the interface between communities and energy suppliers, local authorities, and central government on climate change issues and working to remove the barriers to effective partnership with community-led initiatives.

This approach should also be reflected in the design of key programmes such as the energy suppliers’ obligations under the Community Energy Saving programme and the Carbon Emissions Reduction Target, FITs and Renewable Heat Incentive, the EST’s Green Communities programme and DECC’s Low Carbon Communities Challenge and any follow-on initiative.

**Measuring and recognising success**

It will become increasingly important that standardised methodologies are developed for measuring the impact of a very wide range of carbon reduction actions if local authorities are to be able to provide an accurate and comparable account of what is happening in their areas linked to National Performance Indicator 186. If community-led initiatives are to be given the full credit for their actions it will also be important that the data collection (and possibly processing) is straightforward enough to be undertaken by non-specialists. This could be a development of the Community Carbon Footprint Tool provided by the EST as part of the Green Communities programme (see: [www.energysavingtrust.org.uk/cafe/Green-Communities/Guidance-and-useful-tools/Community-Carbon-Footprint-Tool](http://www.energysavingtrust.org.uk/cafe/Green-Communities/Guidance-and-useful-tools/Community-Carbon-Footprint-Tool) ).

Recognition of achievements is also an important way to help sustain motivation within community-

led initiatives. This could be recognition by central government when communities have reached particular milestones in carbon reduction, for example a 20 per cent or 34 per cent reduction in emissions.

**Recommendation – Measuring and recognising success**

Government should fund the development of a single standardised carbon footprint methodology and toolkit linked to NPI 186 that can also be used at a community level. It should ensure that the methodology:

- Is developed with the input of community-led initiatives.
- Allows for lay people to collect appropriate data and process it for their own use.
- Is applicable to a very wide range of carbon emission reduction actions.
- Is suitable to very different local contexts, for example different kinds of housing stock, sources of reduction (business, housing, farms), and local fuel mix (for example where there is no gas supply and heating fuel is bought occasionally in bulk).

Government should also:

- Encourage energy suppliers and local insulation scheme managers to make monitoring data available to community-led initiatives.
- Develop a national community award to give recognition to communities which have achieved particular milestones in carbon reduction.



# ENDNOTES

1. CO<sub>2</sub> reductions in the Big Green Challenge year were monitored by CRed on behalf of NESTA. This data provides a conservative estimate of reductions achieved by finalists across the Big Green Challenge year. The emissions reductions achieved, now and in the future, may well be higher than the reductions reported here
2. For example the Low Carbon Buildings Programme required installers to be accredited under the Government's Microgeneration Certification Scheme (MCS) and this is also a condition for qualifying for Feed-in Tariffs. MCS has been criticised by many small installers for the costs of accreditation which comes on top of accreditation to their main trade bodies.
3. Grant awards under the Low Carbon Buildings Programme cannot be made to any organisation or public body which falls within the concept of an 'undertaking', defined by Article 87(1) EC Treaty as any entity engaged in an economic activity, regardless of the legal status of the entity or the way it is funded. An activity can be regarded as 'economic' even if it is not profitable, or if it lacks an economic purpose provided that it is carrying on some commercial activity. See [www.lowcarbonbuildingsphase2.org.uk/page.jsp?id=14](http://www.lowcarbonbuildingsphase2.org.uk/page.jsp?id=14)
4. Two Big Green Challenge finalists are in the first phase of this programme - West Oxford Community Renewables, Oxford (the energy company linked to Low Carbon West Oxford) and the Meadows Partnership in Nottingham.

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