The opportunities and barriers for communities to secure at-risk finance for the development of revenue-generating renewable energy projects

Submitted by Richard Hoggett to the University of Exeter as a dissertation towards the degree of Master of Science by advanced study in Energy Policy and Sustainability.

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I certify that all material in this dissertation which is not my own work has been identified with appropriate acknowledgement and referencing and I also certify that no material is included for which a degree has previously been conferred upon me.
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Abstract

This research investigates the opportunities and barriers for communities to secure at-risk finance for the development of revenue-generating renewable energy projects. Such projects deliver multiple benefits to communities, whilst helping to tackle climate change, increase energy security and bring about cultural change. There is a growing interest within UK energy policy for the role that these projects can play in the transition to a low carbon economy, matched by a growing demand from communities to develop them. However, this alignment has come at a time when public funding is increasingly difficult to obtain requiring new and innovative models to enable their development. The research is based on interviews with leading organisations within the UK community renewables sector, which are developing a range of approaches to help overcome the problem. Consideration is given to why communities are developing projects and what is important to them; as well as the nature of at-risk finance and how risk can be reduced. Fourteen different approaches are described and evaluated in terms of the process they use and the outcome that they offer, to consider what this may mean for communities in terms of ownership, control and benefit. Recommendations are made for how UK energy policy could be improved to further support community renewables.
Acknowledgements

I would like to thank all of those individuals that gave up their time and shared their knowledge and views on community renewables – Annex 1. This research could not have been completed without them. Thanks also to all of the people that helped during the pre-design stages of this research; their insights increased my understanding and helped me identify a range of issues to consider.

I would also like to thank Bridget Woodman at Exeter University for her sanity saving advice and guidance.

Finally, I would like to thank Jess and Mabel for their on-going support and humour, without them I would never have got to the end.
1. Introduction

Climate change is a defining issue of our time and tackling it will require action on both the supply and demand of energy, particularly as our current energy systems are recognised to be both the cause of, and best means for, reducing further carbon emissions (Scrase et al 2009). Using a 1990 baseline, the UK has a legally binding target of reducing greenhouse gas emissions by at least 80% by 2050, with an interim target of reducing emissions by at least 34% by 2020 (HMG 2008). In addition, the UK, under the EU Renewable Energy Directive, needs to provide 15% of total energy consumption from renewable resources by 2020 (HMG 2009a), with the new Government suggesting that they may increase this target (HMG 2010). These drivers sit within a desire from government to support the transition to an energy system that is secure, safe, low-carbon and affordable (DECC 2010). Meeting these objectives and moving towards a lower carbon future will require action across all sectors of society and will inevitably require both the uptake of technologies and changes to people’s current lifestyles (Christie 2010).

Community based renewable energy projects are one area of activity that can address many of these multiple objectives, providing a mechanism to deploy low carbon technologies and initiate the process of social change at a community level which helps to both reinforce and sustain individual behaviour change (Houghton 2010). Many innovative approaches already exist within community renewables that demonstrate a wide diversity of approaches in terms of scale, technology choice, the actors involved and the reasons behind the development of projects. This diversity has led to multiple understandings about what community renewables are, particularly in terms of the process of creating them and the outcomes or benefits that they can bring (Walker & Devine-Wright 2008).

It is clear that there is a growing interest in the role of communities in leading, owning or controlling projects that are local to them (Walker et al 2007) and in which the benefits are retained locally (Roberts 2009a). This is reflected in the recent emergence of revenue-generating community renewables which are using renewable assets to create independent and self-sustaining funds that can be re-invested locally, reducing grant dependency and increasing the range of community-led activity that can take place (Houghton 2010). Interest in these sorts of projects is evident from communities themselves in relation to the large number of applications to recent funding opportunities that could support this sort of approach, including NESTA’s Big Green Challenge (BGC) and DECC’s Low Carbon Communities Challenge (LCCC) (Ayling 2010, Houghton 2010); and from the significant growth in these sort of projects in Scotland (Dodd 2010), where support and funding have consistently been available.
It is evident from the discourse within national energy policy, and the support programmes that have accompanied it over the last decade, that Government have started to see a potential role for community renewables (Walker et al 2007). This has also been taken up by the new Government, who have shown a strong desire to see communities playing a greater role in local decision making; including the ownership of local renewables (HMG 2010).

This alignment of policy, interest and action around community renewables suggests they are starting to come of age (Walker et al 2007), but this has occurred at a time of significant change in terms of the availability of funding that could support them. This partly relates to the ongoing financial crisis that developed in 2008 and which is still unfolding and starting to have significant impacts, including a major squeeze on public finances (Houghton 2010). On top of this, there is undoubtedly more caution within the commercial financial sectors, that has impacted the volume, cost and duration of lending, with knock on effects for both debt and equity providers (Justice 2009). Although much of this affects larger renewable schemes, the overall impacts of these changes are still playing out and it is recognised that accessing investment capital will be difficult for communities wishing to develop their own renewable energy projects as they will need to make themselves much more ‘investment ready’, relying less on grant funding and more on commercial finance models (Houghton 2010).

The introduction of Feed in Tariffs in 2010 provides some certainty for those that invest in renewable energy in terms of a providing a secure, long term income stream, which if well implemented should help to reduce the risk involved in investing in these projects (Mitchell 2009). However, although they can provide a long predictable income, it is just that, long term, so although it may help make projects more bankable once they have got planning, they do not address the need for upfront capital to develop projects. This need for early stage finance for the development of community renewables has been identified as being a significant barrier (BRE 2010; Houghton 2010; TLT 2007). This is because pre-planning all finance is at-risk, as there is no guarantee that a project will gain planning permission (CSE et al 2009). This risk may also be increased further in the eyes of potential investors because communities do not have a track record (TLT Solicitors 2007), may not be perceived as having the necessary professional skills (BRE 2010) and the single project nature of community schemes are inherently more risky than the portfolio based approach commercial developers take (Roberts 2010). Collectively these issues give community renewables a high risk profile, further compounding the problems of trying to secure early stage finance for their development. These issues have been reflected in the most recent evaluation of these sorts of projects, with a suggestion that there is need for Government to provide capital finance on preferable terms.
for the early at-risk development stages of a project, as well as support to build their skills and capacity (Houghton 2010).

**Purpose of Research**

Given the potential role that revenue-generating community renewables can have in moving towards a low carbon future including both the uptake of low carbon technologies and changing behaviour; and alongside the political will to encourage them and the desire from communities to create them, this research seeks to identify how they can be developed within the new funding environment that exists.

This research follows on from a previous piece of work, carried on behalf of Community Energy Plus in Cornwall that set out the evidence for the development, funding and sustainability of community-owned renewable energy projects (Hoggett 2010). This showed the wide range of benefits that these projects can bring and showed that a common feature in the development of community renewables, to date, has been the provision of grants and support, which not only helped to reduce the risk associated with them, but also often provided sufficient equity to be able to secure commercial debt finance for their construction and operation. Given the changes to public finances, a likely increase in the demand to those grant programmes that remain and the issues identified within the BGC, this research seeks to identify what options are available to communities. Central to this is an analysis of the emerging models and types of support that have or are being developed, to both identify what they offer and what they mean for communities in terms of the process of developing projects and the outcome they receive in terms of benefits.

As well as being shaped in part from the previous work for CEP, I should highlight that early conversations with a number of people helped to focus this piece of work. This included: Ian Smith, Community Energy Plus; Simon Roberts, Centre for Sustainable Energy; Laura Nicolson, Community Energy Scotland; Jake Burnyeat, GreenTrust Wind; Peter Capener and Trevor Houghton.
Aims and Objectives

This research aims to identify the opportunities and barriers for communities to secure at-risk finance for the development of revenue-generating renewable energy assets. It seeks to map what options exist and consider what these may mean for communities. Specifically, the research aims to answer the following research questions:

- Why are communities interested in developing renewable energy projects and what is important to them?
- What are the issues for communities in securing risk capital and how can risk be reduced?
- What are the current or emerging options available to communities that are interested in developing renewable energy projects and what do these mean for communities in terms of the processes involved and the outcomes offered?
- What are the implications for policy for enabling the development of revenue-generating renewable energy projects?

What I mean by Community Renewables

It would be possible for this whole dissertation to be taken up with a discussion around what comprises a community, let alone how they then relate to renewable energy. These are important debates which are discussed within the literature review, but for the purposes of this research the emphasis is on communities of geography, i.e. they are place-based and in terms of their relationship to renewable energy, the focus is revenue-generating community projects, excluding building-integrated renewables.
2. Literature Review

2.1 The Development of Community Renewables

Interest in community renewables dates back to the 1970s and links to ideas around ‘soft energy paths’, ‘small scale development’ and the use of ‘appropriate technology’ (Walker et al. 2007:67 citing, respectively: Lovins 1977, Schumacher 1974 and Dunn 1978). However, the early advocates and developers of such projects tended to sit within ‘grassroot niches’, outside of mainstream energy policy, having both a minor role in the supply of energy and getting little support from public resources (Walker 2007). This has been reinforced by the way national energy policy has developed within the UK which has favoured a highly centralised approach that has led to a few large players involved in the production, distribution and supply of energy with wider co-dependent relationships including technical, institutional and socio-political aspects, which collectively result in ‘lock-in’ to the existing system (Mitchell 2009). This makes change difficult and clearly has the potential to impact any technologies or approach that does not suit the centralised model, including community renewables. Policy developments have tried to address some of these issues.

Policy and Support

Since the late 1990s the potential benefits of more distributed energy generation, that involves local people and communities, gathered momentum and support; partly driven by a view that community approaches could reduce planning objections, promote technologies without compromising state aid rules, and supporting wider issues like rural regeneration and climate communications (Walker 2007). In looking at how policy discourse has developed in the last decade, Walker et al (2007) highlight a shift from a basic idea that communities should be consulted or encouraged to act, towards a notion of projects that are led, controlled and owned by local communities, a view that has been recently reinforced by the new Government’s apparent desire to support community-ownership in renewable energy (HMG 2010). This changing view can be seen with national energy policy documents, which over the last decade have shifted towards a view that communities are central to the effective delivery of targets – Figure 1.
The growing rhetoric in national policy was accompanied by a range of initiatives that were designed to support, promote or fund the development of community renewables (Walker et al 2007). These are summarised in Table 1.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Purpose</th>
<th>Status</th>
<th>Spatial Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Action for Energy</td>
<td>Advice, information, training and support</td>
<td>2001 to presented</td>
<td>UK (now Green Communities)</td>
</tr>
<tr>
<td>Community Renewables Initiative (CRI)</td>
<td>Support and project development</td>
<td>2002 - 2007</td>
<td>10 areas within England</td>
</tr>
<tr>
<td>Clear Skies</td>
<td>Capital funding</td>
<td>2003 - 2006</td>
<td>England, Wales and NI</td>
</tr>
<tr>
<td>Scottish Community and Household Renewables Initiative (SCHRI)</td>
<td>Advice, support, project development and capital funding</td>
<td>2002 - 2010</td>
<td>Scotland</td>
</tr>
<tr>
<td>Community Energy</td>
<td>Guidance, training, development and grants</td>
<td>2002 - 2007</td>
<td>UK</td>
</tr>
<tr>
<td>EST PV Programme</td>
<td>Capital grants</td>
<td>2002 - 2006</td>
<td>UK</td>
</tr>
<tr>
<td>Low Carbon Buildings Programme (LCBP)</td>
<td>Capital grants</td>
<td>2006 - 2010</td>
<td>UK</td>
</tr>
<tr>
<td>Community and Renewable Energy Scheme (CARES)</td>
<td>Advice, support, project development and grants funding</td>
<td>2009 – present (stopped taking new applications 8/2010)</td>
<td>Scotland</td>
</tr>
<tr>
<td>Community Renewable Energy Support Programme</td>
<td>Advice, support, project development and capital funding</td>
<td>2009 – present</td>
<td>Scotland (Highlands &amp; Islands)</td>
</tr>
<tr>
<td>Community Scale Renewable Energy Generation Programme</td>
<td>Advice, support, project development and capital funding</td>
<td>2010 to present</td>
<td>Wales</td>
</tr>
</tbody>
</table>

Table 1: Initiatives Supporting Community Renewables
Source: After Walker et al (2010: 2656)
In addition to these initiatives, there have been some other important recent developments, which along with the DECC’s LCCC (Box 1), will play an important role in supporting and better understating community renewables, this includes:

- The Feed in Tariff that was introduction for electricity generation in April 2010 to support small scale low-carbon electricity generation, up to 5MW. Government hopes this will open up generation by making it cost effective for householders, communities and businesses to engage with, based on providing a return on investment of approximately 5-8% (DECC 2010). Potentially the support mechanism should help to increase investment certainty by providing a fixed price for generation - differentiated by technology type and scale (Pollitt 2010). The potential introduction of a Renewable Heat Incentive could do the same for heat-based technologies. However, as Houghton (2010) highlights, to be effective for communities, these schemes will need to be simple and straightforward to access.

- The UK Research Councils call in early 2010 for proposals linking energy use within communities that address a broad range of research challenges such as community ownership, energy innovation, policy, governance and social movements (ESRC 2010).

**Community Action**

Alongside these top-down developments and possibly partly in response to them (Walker et al 2007), there has been a bottom-up growth in interest from communities and individuals to take a more active role in the generation and supply of energy (Walker & Cass 2007). It is possible to get a sense of the scale of activity and interest in community renewables from the variety of research that has been carried out to date, the applications that have been made to various funding programmes and the interest and growth in networks and programmes that support renewable energy and wider low carbon activity. These are summarised in Table 2.

---

**BOX 1: Low Carbon Community Challenge (LCCC)**

A two year programme supporting 22 test-bed communities, introduced in 2009 by DECC to: “help government, local communities and a range of parties involved in the UK transition to greener, low carbon living understand how best to deliver this transition at community level” (DECC 2009:1). These communities received up to £500k each.
**Evidence**

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of projects</td>
<td>Walker (2007)</td>
</tr>
<tr>
<td>ESRC funded research in 2004 identified over 500 projects using the words ‘community’ and ‘renewable’ – although it was recognised that a great deal of flexibility in the meaning of these terms is needed to explain this number.</td>
<td></td>
</tr>
<tr>
<td>A toolkit looking at the links between community benefit and commercial wind developments included 11 case studies</td>
<td>CSE et al (2009)</td>
</tr>
<tr>
<td>Community Energy Scotland’s Community Renewables Toolkit includes 19 case studies; their website contains over 200.</td>
<td>CES (2009)</td>
</tr>
<tr>
<td>Community Energy Scotland reports that there are five examples of community revenue generation projects in Scotland, with a further 118 in development.</td>
<td>Dodd (2010)</td>
</tr>
<tr>
<td>Applications for funding</td>
<td></td>
</tr>
<tr>
<td>The various sources of capital funding for community renewables have all been oversubscribed.</td>
<td>Walker (2007)</td>
</tr>
<tr>
<td>Applications to NESTA’s BGC totalled over 355 applications. From this a shortlist of 10 finalists was drawn – see Box 2.</td>
<td>Houghton (2010)</td>
</tr>
<tr>
<td>Over 500 communities submitted expressions of interest in DECC’s Low Carbon Communities Challenge – of which 22 were supported.</td>
<td>Ayling (2010)</td>
</tr>
<tr>
<td>Emerging support/networks</td>
<td></td>
</tr>
<tr>
<td>CAFE/Green Communities has over 4,000 members of which 3,000 are community groups.</td>
<td>Ayling (2010)</td>
</tr>
<tr>
<td>The Low Carbon Community Network has a membership of over 100 organisations (excluding individual members).</td>
<td>LCCN (2010a)</td>
</tr>
<tr>
<td>There has also been an emergence of a large number of Transitions Towns - 168 within the UK and organisations such as Carbon Rationing Action Groups.</td>
<td>Houghton (2009)</td>
</tr>
</tbody>
</table>

Table 2: Evidence for Interest in Community Renewables

**Wider Actors**

Sitting between the bottom-up and the top-down approaches, and interacting with both, there are a wide range of other actors involved in community renewables, including NGOs, energy agencies, local authorities, charities, commercial developers and other organisations with an interest in renewables, energy and community development more generally (Hoggett 2010).

They have played differing roles within the development of community renewable projects in terms of the processes involved in setting them up and the outcomes that they have achieved, reflecting in part their own interests (Walker et al 2007). The development of the BGC by NESTA has also played an important role in supporting community-led action – Box 2.

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**Box 2: The Big Green Challenge (BGC)**

NESTA competition to stimulate and support community-led responses to climate change, by challenging entrants to develop and implement sustainable ideas for reducing CO₂ emissions in their communities. It used a staged process that became progressively more demanding to bring forward the development of projects with the greatest potential. It was also outcome-driven, looking for creative community-led solutions to reduce carbon emissions. There were 10 finalists, who all received £20k, plus mentoring and business support to develop their initiatives over the following year. From which 3 winners were selected, receiving £300k each and one runner up who received £100k. Source: Houghton (2010:7-8)

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1 Based on UK groups classified as ‘official’ in Transition Town database (many more are in development)

[http://www.transitionnetwork.org/initiatives](http://www.transitionnetwork.org/initiatives)
Emerging Themes

The large range of actors involved within community renewables helps explain some of the reasons that these initiatives have come forward. They show a push and a pull for the development of renewable energy projects from within communities, from Government and from wider actors, for a wide range of reasons. It is apparent within the literature that a wide range of different benefits or outcomes can result from these sorts of projects, sitting across the environmental, economic and social spectrum. These themes are likely to be very project specific, changing with the interests and desires of those that are involved as well as local constraints, whether physical, social or technical (Walker & Devine-Wright 2008). A summary of the main themes that emerge are set out in Table 3.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local income and regeneration:</strong></td>
<td>Walker (2008); Hain et al (2005); TLT (2007); CES (2009); Warren &amp; McFadyen (2010)</td>
</tr>
<tr>
<td>Projects can provide independent, self-sustaining, income streams to support further projects within a community.</td>
<td></td>
</tr>
<tr>
<td><strong>Local control:</strong></td>
<td>Walker (2008); Walker &amp; Devine-Wright (2008); CES (2009)</td>
</tr>
<tr>
<td>Community approaches can deliver a high level of participation, control and democracy, further increasing acceptability. When this is missing, projects can become more divisive and controversial.</td>
<td></td>
</tr>
<tr>
<td><strong>Lower energy costs and reliable supply:</strong></td>
<td>Walker (2008); Evans (2006); Adams (2008)</td>
</tr>
<tr>
<td>Projects can enable communities to meet their energy requirements at lower cost and with higher reliability. This can help address wider issues such as rural and/or fuel poverty.</td>
<td></td>
</tr>
<tr>
<td><strong>Ethical and/or environmental commitments:</strong></td>
<td>Walker (2008); Adams (2008); Houghton (2009)</td>
</tr>
<tr>
<td>Projects can help communities to meet their desire to act on a wide range of concerns such as climate change, peak oil and sustainability.</td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour and social change:</strong></td>
<td>Walker &amp; Devine-Wright (2008); Houghton (2009 &amp; 2010); Roberts (2009)</td>
</tr>
<tr>
<td>Engagement in a local project can help to change attitudes and behaviour towards renewables, energy demand and climate change.</td>
<td></td>
</tr>
<tr>
<td><strong>Trust:</strong></td>
<td>Walker et al (2010); Wustenhagen et al (2007)</td>
</tr>
<tr>
<td>Community approaches can increase trust within communities, an important dynamic that can help make projects successful</td>
<td></td>
</tr>
<tr>
<td><strong>Wider community development:</strong></td>
<td>Evans (2006); Adams (2008); Houghton (2010)</td>
</tr>
<tr>
<td>Community renewables can act as a catalyst for further projects and more sustainable communities.</td>
<td></td>
</tr>
<tr>
<td><strong>Local approval and planning permission:</strong></td>
<td>Walker &amp; Devine-Wright (2008); Hain et al (2005); CSE et al (2009); Warren &amp; McFadyen (2010)</td>
</tr>
<tr>
<td>The involvement of local people in renewable energy projects generally increases acceptability and support, potentially helping to overcome planning problems.</td>
<td></td>
</tr>
<tr>
<td><strong>Delivering targets:</strong></td>
<td>Houghton (2010); Warren &amp; McFadyen (2010); Roberts (2009)</td>
</tr>
<tr>
<td>Community renewables can play an important role in meeting national, regional and local targets, across a range of issues from carbon to employment.</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Emerging Themes in the Development of Community Renewables
2.2 So what are Community Renewables?

The discussion so far, from the actors involved, to the outcomes that can be achieved, show
the multidimensional and multifunctional nature of community renewables (Rogers et al 2008)
and help to explain why they are difficult to define. This needs to be unpacked further to
identify some of the other elements involved.

Communities themselves are hard to define because society is increasingly made up of
numerous and diverse communities that often overlap with each other, but which may also
exist in isolation (Peters et al 2010). This descriptive difficulty has been usefully addressed by
Houghton (2010:9), who describes them as “self-defining groups of individuals or organisations
brought together through geography, identity or interest”. It is clear when looking at the
various case studies that exist, that community renewables can be based around all of these
community types, even though by their nature they are placed within a particular locality
(Hoggett 2010; CES 2009; Adams 2008; Walker et al 2006). Considering how they relate to
renewable energy projects, brings further complexities.

A possible way to help consider what is distinct about these sorts of projects, compared to
other renewable energy projects, is provided by Walker and Devine-Wright (2008). From the
examples they examined they suggest two key dimensions emerge: the first is concerned with
‘process’ which they describe in terms of who a project is developed and run by, covering
issues such as involvement, decision-making and influence; the second dimension considers
the ‘outcome’ of a project in relation to who the project is for and who benefits from it. This is
summarised in Figure 2, which superimposes three different viewpoints of what these projects
are. They suggest that an ‘ideal’ community project that is driven by local people for the
benefit of local people would appear in the top right of the diagram; contrasting to a
completely commercial approach bereft of local involvement or local benefit, which appears in
the bottom left. Whilst they highlight that these dimensions oversimplify the complexities
involved and that many different combinations would be possible for any given project; it is
useful in trying to consider what the core components of a community renewable energy
project are (Walker & Devine-Wright 2008: 498-499).
2.3 Community Renewable Models

Further clarity can be gained by considering the range of different models which have emerged, which shape the way projects are controlled, owned and financed. These often come down to the legal and financial structures that are adopted and can include projects that are completely owned by a community or include co-ownership arrangements (Walker 2008); through to more conventional developer led approaches which only provide a financial benefit or planning gain fund (CSE et al 2009). A way to try and classify some of these different approaches has been provided by Community Energy Scotland (CES 2010) – Figure 3.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>local developments providing opportunities for local private investors and ‘small’ investors nationally</td>
<td>joint ventures arrangements between private and non-profit distributing companies</td>
<td>developments by non-profit distributing bodies on behalf of all people in a community</td>
<td>‘community benefit’ arrangements with private commercial developers</td>
</tr>
<tr>
<td>Eg:</td>
<td>co-ops, rural businesses</td>
<td>Eg: private landowners and local development trusts</td>
<td>Eg: local development trusts, community interest co-ops</td>
<td>Eg: wind farm community benefit payments</td>
</tr>
</tbody>
</table>

Figure 3: Models of Community Renewables
Source: CES (2010)
Of these approaches, two have dominated within the UK so far:

- **Column 1** covers the approach taken by Energy4All that enables individual shareholders to invest in a model that pays annual dividends back to those individual shareholders. They appear to show that there are a willing group of people interested in supporting the development of these sorts of renewable energy projects – Box 3.

- **Column 4** has also been widely used in relation to commercial wind developments. Although done on a voluntary basis, they use a community benefit fund to provide a financial benefit to communities local to a large wind farm, based on a fixed annual payment or a payment per MW (CSE et al 2009). Such an approach can ensure the distribution of some local benefit from these commercial developments.

The above two approaches are well understood and have a track record within the UK. The Energy4All model is clearly based around communities of interest in which the outcome is focussed on the individual investors, using an approach that enables people to also have a process role through the one-member one-vote structure these co-operatives use. The ‘community benefit’ model is predominantly outcome focussed, although it is debatable how much benefit some of these schemes have offered given their voluntary nature, and further complicated by the fact that some communities have seen such funds as bribes (Aitken 2010).

The other two columns in Figure 3 are the areas where some of the new approaches to community renewables have started to emerge and it appears that these may offer more flexibility for communities in terms of the process and outcome dimensions that Walker & Devine-Wright (2008) describe. It is also within this space that revenue-generating community renewables have come to the fore, linking to the wider shift in policy discourse around the notions of projects that are led, controlled and owned by local communities (Walker et al 2007; HMG 2010).

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**Box 3: Energy4All**

Formed in 2002, Energy4All aims to expand the number of renewable energy co-operatives in the UK. It is owned by the co-operatives it creates and emerged out of the Baywind Co-op that was created in 1996.

The 7 co-ops that make up Energy4All have over 7,000 members and a further 6 co-ops are in development. They use public share offers to raise equity, which across the 7 has exceeded £13m. These individual shareholders received an annual dividend of between 5-15%.

BRE (2010); Energy4All (2010)
Revenue-generating Community Renewables

The emergence of revenue-generating projects, in which the benefit goes back to the community as a whole, is relatively new, with examples only starting to emerge in the last five years. The use of the phrase ‘community-led initiatives’ has been used by Houghton (2010) to suggest that communities have an active role in leading a project, either through their own means or in partnership with other organisations, with ‘initiative’ reflecting the on-going, non-time limited nature of these projects. A point that Adams (2008) also makes, suggesting that the initial reasons a renewable project develops can be replaced and enhanced as they grow and develop, or as new people become involved, this can mean that both the purpose and the project itself broadens as time goes by. These projects appear to offer a high level of process built within them, that could lead to several of the themes identified in Table 3 being achieved, particularly in relation to local control, behaviour change, and trust; resulting in greater acceptance at a local level. In respect to outcome, it has been highlighted by both CES (2009) and Houghton (2010) that the income from these projects is providing independent and self-sustaining funds that can be re-invested locally, reducing grant dependency and increasing the range of community-led activity that take place. This can result in a greater up take of energy efficiency and renewables in the individual households within the community. For example, in respect to renewables, Walker & Devine-Wright (2008) highlight how the uptake of grants for communities within the Community Renewables Initiative (CRI), increase the uptake of individual capital grants within those communities. These sorts of projects, could also play an important role moving away from the potential situation where communities see renewable energy developments as being “done to them to something they can be involved with and own” (Roberts 2010:1).

Examples of revenue-generating projects which have developed so far are summarised in Table 4, more detailed case studies are provided in Annex 2. Using the classification developed by CES (2010) in Figure 3 all of these projects appear to fall under Column 3 - not for profit distributing body models, although Fintry could perhaps also been seen a joint venture approach.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fintry Wind</td>
<td>Secured the ownership of a 2.5MW wind turbine on the Earlsburn Wind Farm, which provides an income via a Production Sharing Agreement. This suggests it’s a virtual ownership arrangement, as income is based on the performance of the whole wind farm. The capital cost was funded by the wind farm developer and is being paid back via a 15 year mortgage agreement. The income is used to support a wide range of local projects including insulation, micro-renewables and transport.</td>
</tr>
<tr>
<td>Gigha Wind</td>
<td>Built Scotland’s first community owned, grid-connected wind farm, using three 225kw second hand turbines. These meet the island’s own electricity requirements, with the surplus sold into the grid. The project was funded through grants, loans and equity investment. The estimated annual income of £75k/yr is used to create a capital</td>
</tr>
</tbody>
</table>
sinking fund, repay the loan and buy back the equity, as well as funding a range of activities around affordable housing, energy efficiency, a development officer, plus awareness raising and funding for other groups on Gigha.

| Green Valleys | Developing community-owned micro-hydro schemes in the Brecon Beacons National Park. They were one of the BGC winners and have used this funding and other grants to support the development of 10 micro-hydro schemes to date. Green Valleys carry out all the risk work for these projects in return for a 25% equity stake, which is used to support further projects. They have developed a portfolio approach to these projects to reduce risk and increase their bankability. Their goal is to create carbon neutral, financially secure and sustainable communities. |
| Isle of Eigg | Eigg is not connected to the grid, so they developed their own, using a combination of technologies including wind, solar and hydro, backed up with a battery bank and diesel generators. They expect to meet 95-98% of their energy needs renewably over a year. The goal is to create a green island by generating renewable electricity, installing insulation, producing local food and developing low-carbon community transport schemes. They raised finance from a wide range of sources and used the income from the sale of power to the residents to cover running costs and provide a sinking fund for replacement. |
| Low Carbon West Oxford | Planning to use a portfolio of technologies including large scale PV, small wind and micro-hydro. It has successfully secured grants from the LCCC and the BGC and launched a share issue, based on an IPS model. This income, along with commercial debt will be used to fund the renewable projects, with the income from these being used to support projects within the community around renewable energy generation, domestic energy efficiency, land use management, and production of local food. This will include a revolving loan fund to help householders undertake low carbon retrofitting. |
| Settle Hydro | Small-scale hydro scheme in Settle in the Yorkshire Dales, using a 50kW Archimedean screw. The project was completed in partnership with Water Power Enterprises who carried out all the risk work. The project was funded through grants and local share offer. After costs they expect to have up to £15k a year to help meet their twin aims of regenerating the local economy and promoting the environmental sustainability of the Settle District. |
| Tiree Wind | Developed a 900kW single wind turbine project on Tiree in the Inner Hebrides. The total capital costs were raised via £1m in debt from the Co-op Bank and just over £1m in grants. The project is expected to provide around £100k of income per year, which will service the debt and provide a sustainable income stream to finance projects on Tiree for the benefit of the local community. |
| Torrs Hydro | Community-funded and owned hydro-electric scheme in Derbyshire, using a 63kW Archimedean screw. The project was completed in partnership with Water Power Enterprises who carried out all the risk work. The project was funded through grants and local share offer. After costs they expect to have up to £20k a year which will be used to help regenerate the community and environmental sustainability of the New Mills area. |
| Westray Wind | Developed a 900kW single wind turbine project on Westray in the Northern Orkney islands. The total cost was around £1.9m and this was covered through grants of around £1m and a similar amount of debt from Triodos Bank. The turbine was seen as a good way to generate a long term, sustainable source of income to address a range of issues on Westray, and fund a wide range of social and environmental projects on the island. The income is estimated at £100k for the first 10yrs whilst the debt is repaid, rising to £200k after that. |

Table 4: Current Examples of Revenue-Generating Community Renewables

The relatively few examples listed here hide a much bigger pipeline of these sorts of projects that are in development. Many of these are within Scotland, where in addition to those above, it is suggested a total of 118 of these types of projects are in development, including 25 that
have already gained planning permission (Dodd 2010). This high level of activity is in part a reflection of the on-going funding and support that has been made available within Scotland. Elsewhere, there is less progress, although NESTA’s BGC enabled some projects to come forward and based on the summaries of the projects funded under DECC’s LCCC it also appears that at least half of these will be setting up a revenue-generating approach through their schemes (Hoggett 2010). The high level of applications to both these programmes also suggests that there is a growing interest from communities to develop these types of projects. Interest is also evident within Scotland, where they have just had to close their main support programme due to unprecedented demand from communities (Scottish Government 2010).

2.4 Barriers to Community Renewables

Despite all of the activity that is taking place there are a number of known barriers that hinder the development of these sorts of projects. Some of these relate to communities themselves, such as their skills and capacity and some are wider, including planning, regulations and finance (Walker 2008), they all interact.

Skills, Capacity and Support

It is clear that the process of developing community based revenue-generating renewables is time consuming, resource intensive and complex (CES 2009). CES suggest that any group considering it will need a high level of commitment from a number of people, over a long time period. A number of capabilities are required to address a number of issues such as: legal structures; ownership of physical infrastructure; organisation; business and financial planning skills; and networking (Houghton 2010). This requirement for a range of skills and capacity can act as a barrier to development of these projects, often requiring key individuals or entrepreneurs, and trusted local champions (Martiskainen & Watson 2009), from within the community as well as supportive local institutions (Walker 2008). When there is no single or ambitious steering group in place, projects are more likely to fail (Evans 2006). It is also clear that the availability and willingness of people to undertake these sorts of projects cannot be assumed, with one study showing that even within communities interested and willing to participate in a local renewable project, people did not feel able to take a lead within it (Rogers et al 2008). There may also be issues for the long-term capacity of organisations to operate and maintain an asset (Walker 2008).

To overcome the differing capabilities and skills within communities, support and access to expertise is needed; Letcher et al (2007) suggest that this will increase the likelihood of a project successfully happening and that access to trusted and expert support is needed to help co-ordinate and direct a project. This is evident by the success within Scotland, where support
(and funding) have been available for many years, something that used to be available elsewhere through the CRI, which provided expert advice and funding to enable successful projects to develop (Walker & Devine Wright 2008).

**Planning**

Gaining planning consent can impact any development, but it has been recognised to be a major barrier for renewables in the UK (Hain et al 2005). This relates to the time, costs and uncertainty of gaining consent and can be an issue for those developing schemes (Woodman 2008), possibly more so for communities, given the one off or single site nature of most community renewable projects (Roberts 2010). The risk with gaining consent is likely to reflect a number of issues relating to technology, scale and site specific aspects, which are played out at a local level within the planning application process (Roberts 2009a). This local process can create inconsistencies for gaining consent, reflecting both the local planning authority’s attitude to different technologies and whether they take account of the wider benefits such schemes could in meeting national targets for energy and climate change (Woodman 2008; Roberts 2009a).

The process can also be highly political, which is why many suggest that community-led schemes are important in reducing the risk associated with gaining planning consent (e.g. Hain et al 2005; Walker & Devine-Wright 2008; CSE et al 2009; Warren & McFadyen 2010). However, this cannot be assumed, with Walker (2008) highlighting a case in Wales that failed to secure planning, despite being initiated by a local organisation for the benefit of the local area.

A number of measures were taken by the previous Government to try and reduce planning risk, but these tended to focus on large scale barriers above 50MW and on the barriers affecting microgeneration, effectively leaving a big gap in the middle (Woodman 2008). It is in this middle area that many community scale schemes sit, so these initiatives may not have helped address the problem.

**Regulations**

There are also barriers to market entry and connection to the grid that have been identified as issues for community renewables (Walker 2008). This includes the trading arrangements that are in place which favour large centralised generation in respect to both the transaction costs involved in engaging with the market and a structure that rewards predictable generation (Woodman 2008). In relation to grid connections, issues include the cost and technical detail needed before requesting a connection and in some areas, including much of Scotland, there are also grid capacity issues meaning it can take a long time to get connected (CES 2009).
These issues all in turn come back to the wider system lock-in that exists, including institutions, rules and regulations that all favour a centralised approach (Mitchell 2009; Woodman & Baker 2008).

Issues have also been apparent in the various finance incentives that have been in place to support renewables in the UK, which have also predominantly been aimed at large scale generators (Hain et al 2005), including the Renewables Obligation and the Non-Fossil Fuel Obligation before it (Mitchell 2009). They have not encouraged more decentralised generation and have been difficult for community and smaller scale generators to negotiate their way through (Woodman 2008). This partly explains the range of capital funding programmes that have come and gone (Table 1) which have tried to overcome the higher risks and longer returns that are faced by some technologies and scales (Walker 2008). It is also part of the reasoning behind the introduction of FiTs which aims to incentivise small scale low carbon generation, up to 5MW in scale (DECC 2010), although it is too early to tell what impact the FiT will have (Houghton 2010).

These sorts of regulatory issues can help explain why community renewables have struggled to develop within the UK energy system, reflected by the fact there are relatively few (Walker et al 2007) and this extends into other areas as well, such as the low take-up of microgeneration (Martiskainen & Watson 2009). Some of these issues have started to be addressed by Ofgem (Walker 2008) and a number of other high level policy and regulatory initiatives have been in development (Woodman & Baker 2008).

**Funding and Finance**

There is a distinction between the types of money available to support community renewables, with CES (2009) highlighting: funding which they describe in terms of grants; and finance which they relate more to loans and other forms of investment, such as share based schemes. CES suggest that the choice of these routes in part comes back to the type of scheme, with only those that generate sufficient revenue being able to go down a financing route as they need to provide a surplus to service any debt or provide dividends to shareholders or other equity providers. It is in this area the revenue-generating renewable schemes face some specific barriers.

The first relates to the availability of grants, which can include public and other sources such as charitable trusts, National Lottery or company schemes (CES 2009). Whilst there are still a number of these sources of funding that could support community renewables, the on-going availability of public sector grants have become much more questionable in light of the squeeze on money within this sector. As Houghton (2010) highlights, public spending is
projected to considerably slow, with significant cuts anticipated in order to cut the deficit, the clear priority of the new Government (HMG 2010). The scale of cuts is already becoming apparent, with an indication of these increasing, even before the Comprehensive Spending Review is decided in October 2010 (HM Treasury 2010). Some of the fallout is already evident, such as the early closure of some programmes (DECC/EST 2010) and the suspension of others (Scottish Government 2010). This will make it harder for communities to secure grant funding to develop projects and could easily result in much more competition on those private sources that remain.

The alternative way to secure money is through more commercial financial routes. In simple terms, there are two ways for a project to this, debt from a bank, which will look to get the debt paid back with interest, and/or through securing equity within a project, which generally demands a higher level of return (Justice 2009). This equity could come from a number of routes, which could include grants, or through giving up a percentage of a project to shareholders via a local share issue or via social and other investors. One of the issues with equity provision is that those providers need to recoup their funding plus a profit to account for the level of risk that they bear in providing the money (BRE 2010). This may require communities to give up not only some of their income, but also some of their ownership and control within a project.

Generally it is recognised that for community renewables to go ahead a combination of both debt and equity will be needed (CES 2009). Whichever mix of funding is used, communities will need to take a more commercial approach than in the past, in order to make themselves and their project more ‘investment ready’ or ‘bankable’ (Houghton 2010). However, even then there are specific issues facing communities for accessing finance, particularly in relation to the early, at-risk, stages of project development (TLT 2007; Houghton 2010; BRE 2010).

2.5 At-Risk Finance

Developing and financing renewable energy projects involves a number of stages, from initial feasibility through to successful operation. Each of these stages comes with a different level of risk and range of issues that need to be managed. Although this will vary with technology and the scale of a project, the basic processes involved are similar, and a useful summary in relation to wind developments and risk is provided by CSE et al (2009) – Table 5.
<table>
<thead>
<tr>
<th>Development &amp; Planning</th>
<th>Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Risk high – at the end of this stage the project could have no value.</td>
<td>• Risks lower, or at least are understood, can be managed or even insured against.</td>
<td>• Risks low and well understood. May include:</td>
</tr>
<tr>
<td>• No income earned.</td>
<td>• Still no income earned.</td>
<td>• Drop in value of electricity generated – price or regulation issues.</td>
</tr>
<tr>
<td>• No certainty of project viability or getting planning.</td>
<td>• Funded via mix of equity and debt.</td>
<td>• Lower than predicted wind speeds.</td>
</tr>
<tr>
<td>• Costs can be high (site surveys, engineering assessments, EIA, legal fees &amp; public consultation).</td>
<td>• If problems arise, more equity may be required or bank could take project over.</td>
<td>• Technical issues, although generally covered in warranties.</td>
</tr>
<tr>
<td>• Funded via equity investors in hope that any constraints can be managed and planning can be gained.</td>
<td></td>
<td>• Operating costs relatively low.</td>
</tr>
</tbody>
</table>

Table 5: Wind Project Development Stages and Risk Assessments
Source: After CSE et al (2009)

Given the range of risks through these stages, different types of finance are needed pre and post planning, based on the principle that a financer will expect to make a return proportional to the risk they undertake, with higher levels of risk requiring higher levels of reward (Justice 2009). This relationship between risk and reward is fundamental to project financing and it is clear that the area that presents the highest level of risk are the early development stages up to planning, because if the project fails to secure planning the project will have no value (CSE et al 2009). This is why at-risk finance is difficult to secure and if it is available it is likely to come at a high cost to the project.

A report from BRE (2010) has also considered the stages of development within a community renewable project, they add a fourth stage to those shown be CSE, around group formation and project identification. Against these four stages BRE provide a risk profile and an idea of the financial requirements at each stage – Figure 4. In considering the at-risk stages, BRE also put forward some estimates of the likely costs, suggesting that costs for a small project, such as micro-hydro, could be around £5k to get to planning which represents around 6% of total costs for a project; with large scheme costs suggested as being as high as £100k, representing 5-15% of total project costs. BRE suggest that well structured projects should be able to cover these costs through their financial returns, although grants and professional support still play an important role in their development. This suggests that raising at-risk money will in part reflect the scale and type of technology developed. In looking at the case studies (Annex 2), with exception of Fintry, all of the projects have been able to cover this stage in finance through grants or other awards. Given that this is likely to get harder, there is a clear issue facing the development of future community renewables.
In looking at possible routes that could provide at-risk money, a number of suggestions have been made within the literature - Table 6. These may help provide some solutions although there are apparent issues facing all of them and it is not yet clear what the different routes may mean for communities in terms of their ownership and control within projects.

<table>
<thead>
<tr>
<th>Source</th>
<th>Summary</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grant Funding</td>
<td>• This can effectively cover the up-front costs – which could include more loan-based approaches to recoup money from successful projects (BRE 2010).&lt;br&gt;• These have been widely used by projects to date (Hoggett 2010).</td>
<td>• Even grants are only often available on a matched funding basis, meaning they may not be sufficient on their own (TLT 2007).&lt;br&gt;• The likelihood of grant funding being available is decreasing (Houghton 2010).</td>
</tr>
<tr>
<td>Own Resources</td>
<td>• Communities could use their own funds to cover the risk stages (TLT 2007).</td>
<td>• This is inherently risky for an organisation and many not be allowed if they are charities (TLT 2007).</td>
</tr>
<tr>
<td>Equity</td>
<td>• Up-front money could be provided by giving up some equity within the project (BRE 2010).</td>
<td>• The need to return this money with profit may be a barrier to securing sufficient equity (BRE 2010).&lt;br&gt;• Individual investors are unlikely to be able to invest pre-planning (TLT 2007).</td>
</tr>
<tr>
<td>Under-writing</td>
<td>• A fund could underwrite any equity investors – basically insuring their contribution and increasing the likelihood that they would invest. The underwriter could charge a fee for this to cover its risk (BRE 2010).</td>
<td>• It would be hard for the provider to assess the risk effectively and therefore setting a fair price would be problematic. It may also not be a self-sustaining model (BRE 2010).</td>
</tr>
<tr>
<td>Bonds</td>
<td>• Carbon Bond - A funder could invest on the basis that it gets its money back, along with the carbon saved,</td>
<td>• Carbon: This would currently not be possible under existing compliance markets for carbon (BRE 2010).</td>
</tr>
</tbody>
</table>
to meet their own carbon reduction targets (BRE 2010).

- Green Government Bond – a mechanism for institutional investors and savers to support investment in carbon reduction (Green New Deal Group 2009 cited by Houghton 2010).

<table>
<thead>
<tr>
<th>Green Investment Bank</th>
<th>• This could provide financing on special terms for community initiatives (Green Alliance 2009 cited by Houghton 2010).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developer-led Models</td>
<td>• Professional developers could undertake the work (TLT 2007).</td>
</tr>
<tr>
<td></td>
<td>• A number of organisations are already doing this in return for some sort of payback (BRE 2010).</td>
</tr>
<tr>
<td></td>
<td>• Early proposal for this bank seem to strongly favour large scale approaches (Butlin 2010).</td>
</tr>
<tr>
<td></td>
<td>• This may not deliver high levels of benefit or control to communities.</td>
</tr>
</tbody>
</table>

Table 6: Views on Possible Sources of Risk Finance

A final issue that strongly links to the problem of raising finance comes back to the skills, knowledge and capacity of communities. The knowhow needed to develop and deliver projects successfully, can be perceived as missing within communities from those that offer finance, leading to problems of credibility which in turn make it more difficult to secure finance (TLT Solicitors 2007; Houghton 2010; BRE 2010). It was in response to these sorts of issues that the policy recommendations from the BGC highlighted not only a need for Government to put in place a way to enable communities to access risk capital, on preferable terms, but also the need to support communities to develop projects (Houghton 2010).

2.6 Basis for Research

The literature shows how community renewables have developed within the UK energy system and the range of diversity and understanding that appears to exist between actors and the various models that exist. The relatively recent emergence of revenue-generating projects appears to show a way in which the both the uptake of technology and wider behaviour change can be enabled, both key elements of a transition to a low carbon future. Several examples of these sorts of project are already established and there appears to be a strong demand from other communities to take a similar approach. However, this has come at a time when public finances are under extreme pressure, which could be a considerable barrier to further development, given the pivotal role grants have played within projects to date.

The introduction of FiTs should help address a number of issues for community renewables, but they do not appear to help with up-front at-risk money that is needed to develop these projects. This will require new approaches to attract finance or new business models involving communities, developers and other organisations. The issues are well understood by many working within community renewables and a number of public, third and private sector
models have started to emerge that can help address this problem. However, little work has so far been done to pull together this understanding or assess the types of approach that are emerging. This research seeks to address this, by examining the issues and opportunities associated with at-risk finance for the development of revenue-generating community renewables.

This is a quickly developing area. In the three months that this work was completed several reports came out from a wide range of organisations that are relevant to this research, alongside announcements from Government showing the potential direction of policy. As these emerged during the interview process, they did not shape the research questions or approach to answering them and they have therefore been incorporated into the analysis and discussion section of this report (Section 4).
3. Methodology

This piece of work evolved out of a previous study on community-owned renewables (Hoggett 2010), the literature review and the pre-research discussions. Collectively, these shaped the research questions, which are big and qualitative in nature and have suited an applied approach (Ritchie 2003), given the desire to use the knowledge gained to contribute to the understanding on the nature of, and approach to, at-risk finance for community renewables. The selection of participants and the use of in-depth interviews to generate data felt intuitive, given the relative ‘newness’ of the research area and the fact that few key actors are currently involved within it.

3.1 Sampling

The potential sample was identified through snowballing in the initial discussions, supported by follow up desk research and checked during the interview process itself. This resulted in a non-probable approach, using a purposive sample which effectively captured the key constituencies involved within the study area (Lewis 2003) – those providing a fund or model. The snowballing actually resulted in a very long list of potential people/organisations that could be contacted, which not only included those that were directly involved with the key research areas, but a wider group of organisations sitting around the edges of community renewables, such as planners, commercial financers, support organisations, etc. It was felt that this wider group could help to add some richness and depth to the research so some were included. However, given the time and resource constraints on the study it was felt sensible to split the potential sample into two distinct groups, with the priority being given to those that were directly offering a fund or model for community renewables. Two samples were therefore used:

- A primary interview group based on the selection criterion that any organisation offering or developing a fund or model that could support the at-risk finance stages of community renewables would be critical to the research - this provided a potential sample of 15, of which 14 were interviewed.

- A secondary interview group based in a number of sectors that could offer a range of additional perspectives on the research area - this provided a potential sample of 18 of which 10 interviewed.
The full list of those interviewed is provided within Annex 1, and summarised in Table 7.

<table>
<thead>
<tr>
<th>Primary Interviews</th>
<th>Secondary Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Free Developments</td>
<td>Community Energy Plus</td>
</tr>
<tr>
<td>Centre for Sustainable Energy</td>
<td>Co-operative and Community Finance</td>
</tr>
<tr>
<td>CO2Sense Yorkshire</td>
<td>Cornwall Council</td>
</tr>
<tr>
<td>Community Energy Scotland</td>
<td>Cornwall Light and Power</td>
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<tr>
<td>Community Power Cornwall</td>
<td>Energy4All</td>
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<tr>
<td>CoRE</td>
<td>Energy Saving Trust – Green Communities</td>
</tr>
<tr>
<td>Empower Community Fund</td>
<td>Good Energy</td>
</tr>
<tr>
<td>Energy Saving Trust Wales</td>
<td>Low Carbon Communities Network</td>
</tr>
<tr>
<td>GreenTrust Wind</td>
<td>Triodos Renewables</td>
</tr>
<tr>
<td>National Energy Foundation</td>
<td>Wessex Reinvestments</td>
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<td>Origin Energy</td>
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<td>Regen Southwest</td>
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<td>South East England Development Agency</td>
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<tr>
<td>Water Power Enterprises</td>
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</tr>
</tbody>
</table>

Table 7: Primary and Secondary Interview Groups

3.2 Interviews

In-depth interviews were felt to be the most appropriate way to address the qualitative nature of the research questions, to both provide a way to capture understanding of the issues and map some of the proposed solutions to them. A semi-structured format was used to provide enough similar structure between the interviews and the two samples, whilst allowing some flexibility for the interviews to flow and discuss wider points of interest that may emerge. Throughout, the aim was to achieve both a breadth of coverage across the key issues of at-risk finance for community renewables and a depth of coverage within it; achieved by using both content mapping questions to open the research up to the participants understanding/perspectives and content mining questions to explore these in detail (Legard et al 2003). To facilitate this process a topic guide was developed to set out the key themes to be explored across a range of topics and sub-topics, based on the issues that emerged from the literature and pre-design discussions. The topic guide approach is recognised as a way to enhance consistency within data collection, enabling relevant issues to be covered systematically, but with some flexibility (Arthur & Nazroo 2003).

In designing the topic guide, it became apparent that two versions would be needed – one for the primary interview group and a simpler, shorter version for the secondary sample. This reflected the time and resource constraints on the research and the fact that the purpose of the two interviews was slightly different. However, the key structure within each topic guide was similar to ensure consistency, with only one section changing significantly between the two groups. Full versions of the topic guides are provided in Annex 3 and are summarised below in Table 8.
### Key Question Areas

#### 1: Perceptions of Community Renewables

1.1 Check if they think communities are showing an interest in developing renewable energy projects and ask why they think this is?

1.2 What principles or values do they think are important to communities in the development of such projects?

#### 2: Risk Finance for Community Renewables

2.1 What do they think are the key issues facing communities for accessing risk finance?

2.2 Are there any specific ways in which they think risk can be reduced for community renewables?

2.3 What do they think communities need to understand about finance?

2.4 Other than what they are doing, what sources of risk finance are they aware of, that communities can access?

2.5 Beyond the risk stages, do they think communities will be able to secure finance for construction and O&M?

### Section 3: Interview Specific

- What are they planning or offering?
- Why have they developed this support?
- What degree of control and ownership will communities be able to have through their scheme?

- What role does their organisation currently have within community renewables? Do they see this changing?
- What do they think communities need to understand about their sector?

### 4: Policy Developments

4.1 What policies do they think would help support the development community renewables?

<table>
<thead>
<tr>
<th>Focus on their model/fund</th>
<th>Focus on view of their sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
needed. These changes were relatively minor so early interviews used to test the structure remain within the data set.

The interviews themselves took place over a six week period and the approach varied with each group. As far as possible, the primary interviews were based upon a one hour face-to-face interview and the secondary interviews were based on a 30 minute structure, generally completed over the telephone. All potential interviewees were contacted by email and/or telephone to introduce the research and its purpose and follow up emails were sent to all those that agreed to take part, setting out in more detail the aims and objectives of the research and the headline questions (Table 8). Where possible interviews were recorded.

3.3 Analysis

The process of analysis followed the broad principles of the qualitative approach set out by Denscombe (2009:288) that includes five stages: preparation, familiarisation, interpretation, verification and representation; although this does not occur in a logical sequence, as the process of analysis moves back and forth. Overall it is an iterative process, which some have referred to as a ‘data analysis spiral’ (Creswell 1998 and Dey 1993; cited by Denscombe 2009: 289), or as an ‘analytical hierarchy’ (Spencer et al 2003).

To aid the process of analysis and interpretation a framework matrix tool was adopted from Ritchie et al (2003) based upon moving backwards and forwards from data management, through to descriptive accounts into explanatory accounts. The framework itself was put together manually within Excel, with each step in the process saved under different versions to provide an audit trail through the analytic and decision-making process. To aid the process of explaining the data, the emerging categories and themes where charted in mind mapping software to identify linkages within and between the emerging themes, resulting in further refinement to the descriptive and explanatory accounts that emerged. The steps taken are summarised below in Figure 5. This process provides a mechanism to facilitate the research process, enabling full and reflective analysis to take place in a transparent format (Spencer et al 2003).
3.4 Strengths and Weaknesses

The approach adopted within this research has been driven by the nature of the study – informing the design, sample, method of interview and the approach to analysis.

My own role within the research cannot be ignored, given my background within community development on sustainable energy issues. This was both a strength in terms of giving a good grounding in understanding some of the issues associated with community renewables and helping me to secure some of the interviews. However, it is also recognised that this background, my values and beliefs could also have a significant bearing on the data collection and interpretations (Denscombe 2007). To minimise this, a transparent approach has been adopted throughout, including the interviews which were based on a clear topic guide that was driven by the literature and was used consistently across the interviews. Within the interview itself my own views and attitudes were not revealed during the interview process.

The process of analysis has also used a recognised framework, that provides a clear audit trail of activity, based on a methodology which grounds the analysis within the data that is collected, that includes keeping to the words and meanings given by the interviewees (Ritchie et al 2003).

In terms of selecting the sample and carrying out the interviews, it is not felt that this has led to any bias. This reflects the fact that as far as possible all those offering funds/models that
were highlighted through the snowballing process were approached for an interview and the
those that did take part within the research reflect a wide diversity, both in terms of the types
of organisations involved and the range of models they have adopted. The wider secondary
interview group also provided a way to check assumptions and attitudes outside of those
directly developing and working with communities on renewable energy projects.

By describing in detail each of these steps taken to complete this research and by applying the
steps rigorously, it is hoped that a high degree of credibility has been achieved in terms of
validity, reliability and objectivity of the results (Denscombe 2007). The next section, discusses
the findings that have emerged from this methodology in detail, and links them back to the
existing and emerging literature and the cases studies, to help validation.
4. Research Findings and Discussion

4.1 Perceptions of Community Renewables
The whole of the research sample were asked about their perceptions of community renewables, including why they felt communities are interested in developing renewable energy projects and what principles and values they think are important to them. Generally, the primary interview group gave a deeper and broader level of information, reflecting the fact that many are actively involved in working with communities and are in some cases individually involved within projects.

Explaining Interest in Community Renewables
A range of reasons were given for why people think communities are interested, with a commonly held view being that this was in response to a number of issues, including climate change, sustainability and energy security. This reflected both an apparent awareness of the issues and a concern about them, as one respondent put it: “communities are waking up to the scale of the challenge in terms of climate change and sustainable living” (C6). This increasing awareness was matched by an apparent desire to act, which was commonly expressed through the use of terms like ‘taking responsibility’ or ‘doing something positively’. These underlying reasons and desire for action are reflected within the case studies of revenue-generating projects that have emerged so far (Annex 2) and within the wider literature around the ethical and environmental motivations (Table 3 - Walker 2008; Adams 2008; Houghton 2009; Roberts 2009a).

In wanting to respond to these issues, it was apparent that the interviewees felt that this was, at least in part, related to the potential impact that these problems could have on the community itself. This most strongly came through in relation to energy security, but was also evident under the other themes, and was expressed in terms of communities wanting to become more ‘resilient, self-sufficient or autonomous’; because: “we can’t rely on anyone else to do it for us” (D11). Resilience was also evident in relation to wider views around communities being increasingly interested in shaping their own long term destiny, including concerns for future generations. The interest from communities in becoming resilient aligns well with wider policy discussions on the vulnerability of centralised energy systems, which can in part be overcome by increasing the use of decentralised renewable energy (O’Brien & Hope 2010).
The most recurrent reason given for why communities are interested in developing these sorts of projects was their potential to generate an income. It is clear that this is not about making money, but using the money, to address the issues above and support a wider range of initiatives within the community itself. As such, the interviewees see these projects as having an enabling effect for communities. The interest in revenue generation also seems to reflect a recognised need to move away from grant funding to more sustainable sources of income, providing an “opportunity to set up a revenue generating fund, without the need to endlessly apply for grants which [is] time consuming, uncertain and increasingly unlikely to become available” (F6). These findings strongly match those of the BGC (Houghton 2010) and are also evident within the case studies in Annex 2. Some also suggested that the creation of revenue-generating renewable assets was particularly important for rural communities where the need for financial support is great.

**Potential Drivers**

The discussion above highlights a number of reasons that communities are taking action around revenue-generating renewables. It was suggested that in addition to the points above, part of the reason for this interest related to a growing awareness and a wider range of influencers, from within communities and from outside of them - summarised in Table 9.

<table>
<thead>
<tr>
<th>Examples of increasing awareness</th>
<th>Examples of additional influencers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The declining availability of grants is resulting in communities starting to think how to secure other sources of income.</td>
<td>The Parish Planning process was mentioned by several as both a driver for communities to think about their local area and as a way to formalise the interest and awareness that already exists around renewables.</td>
</tr>
<tr>
<td>A response to the introduction of the FiT which some felt had increased awareness of renewables and the potential that they could offer to provide a source of income.</td>
<td>Activists and proactive individuals within communities were seen to be driving interest and creating enthusiasm around renewables.</td>
</tr>
<tr>
<td>A growing awareness of what some other communities were doing within renewable energy (Fintry was mentioned on several occasions).</td>
<td>Initiatives like the LCCC, Transition Towns and the Low Carbon Communities Network were all mentioned as routes by which awareness and knowledge had increased.</td>
</tr>
<tr>
<td>More awareness of issues like peak oil and energy security – in part linked to fuel price rises (also an influencer).</td>
<td>Some developers and organisations have been a catalyst in driving or encouraging the development of projects within local communities.</td>
</tr>
</tbody>
</table>

Table 9: Drivers of Community Interest in Renewables

Sitting within the discussion on awareness and influencers, another interesting viewpoint emerged relating to both, which was the impact that commercial wind was having. This was mentioned by several interviewees from across the sample. It was suggested that some communities had been unable to prevent large scale developments near to them, which had resulted in them becoming, financially and emotionally disempowered. This had also acted as a catalyst for action, with a growing sense that communities wanted to ‘protect’ or ‘secure’ local...
resources for themselves and ensure that the benefits from them were locally retained. As one person put it communities are asking “...why aren’t we getting some of the benefit of all this stuff, a lot of value is being extracted which is not being shared” (P15:6). This issue has also been highlighted within the literature (Roberts 2010; Warren & McFadyen 2010).

**Community Values**

The primary interview group were asked about what principles or values they felt were important to communities. A number of themes emerged around values, expressed through a range of different terms – Figure 6. There were also links made to the process of developing projects and working at a community level, reflected by comments on the important role that ‘collective decision making’ or ‘acting together’ can have, which in turn were often linked to a view on the importance of bottom-up approaches. Collectively the views appear to suggest that these elements are an important way in which some of these values can be ensured or protected; and that by doing so, projects are likely to be more successful. These views were held most strongly within the third and public sector organisations and by those involved with projects. However, across the sample, it was also apparent that these need to be taken as broad principles, as at a local level each community is likely to demonstrate a range of different opinions and values and therefore there is a risk in being too prescriptive.

![Figure 6: Values felt to be important to Communities](image)

Although most had views around values, this was one question that many found difficult to answer, with long pauses being evident, which in part seemed to reflect the type of organisation people were based in. Those that tended to find it easier to answer, and who gave more comprehensive views, were within organisations with a track record of community approaches reflecting the way they think they should be developed, something that others have highlighted (Walker 2007b).
Ownership, Benefit and Control

Closely linked to the discussion on values, were a range of views around the importance of ownership, benefit and control within community renewables. Again, they views appeared to in part reflect the type of organisation that was being interviewed.

In relation to how important ownership was perceived to be, some felt that it should be central to community renewables as it could increase acceptance and be a motivating factor for a project happening, with some suggesting that “ownership [is] an ethic in itself” (B10) and that “the more tangible the better” (B11), both in terms of enabling projects to go ahead and for securing wider benefits. The view that ownership increases acceptability is reflected by the literature (e.g. Hain et al 2005; Aitken 2010) and has been discussed in relation to the apparent differences in the level of acceptance for on-shore wind between the UK and other countries, such as Germany and Denmark (Pollitt 2010; Roberts 2009a). However, within the interviews the need for ownership was questioned by some, who felt that it was not clear if communities actually wanted to own assets and have responsibility for them and that what was more important was the outcome or benefit that any project provided. There was a view, backed up by the case studies that most of the community-owned projects to date had only been possible because of public funding and therefore the type or nature of ownership may have to change out of necessity, if grants become harder to secure.

There was a strong consensus, across the whole sample that the provision of benefit is a fundamental requirement for community renewables. This was seen as one of the main reasons that communities were interested in developing projects or being involved with them. However, the use of words ‘ownership’ and ‘benefit’ were often used interchangeably in some of the discussions, suggesting that some people view them as the same thing, or at least have not considered what might be different about them. So whilst people appear to agree on the importance of benefits or outcomes, the route to them, in terms of whether an asset needs to be owned or not, is less clear.

These issues are further complicated in relation to perceived need for control. Whilst all felt that some level of control for communities was essential and necessary for projects to develop, the type of control and stage at which it is applied varied. All recognised that a community’s decision about whether a project should happen or not is fundamental, and none of those providing support were interested in working in an area where communities were not interested or supportive. This was seen as an element of control and contrasts with the way commercial projects have been developed to date. Beyond this, views diverged. Some suggested that having control over a project and within a project was important because it
could lead to wider benefits, such as building the capacity of the community, giving them the confidence to take on other things and having an overall ‘transformational’ impact within those communities. This was a central principle of many of the organisations with a strong community ethic and particularly those that offered a fund and support type of approach. The dominant view was that bottom-up approaches were more sustainable, would lead to long term change and resilient communities, beyond the project itself. In these examples, the interviewees felt that control was as important as ownership and benefit.

In contrast, and linking back to those that felt the outcome of a project was more important, there was a view that control was still needed, but not necessarily throughout the whole project process. In these cases, it was control over how the income from any project was spent that was suggested to be important, with a view that this would result in many of the outcomes mentioned above, in relation to building skills, capacity and resilience through the process of developing projects on the back of the income. This in part links back to income generation being seen as a primary driver for why communities want to see projects happen.

So, whilst there is consensus on benefit, in terms of control and ownership views tended to be more varied, although there were some interviewees sitting between the differing stances. Something that was reiterated within the discussion is that it is hard to generalise on these issues, because of the diverse nature of communities, which would be reflected through differing levels of willingness, capability and interest. Each side of this discussion is reflected within the literature; it is clear that ownership, control and benefit are all seen as important elements within the BGC (Houghton 2010) and other reports have suggested that they are critical to the success of a community initiative (Letcher et al 2007). However, others have also shown that control might not be a realistic option for some communities (Rogers et al 2008).

4.2 At-risk Finance for Community Renewables

Issues for Securing

Both samples were asked about what they felt were the key issues for communities in trying to secure risk finance. The responses included issues specific to communities and to finance more generally, falling under two broad categories:

- Availability.
- Skills/capacity.

By far the biggest issue identified was the lack of availability of this sort of money. This was linked to the funders themselves, which are perceived to be generally risk adverse and conservative in nature, as one person put it “getting finance is a challenge for new enterprises
or approaches [because] financers like established businesses and models” (P5:20). This raises an important point that emerged within the data more widely, that raising finance for community renewables is not just a problem for communities, but also for those organisations that are developing models that could support them. It also has an impact relating to the nature of communities themselves, falling under two key areas:

- **The scale and type of project** – the relatively small scale of community renewables, which were are also generally based on single projects, increases planning risk and financial risk.
- **Credibility** – communities do not have a track record and they may not have the right structures in place for effective and timely decision-making, both factors that would increase risk in the eyes of financers.

As one interviewee put it, in relation to banks: “at the point when they would make a decision, they might be concerned by [the] fact it’s a community approach, complicated non-profit, surplus distributing type thing – questioning people’s ability to oversee the management of [the project]. Raises concerns, rather than reduce it”. (P15:62). This issue has also been picked up within the literature (BRE 2010; TLT Solicitors 2007).

Also within the discussion around availability, it was often mentioned that sources of at-risk finance were hard to find out about and that this would be a new requirement for many communities that are used to the process of applying for grants. This links back to the early point that most projects to date had been supported by public sector sources and it was commonly perceived that accessing this sort of money was likely to become harder, increasing the difficulty of securing finance.

The other area of discussion related to the skills and capacity of communities. There is an outward dimension to this in respect to the views that funders may have of community-led approaches, above; and an inward dimension, reflecting the skills and capacity within the community itself and the availability of local experts or support organisations. Many commented that these factors would change from community to community. A summary of some of the key points that emerged within the interviews around these issues are shown in Figure 7, alongside some of the ways that people thought they might be addressed. Many of the issues interrelate with one another and some reflect the nature of working at a community level. Collectively people suggested that recognising and understanding the skills and capacity of a community were important considerations in enabling projects to happen and that the provision of help and support plays a crucial role in overcoming these problems.
Linked to this discussion, the interviewees were asked what they felt communities needed to understand about the finance sector. There was a commonly held view that understanding around finance, is generally low, as one interviewee put it: “people really have no idea about what sources of capital are available to them and how to market themselves to those sources, not just within community renewables” (P7:44). It was felt there was a lack of understanding within three main areas, which would all have an impact on the ability of a community to raise money:

- **How risk is viewed** – in terms of both the organisation delivering a project (with communities perceived as a risk) and the project itself; and how this impacts the type of finance that might be available and what this may mean in terms of giving up aspects of ownership or control.

- **The nature of commercial finance** – the fact that there are lots of different sorts of finance available on both the debt and equity side, which have different needs and requirements; often within organisations that share very different values to those held by the community.

- **Issues for accessing it** – that support would be needed to help communities understand what is available, from who, and how best to market themselves in terms that they will expect.

Turning this question around, some interviewees felt that the finance sector needs to better understand how communities operate if they are going to work with them. However, a stronger opinion expressed by those that had worked closely around financing within community renewables was that the commercial sector do not need to understand communities – they want things presented to them investment ready.
Ways to Reduce Risk

The discussion around how people thought risk could be reduced was one of the broadest parts of the research, with ideas across multiple areas and with many linkages between them. This reflects the fact that the nature of risk is multi-dimensional and made up of lots of individual elements that interact with each other. It also reflects the nature of the sample, given that all the interviewees had recognised the problems associated with risk and financing it, and were offering or developing solutions to reduce or overcome it. The main categories and sub-categories that emerged are shown in Figure 8 and discussed below.

Figure 8: Emerging Categories for Reducing Risk

Planning Risk

There was a wide consensus that gaining planning permission is one of, if not, the main risk for renewables, including community renewables. It was recognised within the interviews, and more widely within the literature (e.g. Hain et al 2005; CSE et al 2009), that community approaches should have a lower planning risk profile because they are likely to have less local opposition, assuming that widespread community support can be secured. It was also clear that the need to reduce planning risk had been a principle driver for the development of some of the models that have emerged, particularly in relation to those working within wind, where planning risk is perceived to be highest.

To reduce risk it was felt by most, that communities needed to engage with the planning process by talking to planners, elected members, individuals and groups within the community, and attending any planning committee meetings. There was also a perceived need
to do this consistently, right through the planning process, to “maintain a high level and profile of support” (P9:35). However, a few of the interviewees felt too much was made of community approaches reducing planning risk and that it could not be assumed, given that there is limited evidence to demonstrate this is actually happening. Some also wondered about the capacity of individuals to gain and maintain widespread support within their community. This linked into a wider discussion on the nature of the planning system itself, which some felt was essentially a political process, which could work in favour of community renewables or against it depending on the stance of those within the local authority to issues like renewable energy and climate change.

Discussions on planning also came back to the role that ownership, benefit and control can play in gaining and helping to increase the level of community support.

Project Design

Good project design was seen a central way in which risk could be reduced. This included a number of different sub-topics, which, combined, play a part within the project development process, summarised in Table 10. There was considerable detail within these areas, but they essentially all come back to the need to take a considered and realistic approach to what is most appropriate for a community and a site. Risk could be reduced through good and appropriate design and this would directly have an impact on the level of risk associated with raising finance and gaining planning permission. This also links to the wider discussion on making projects investment ready, being seen as an integral part of becoming commercially focussed and professional in the design and development of projects.

<table>
<thead>
<tr>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacts planning, with a perception that wind was highest risk, followed by hydro, with PV seen as the most benign.</td>
</tr>
<tr>
<td>Also impacts level of risk money needed – with wind seen as the highest cost.</td>
</tr>
<tr>
<td>Different technologies had different technical requirements, linking to risk, costs and the need for expertise.</td>
</tr>
<tr>
<td>Only proven technologies were worth considering.</td>
</tr>
<tr>
<td>Ultimately the site should drive the choice of technology, not the other way around.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale impacts risk, but views varied.</td>
</tr>
<tr>
<td>Some felt smaller scale projects present a lower risk – both financially and in terms of planning; others felt the opposite was true.</td>
</tr>
<tr>
<td>Some also felt smaller was easier.</td>
</tr>
<tr>
<td>However, in the case of wind some developers felt small wind could often be as risky as large.</td>
</tr>
<tr>
<td>Many felt scale was about balancing the need to reduce risk and maximise income.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appropriateness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designing the right scheme for the site is a way to reduce many aspects of risk.</td>
</tr>
<tr>
<td>This includes planning risk, community buy-in and the physical and environmental characteristics that will impact construction.</td>
</tr>
<tr>
<td>Risk could be reduced by a good feasibility study and clear scoping.</td>
</tr>
<tr>
<td>It was felt important for communities to be flexible in deciding what scale and technology were appropriate.</td>
</tr>
</tbody>
</table>

Table 10: Reducing Risk within Project Design
A sub-element of project design related to the legal structures used or adopted. These varied with the type of model and were seen to be an important element for reducing risk for all the actors involved within a project. This included reducing personal liability for members of the community and the need for structures with clear leadership and decision-making to help increase credibility in the eyes of funders.

The Role of Funding

As already discussed, it was commonly recognised that public funding had played an important, if not central role, in enabling the development of community renewables to date, particularly in helping to cover the at-risk stages of project development. There was a view from many that this is an important role for public funding, as it helps to de-risk projects, enabling them to bring in other capital. Some felt that a lack of public funding could have a number of impacts, ranging from views that without it, projects won’t happen: “Don’t feel it will happen without some kind of public or civic funds” (P8:31) a common thread, to a wider implication that a decline in public support would result in pushing down the scale of community renewables, because communities will seek to minimise financial risk. This issue was also highlighted by two developers, as one put it: “small scale projects are only viable with support...anything below 40-50kW impossible without grants” (P19:82). This could reduce the collective impact that these projects have, both in terms of their role in helping to reduce carbon emissions, as well as the level of benefits that projects can provide to communities.

The other way that some felt financial risk could be reduced would be through the use of public share schemes. However, it was generally perceived that this would only be an option post-risk to provide equity towards construction as communities and individuals would not be willing to invest if there was a chance a project would not go ahead. However, it may be possible to overcome this through a portfolio approach and this has recently been demonstrated by Energy4All who helped established Energy Prospects, which successfully raised a £1m risk fund from a public share issue, which will be used to support a number of projects, with an anticipation that enough will get through planning to provide a dividend back to the investors (Energy4All 2010). This fund is initially likely to help establish Energy4All co-ops, based on community of interest projects.

Adopting a Portfolio Approach

The potential benefits of taking a portfolio approach were also mentioned by some of the interviewees. These were seen as an important way to spread risk across a range of projects or technologies and also as a way to maximise the support that communities could receive through a model or program. This is the approach that commercial developers take and the
view was that, as well as reducing the overall level of risk, portfolio approaches could bring in finance on better terms than any individual project would be able to.

In discussing how this could be achieved, few felt that communities would easily be able to take a portfolio approach alone, as many projects are one off, using one technology or site. It was felt that this is one central value that organisations could play themselves, through the development of models and approaches to enable this to happen. However, it is also clear that some communities have been able to take a portfolio approach themselves, albeit those that had received large grants or awards. For example, Houghton (2010) flagged how Green Valleys had been able to spread risk by aggregating a large number of individual micro-hydro schemes, and LCWO had been able to spread risk over three technology types.

Providing Support
Support was seen to be a key element in reducing risk within community renewables, across the sample; helping to address some of the capacity, skills and knowledge issues identified. It was felt necessary because the development of renewable energy projects entails a wide range of different skills and expertise. Some expressed a doubt over the ability of communities to cover all the skills needed themselves and it was suggested that most projects to date have only been possible through the provision of at least some outside expert advice and help along the development process.

A range of different resources and tools were mentioned during the interviews – Box 4. People felt that such resources could play an important part in enabling communities to start the process of assessing the local potential for renewables and moving along the process of developing a project. Templates and frameworks showing the steps along the journey, that clearly show what needed to be done at each stage, were felt to be particularly useful by some, both as a guide to work to and as a way to maximise the time and capacity that they do have. This could help to improve project design and enable communities to focus on using their local knowledge, within a framework suitable for developers and investors.

However, it was strongly expressed that the provision of resources alone would not be sufficient to enable the development of successful projects. The consensus was that hand-holding and direct support would also be required, to bring wider dividends and increase the likelihood of success. Combined, resources and support were seen as a way to ensure better decisions and more robust approaches to developing projects in a way that reduces risk.
It was also felt that transparent and independent advice was particularly important. Some felt that there could be a tendency for consultants and installers to recommend what they knew or what they had links to, meaning the best solutions would not always be offered to a community. This view of independence was recognised across the range of organisation types that were interviewed, including those offering models. It was felt that it would be difficult for communities to know about all of the various options that exist, or necessarily know which might give them the best deal and only an independent third party organisation could advise on this.

**Models**

Working with one of the existing or emerging models was seen as the obvious way to reduce risk, get credibility and be supported; helping to overcome many of the barriers that have been identified. Some of these take on the risk of developing projects; others provide funding and support to reduce risk, they are discussed in detail below.

### 4.3 Established and Emerging Approaches for the Development of Community Renewables

A central purpose of this research was to identify what models, funds and support are currently available that could enable the development of community revenue-generating projects. Some organisations have been working in this area for many years and have successfully developed approaches that have supported their development; others have just started to emerge. A summary of the current approaches that were identified are provided in Table 11 and a more detailed description of each is provided within Annex 4.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Summary</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbon Free Developments Ltd</strong></td>
<td>Joint Venture Model in which CFDL take full responsibility for the at-risk stages. If planning is secured the community can invest up to 49.9% in the venture, repaying a pro-rata share of development costs and raising their share of the equity to build the project, which CFDL also help to source. From that point both parties share the operational risks and rewards. The community can also sell a proportion of their equity back to CFDL to release partial project value at the outset. Planning is in for the first scheme.</td>
<td>Type: Single Model</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technology: Wind</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Status: Delivering*</td>
</tr>
<tr>
<td><strong>Centre for Sustainable Energy</strong></td>
<td>Advice, support and finance to enable the development of community-owned wind. Based on a revolving fund model that sees those projects that get through planning repaying the development costs back to the fund to enable the next round of communities to be supported. Using a portfolio approach with the provision of dedicated support and resources, right through the development process from feasibility to financial close.</td>
<td>Type: Support and Funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technology: Wind</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Status: Proposed</td>
</tr>
<tr>
<td><strong>Community Energy Scotland</strong></td>
<td>Community Energy Scotland is an independent charity that helps groups to develop projects which improve their community, generate renewable heat or power, and gain income for further community development. Their in-house support includes</td>
<td>Type: Support and Funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technology:</td>
</tr>
<tr>
<td>Model Name</td>
<td>Description</td>
<td>Technology</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Community Power Cornwall</td>
<td>Model based on increasing the skills, knowledge and capacity of communities to install small and medium scale wind. Based on a community-benefit IPS co-operative model, that provides dedicated development support and a revolving fund. CPC carry out the at-risk work with the community and take an equity stake within each project, to fund further communities. Additional equity comes via community share offers, with income from successful projects split between CPC, the shareholders, a Community Development Finance Institution (the revolving fund) and the community where the project is based. The approach includes support for planning, funding, technical and legal structures, along with community engagement. Ultimately it seeks to build the capacity of communities to develop these projects themselves. Three projects have submitted for planning.</td>
<td>Wind (initially)</td>
</tr>
<tr>
<td>CoRE</td>
<td>Joint Venture Model. CoRE work with communities to develop projects that will generate income for communities. CoRE carries out an initial assessment of the commercial viability, and seeks a Memorandum of Understanding to undertake the at-risk work. An ESCo is used to manage the scheme, including energy supply, billing and maintenance for the projects, enabling CoRE to recoup its costs, with a margin, and this money is used to support further projects. It is intended that the ESCo will be able to lend debt into projects once it becomes more established. At least 10 projects are in development, some have planning.</td>
<td>Any</td>
</tr>
<tr>
<td>CO2Sense Ltd</td>
<td>Fund supporting a range of grid connected renewables, including projects which are owned by the local community. Grants, loans or commercial investments are available from £20k to £750k. Grants are only made for community approaches, although the fund increasingly seeks to make no or low interest loans to enable projects to proceed, whilst enabling the fund to recoup its costs to support further projects. To date, communities have been supported via intermediary organisations.</td>
<td>Any</td>
</tr>
<tr>
<td>Empower Community Fund (developed by Omni Group)</td>
<td>A social enterprise model that aims to accelerate the transition to a low carbon economy by providing access to capital for community renewable energy and energy efficiency projects. Based around an approach that brings together institutional, public sector and community sourced finance to underwrite, finance and implement projects. It maximises the income that is available from FiTs and is initially being based around PV aimed at social and public sector landlords. The income received is split between the investors, but provides a profit share back to a local community vehicle to support further local activity. It is anticipated that further technologies will be supported once Empower Community is fully established.</td>
<td>PV (initially)</td>
</tr>
<tr>
<td>Energy Saving Trust Wales</td>
<td>Funding and support for community renewables within Wales. Funding is provided, alongside a technical support network to provide handholding through the development process. Funding can cover the at-risk stages development stages, to enable projects to happen and capital grants are also available up to build</td>
<td>Any</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td><strong>Description</strong></td>
<td><strong>Status</strong></td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>GreenTrust Wind</strong></td>
<td>Community Interest Company (CIC) aiming to build large scale (850kW to 20MW+) community wind. GTW takes on all the risk of developing the project, providing the finance and managing construction and operation. They cover their costs to do this, but all of the profits go to the local community, via a community trust fund. The community has the option to invest with the scheme, through a co-operative share offer and to buy the power produced. The model will provide £20-30k per MW per year, which will be provided in full at construction. Currently in the process of establishing the first portfolio of 5 to 10 projects for investment approval in late 2010.</td>
<td>Delivering</td>
</tr>
<tr>
<td><strong>National Energy Foundation</strong></td>
<td>Established the Communities Fund, which seeks to help communities overcome the early stage barriers, including capacity building, preparing planning applications and raising finance. It is a supported process to get communities to the point where they are investment ready. The fund itself is based on a revolving model that will provide interest-earning, low interest loans to projects, recovered at the point of capital funding being secured by the project. They may also take an equity stake within projects, if appropriate. The fund is still being established with an initial target of raising £5m, which would be used to provide staged funding to communities, up to a maximum of £250k. They have supported one community to date.</td>
<td>Fund &amp; Support</td>
</tr>
<tr>
<td><strong>Origin Energy</strong></td>
<td>A CIC that will work to assist communities to access finance, markets, information and knowledge, through participatory structures to build wind projects. They carry out the development work at-risk and support communities to establish an autonomous community structure to oversee investments in local sustainability from the revenue generated. They cover their costs to do this work, but the net profits all go back to the community. For their first scheme they anticipate this will be in the region of £250k per year, more than doubling once the debt is paid off within 10 to 12 years. They are currently doing the planning work for their first scheme.</td>
<td>Model</td>
</tr>
<tr>
<td><strong>Regen Southwest</strong></td>
<td>Establishing Communities for Renewables, a broker model that will use wind projects to provide local communities with local benefits. Based on providing information and support to enable communities to identify the opportunity in their area, along with guidance on the funding/business models available to support their development. It will also work with the wind industry to identify a range of business models, which Regen may co-invest within, to help meet the needs of developers and of communities, in a financially sustainable way. Regen will act as broker to ensure the best deals are available to communities, to meet their own needs and desires in terms of ownership, control or benefit, at a scale which they feel is appropriate to them. The principle aim is to ensure that as much revenue as possible is retained locally. They are currently in the process of gauging community interest and seeking funding to support the development of the programme.</td>
<td>Broker Model and Support</td>
</tr>
<tr>
<td><strong>SEEDA</strong></td>
<td>A supported model based around a 6 stage framework, or escalator, of community and project development which enables communities to work at their own pace to suit their own needs, ambition, and capacity. The early stages in this process involve networking and learning, as a group becomes established. An interactive web2-based support process has been established to</td>
<td>Fund &amp; Support</td>
</tr>
</tbody>
</table>
assist with these stages - Community Central. This provides networking, forums, information exchanges, etc and will be managed to identify emerging issues so that additional support can be provided – this has been soft launched. A Community Energy Investment Fund has also been developed that brings together public sector funding, with debt and equity providers to support communities through the later stages in the framework. This helps overcome the identified financing issues for community renewables in a sustainable way for communities and the investors. The prospectus for this fund is ready for launch. Business support will also be provided through the development stages.

**Water Power Enterprises**

Social developer of low head hydro schemes that enables communities to make use of their local resources to generate a source of income. They provide a complete package of support to the community from initial feasibility through to construction and maintenance. They help raise the finance and carry out the at-risk work for the community and help communities secure both the debt and equity (via local share issues/grants) needed to build a scheme. Communities pay back their costs and a fee once the project is operational. To date they have helped established two schemes – Torrs Hydro and Settle Hydro, three other schemes are in development in Wensleydale and Stockport.

<table>
<thead>
<tr>
<th>Status:</th>
<th>In Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Single Model</td>
</tr>
<tr>
<td>Technology:</td>
<td>Hydro</td>
</tr>
<tr>
<td>Status:</td>
<td>Established</td>
</tr>
</tbody>
</table>

* The three classifications used to describe the status of these models include: Established – communities have been supported and projects have been delivered; Delivering – communities have been supported, but projects not yet built; In Development - models that are yet to support communities in the development of a project.

**Table 11: Approaches to Support the Development of Revenue-generating Community Renewables**

In addition to these models, Energy4All were interviewed on their approach and three others were identified during the design and interviews stages. One is the model developed by Green Valleys; it was not possible to secure an interview with them but a useful summary is provided in Box 5. Shareenergy Co-op was also mentioned that operates in the West Midlands, but this is supported by Energy4All and is based around a community of interest model, which this research is not considering. The third organisation mentioned was SolarTech Ltd who appears to offer a similar model to that taken by Omni, there was insufficient time to interview them.

One point that becomes immediately apparent within the models that have been developed is the main technology focus for many is wind. This is because this technology is currently seen to be the most profitable, allowing more flexibility in the way that finance can be raised and the income split between communities, investors and in some case the developers themselves. As one interviewee put it: “...big wind makes a lot [so

**Box 5: The Green Valleys**

This is a membership CIC based in the Brecon Beacons that develops high head, low flow micro-hydro schemes. It supports local communities as they move through the process of developing and financing the project. They also pay for the required feasibility studies, seek planning permission and secure abstraction permits on behalf of the projects. In return for taking on this risk and providing these services, The Green Valleys seeks to retain a 25% equity stake in each project they support and thus receive 25% of net income once operating and maintenance costs are covered; allowing them to support further projects. BRE (2010:49)
you can cut the cake to provide returns for the risk funders, the construction funders and the community. With other technologies... this [is] harder” (P5:20).

A wide range of approaches are demonstrated within these models, from a number of different types of organisations from within the public, private and third sectors, which includes diversity within the scale of project, the types of technologies supported and the amount of flexibility that they offer to communities. Although it oversimplifies the complexity and sophistication within the individual approaches, they fall roughly into two groups, those that offer a fund and support led process, and those that offer one type of model and do most of the development work on behalf of the community—outcome focussed, Table 12.

<table>
<thead>
<tr>
<th>Support Focussed Approaches</th>
<th>Outcome Focussed Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre for Sustainable Energy</td>
<td>Carbon Free Developments Ltd</td>
</tr>
<tr>
<td>Community Energy Scotland</td>
<td>CoRE</td>
</tr>
<tr>
<td>Community Power Cornwall</td>
<td>GreenTrust Wind</td>
</tr>
<tr>
<td>CO2Sense Ltd</td>
<td>Empower Community Fund</td>
</tr>
<tr>
<td>Energy Saving Trust Wales</td>
<td>Origin Energy</td>
</tr>
<tr>
<td>National Energy Foundation</td>
<td>Water Power Enterprises</td>
</tr>
<tr>
<td>SEEDA</td>
<td>Regen Southwest</td>
</tr>
</tbody>
</table>

Table 12: Focus of Different Models

What they offer Communities

All of these models are providing ways for communities to develop revenue-generating renewable energy projects, and ways to overcome the at-risk development stages and the wider barriers that have been highlighted.

The various approaches link back to the early discussion on ownership, benefit and control; taking differing views on their role in terms of process and outcome – Box 6. The support led models place a high degree of importance on the role of communities within the process of developing a project, as well as the outcome. The emphasis within them is strongly focussed on supporting the development of capacity and skills within the community, from the start of the process. This appears to be a fundamental principle for many of these organisations, linking to a desire to see communities becoming self sustaining through the process of motivating, mobilising and enabling them to act. Some take a single approach to the type of model offered; others are completely flexible in both the approach and choice of technology. A central element seems to be around enabling communities to develop in a way that it wants to. As one

Box 6: Process & Outcome

Process: focussed upon who a project is developed and run by, covering issues such as involvement, decision-making and influence.

Outcome: focussed upon who the project is for and who benefits from it.

Walker & Divine-Wright (2008)
interviewee suggested: “the more you involve people in making their own decisions, within a framework, the more they will do and the happier they will be about it” (P7; 107).

Other models are much more outcome focussed, with their view being based around a perception that this is what is important for most communities. This links back to the recognition that skills and capacity vary greatly between communities, recognised across the sample. Rather than focussing on trying to build this from the start, some believe it makes more sense to offer an approach that can do much of the work on behalf of the community, including raising finance, doing the planning work and overseeing the construction and operation of the asset. This enables the community to focus on planning and using the income that these schemes will provide. Most were only interested in working with a community that had a clear drive or vision for why they wanted a renewable energy project and what they wanted to use the income to support. It was felt that such communities also develop their skills and capacity in managing the funds and delivering local projects - just at a later stage within the process of a project.

To give an idea of how the different models vary in relation to ownership, control and benefit they are compared below in Table 13. This oversimplifies the nature of these projects to some degree, but it helps to explain the different approaches that are being developed. It should be pointed out some models don’t sit neatly within this discussion, most notably Regen, which could end up offering both process and outcome driven models, depending on what developers they end up working with; and Origin, which has a strong community focus.

<table>
<thead>
<tr>
<th>Model</th>
<th>Ownership of Asset</th>
<th>Process Focus</th>
<th>Outcome Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Free Developments</td>
<td>Shared</td>
<td>CFD Ltd</td>
<td>Shared</td>
</tr>
<tr>
<td>Centre for Sustainable Energy</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>Community Energy Scotland</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>Community Power Cornwall</td>
<td>Shared</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>CoRE</td>
<td>Shared</td>
<td>CoRE</td>
<td>Shared</td>
</tr>
<tr>
<td>CO2Sense Ltd</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>Energy Saving Trust Wales</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>GreenTrust Wind</td>
<td>GTW</td>
<td>GTW</td>
<td>Shared</td>
</tr>
<tr>
<td>National Energy Foundation</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>Empower Community Fund</td>
<td>Shared</td>
<td>ECF</td>
<td>Shared</td>
</tr>
<tr>
<td>Origin Energy</td>
<td>Origin Energy</td>
<td>Community</td>
<td>Shared</td>
</tr>
<tr>
<td>Regen Southwest</td>
<td>Varied</td>
<td>Varied</td>
<td>Shared</td>
</tr>
<tr>
<td>SEEDA</td>
<td>Community</td>
<td>Community</td>
<td>Community</td>
</tr>
<tr>
<td>Water Power Enterprises</td>
<td>Community</td>
<td>WPE</td>
<td>Community</td>
</tr>
</tbody>
</table>

Table 13: Summary of Ownership, Control and Benefit

A final important point in relation to these models relates back to the diversity that clearly exists within communities. Given this, it would be misguided to say that one or other of these approaches is better than the other. The focus should be on what the individual communities want in terms of control, ownership and benefit, ultimately linking to what is driving their
interest within having a revenue-generating project. However, this in turn comes back to the need for sufficient support and guidance, independently provided, in order to enable communities to make a fully informed decision on each of the routes they could take and what the implications may be in terms of their own needs and desires. This is also likely to require some sort of comparison between these and future models that emerge to identify the level of benefits that each provides in a clear and transparent way for communities.

4.4. Policy Development

Many suggestions for how policy could be developed to be more supportive of community renewables emerged during the course of the interviews; but both samples were also specifically asked about this, at the end of the interview. Unsurprisingly the recommendations closely mirror the points raised above in relation to the barriers and issues that people were experiencing. The recommendations have been included in full within this section, although they have been amended to remove general statements and make them into clear sentences, but the meaning and words reflect what exists within the data. They fall under the following categories:

- Planning policy
- The provision of finance
- Support and resources
- Regulations

Planning Policy

Planning is seen as a central area of risk for the development of community renewables and is felt to be one of the major barriers. It was an area that dominated the discussion with an overall view that the process of planning is like a lottery, increasing risk and therefore cost. If planning was more coherent and predictable, for good quality applications, it was suggested that this would open up risk finance. A number of recommendations were made over three main areas, although there were differing views on some issues. A summary of these are provided below - Table 14.
**Recommendations relating to the process**

- Policy should ensure a better alignment between the single issue focus of statutory consultees and the strategic need for renewables (PB4).
- Planning should take a longer term approach based around community accountability within a strategic framework, as within Denmark, Germany and Spain. This would de-politicise the individual application focus that currently exists, giving a systematic approach to decision making that involves people in place shaping (PB6).
- Better planning guidance is needed to join up decision making between scoping and final planning decisions, these are often separate (PB7).
- The planning process needs to take more account of community needs – the system neither protects them against large scale development, nor supports them with small scale development (PB9).
- Planning needs to be more prescriptive and transparent to reduce risk (PB10).
- Government should develop permitted development rights for community level schemes (PB11) and smaller scale community wind projects (PB15).
- Planning policy should be more supportive for community owned renewables that demonstrate clear community benefit, providing integrity is maintained (PB16).

**Differing views**

- There should not be different planning rules for community-owned renewables, this could backfire (PB6).

**Recommendations relating to skills & support**

- Local authorities should be encouraged to be more proactive and work with communities through community planning processes and help identify areas suitable for development (PB3).
- Policies are needed that proactively support community renewables, with clear advice at the feasibility stage (PB4).
- Planners should be supported to skill-up on renewables and community approaches to them (PB7).
- Basic skills are needed in order to effectively make decisions within a planning committee. Need for greater accountability within the decision making process, so it is clear on what grounds projects are rejected, this would reduce the number of projects that go to appeal, which increases costs for everyone (PB13).
- More guidance is needed for local authorities on aesthetic issues relating to wind, this is the primary reason that projects are held up, but decisions are currently subjective (PB16).
- Planners need help to take account of the desire of communities to act and the development process that needs to be followed (PB13).

**Differing views**

- Should not have zoning, it will increase competition between developers and for communities (PB15).

**Recommendations relating to the link between national and local policy**

- There is need for local policy to reflect national guidance more closely. Currently more weighting in many decisions is given to local documents, but many are old and have little or no emphasis on climate change or renewable energy – this inertia means latest evidence is ignored (PB11).
- National policy should not move into the background - if there isn’t clear national policy and the regional policy has disappeared, we are left with local policy which will take time to coherently develop and may go the wrong way depending on local view of renewable energy and climate change (PB12).

Table 14: Recommendations for Planning Policy

**The Provision of Finance**

Another main area for policy improvements related to the need for finance. It was consistently mentioned that there was a need for upfront capital to support the at-risk development stages of community renewables. Many felt that the current difficulty in raising this sort of money will worsen under the strategy to cut the deficit, making it harder still for community approaches
to come forward. This included some of those delivering models that had used public funds to support communities to establish projects and secure debt finance. The recommendations are provided in Table 15.

Whilst it was a widespread view that public money was needed and could best be deployed to support the early at-risk stages, many felt that this did not need to be through grant funding routes. Several mentioned the use of no-interest or low interest loans, or support to underwrite projects in order to bring in commercial finance and bring it in on better terms. The consensus view was that some sort of funding needs to be made available to enable future projects to develop. These findings reflect some of the views that were presented at the end of the literature review – Table 6 (BRE 2010; TLT Solicitors 2007; Houghton 2010).

Many also mentioned that a function of the Green Investment Bank should be to support community renewables, either through the provision of soft loans, an equity stake or as an underwriting mechanism. This would make projects much more bankable and help to overcome the at-risk stages.

<table>
<thead>
<tr>
<th>Recommendations for funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A public funded national working capital fund should be created to support community renewables, without this there won’t be a way to access capital in a low risk way (FB6).</td>
</tr>
<tr>
<td>• A one off revolving risk capital fund is needed - it does not need to be grant based (FB8).</td>
</tr>
<tr>
<td>• A fund is needed that communities can access to finance the early feasibility work (FB9).</td>
</tr>
<tr>
<td>• The existing project funding should continue to be provided (FB10).</td>
</tr>
<tr>
<td>• There is a need for a bank that can be dipped into to help schemes – this should offer soft unsecured loans aimed at communities (FB11).</td>
</tr>
<tr>
<td>• Simple loans would be helpful (FB13).</td>
</tr>
<tr>
<td>• Policy should consider how up-front finance can be provided - something like a revolving fund is needed to cover the at-risk costs, recovered through the life of the project, maybe with interest (FB14).</td>
</tr>
<tr>
<td>• There is a need to resource some of the upfront pre-planning stages either through a national or more regional revolving fund model. However, this should be introduced in a way that does not kill off those models that are already emerging (FB17).</td>
</tr>
<tr>
<td>• What really is needed is some sort of fund, it could be grant based on the understanding that if the project goes through to making profit it is paid back (FB18).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendations for incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A clear statement is needed from Treasury on the EIS for social enterprises – it is available, but very unclear whether you can get one or not (FB7).</td>
</tr>
<tr>
<td>• Government should develop a tax efficiency framework that encourages investment into local renewable energy schemes, in the same way that other instruments have encouraged people to save in ISAs and pensions (FB15).</td>
</tr>
<tr>
<td>• Better fiscal incentives through the tax regime are needed - community benefit tax exemption would help. So by nature of being a community investment you get the tax relief. Government could also consider underwriting (FB16).</td>
</tr>
</tbody>
</table>

Table 15: Recommendations for Finance

Resources and Support
As was evident within the discussion around reducing risk, the provision of support is seen as an important part of the process in enabling the development of community renewables. The
recommendations reflect the themes under that discussion in relation to the need for the provision of resources, for support and for transparency. The requirement for easily accessible, credible and independent sources of expertise has also been highlighted by others (Roberts 2009b). It was also clear within the discussion that policy has failed to provide clear guidance and support for community scale renewables to date, with a focus on either large scale or micro-renewables, something that was recently also highlighted by Watson et al (2010). The recommendations for support are summarised in Table 16.

<table>
<thead>
<tr>
<th>Recommendations for resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There is a need for real and in-depth guidance on the range of technologies and how to apply them (SB7).</td>
</tr>
<tr>
<td>• Resources should be developed that demystify the development process in a non patronising way that enables communities to get to grips with economic, financial and legal issues (SB9).</td>
</tr>
<tr>
<td>• Resources and other tools are needed to increase the success and size of the pipeline of projects; many communities do not have a clear idea about which technology, what scale, where it should be, etc (SB10).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendations for types support</th>
</tr>
</thead>
<tbody>
<tr>
<td>• If the Government wants to see the development of community renewables, it will need to help provide skills and technical specialists, including access to independent technology and finance experts (SB5).</td>
</tr>
<tr>
<td>• More guidance and support is needed for community scale renewables, policy is currently too focussed on other scales (SB8).</td>
</tr>
<tr>
<td>• Free support and impartial guidance is needed to enable the development of community renewables (SB6).</td>
</tr>
<tr>
<td>• Independent and impartial advice is needed in a similar way to the energy efficiency advice network – to avoid poor recommendations from consultants and installers (SB7).</td>
</tr>
<tr>
<td>• Policy could be developed to support the seconding out of experts from the public, private and third sectors to directly support communities (SB9).</td>
</tr>
<tr>
<td>• Enablers are needed to support the development of community renewables – community interpreters, who have the knowledge and understanding issues for raising community finance (SB9).</td>
</tr>
<tr>
<td>• A complete package of support is needed to help people understand the complexity and technical aspects of projects, to make them able to attract finance (SB11).</td>
</tr>
<tr>
<td>• Support needs to include the provision of development, information and brokering. Probably needs to be a national network to manage this – to look at what the potential is and what the funding requirements are for feasibility, development and long term viability (SB12).</td>
</tr>
<tr>
<td>• Investment is needed in making information more accessible, but can’t all be web based, need someone out there supporting the resources. Particularly for the more expensive bits of the pre-planning process (SB17).</td>
</tr>
</tbody>
</table>

Table 16: Recommendations for Resources and Support

**Regulations**

A number of recommendations were made around the need for policy changes in regard to regulations – Table 17. Much of the discussion was focussed on the issues associated with the FiT, with some problems already evident, particularly in relationship to public grants, as the application process takes no account of the level of funding received or what stage within the project process it is provided. It was also generally highlighted that community renewables faced similar problems to those faced by the renewable sector more widely, but they have a much bigger impact on communities, because of their limited cashflow and scale. It was
highlighted again under this area of discussion that most regulations and legislation have been
designed around the needs of micro-generation and large scale developments and there was a
feeling that this increases the level of risk for community scale projects.

**Recommendations on financial incentives**

- FiTs should be tweaked to provide a pro-community approach tariff incentive - the current levels
could be left as they are for community or social enterprise models, but digressed faster for
commercial projects (RB3).
- Do not mess with the RO, it is an effective mechanism that provides enough money to support
larger scale community renewables (RRB3).
- Keep the FiTs in place and develop the RHI to help those communities where electricity generation
options are limited (RB4).
- The inconsistencies within the FiT need to be sorted out, schemes are being denied access to it
because they have had a grant (SB5).
- Clarify the issues around FiTs and grants, any public funding rules out FiT – it’s a major issue and
there are lots of conflicting opinions about it, the legislation needs sorting (SB6).
- DECC need to have more than one person you can talk to about the FiT and they also need to clarify
the state aid issue (SB7).
- FiTs help with post-risk side of projects only, other incentives are needed before this (SB8).
- FiTs should be safeguarded and enhanced, they bring certainty and provide a clear financial
structure of return on a macro level for renewables that is invaluable (SB10).
- DECC need to urgently address the problem caused by suppliers dropping their export tariffs for
those schemes that are not within the FiT. We have 10 community projects that have lost their
income stream, which has resulted in a lot of ill felling and done a lot of damage in terms of trust
(SB24).

**Recommendation around grid**

- A lot could be done to simplify the grid connection process for community projects (RRB4).
- Communities should not have to pay upfront money for grid connection costs prior to planning
(RRB5).
- Grid constraints should favour community projects; they are currently vying for space with large
commercial projects (RRB5).
- Abstraction licenses should be reviewed, it is a major constraint for hydro projects (RRB6).

Table 17: Recommendations for Regulation

### 4.5 Wider Considerations

**Bankability**

Within the discussions, the issues of how bankable community renewables are once planning
permission is achieved came up. The general view was that it would be possible to secure
commercial finance to enable construction to go ahead and that FiT had played an important
role within this. This is borne out within the case studies that in most cases have, or plan to,
bring in commercial debt to enable a project to be built. Although, it was also clear that this
could still be a complex stage, given the range and type of finance that is out there, so expert
support to guide and facilitate the process may still be required. There is still a range of risks
post planning, which would change with technology type, but experience or support would
enable these risks to be evaluated and managed. It was felt by some that smaller projects
could in some way be more risky at this stage, because of issues such as grid connection, legal
fees, equipment purchase, which all would be proportionally higher compared to a large scale development.

The wind toolkit produced by CSE et al (2009) discusses how profitability can be impacted by a range of factors, such as electricity prices, power output and interest rates; these could significantly impact financial viability and profit, with knock on effects for bankability. Another piece of research also suggests that community projects may struggle to provide adequate returns over the short to medium term (BRE 2010). This may reduce how bankable such projects are perceived to be for commercial investors.

Recent Policy Developments

A number of announcements were made during the course of this research which give an indication of the direction of travel within Government policy. DECC’s Annual Energy Statement made several references to communities, including:

- The role of communities in regard to heat networks, with a promise to develop an online portal – Community Energy Online, to provide “a comprehensive guide to designing and delivering low carbon community-scale energy infrastructure” (DECC 2010b:10).
- An intention to reform the planning system that includes a statement that “In particular, we will encourage community-owned renewable energy schemes where local people benefit from the power produced and allow communities that host renewable energy projects to keep the additional business rates they generate” (DECC 2010b:13).
- And an intention to implement a robust Delivery Plan for renewables that includes “building community support” (DECC 2010b:16).

Whilst it is too early to judge how effective these developments will be, they may help to overcome some of the known barriers associated with the development of community renewables. However, there are some apparent inconsistencies within them. Some of these come back to what Government means by community and community-ownership. This is not at all clear at the moment, for example, in a Statement to House in July, Greg Barker appears to suggest that by community-ownership they mean individual ownership, through share based schemes – his statement lists five different models, but these appear to all relate to the different approaches that Energy4All take (New Energy Focus 2010). These would not support place-based revenue-generating projects that benefit the community. It is also not clear how the Government has reached this view on the need for ownership, which at least some of those developing models suggest is not necessary, with benefit being more important.
There is also a lack of clarity on the purpose of Community Energy Online, with the implication in the DECC energy statement that this will just cover community heat. It was suggested within the Renewable Energy Strategy (HMG 2009a:147) that a broader ‘how to guide’ to low carbon generating technologies would be developed to help support communities. Also, if this is just a web based resource it is questionable how effective it may be, given the evidence within this research for the need for both resources and support.

The desire to create the ‘Big Society’ to empower individuals and neighbours to take social action is also another recent development. The aim is “to put more power and opportunity into people’s hands” (Cabinet Office 2010). It includes plans to give communities more powers; encourage people to take an active role in their communities; transfer power from central to local government; support co-ops, mutuals, charities and social enterprises; and publish government data. This is another area of policy that could help enable the development of community renewables, although it is far too early to tell. However, several of those interviewed for this research questioned the realism of expecting lots of people to start giving up time on a voluntary basis, with some even feeling that if renewables and climate are not identified as local priorities little may happen or worse, things will become more difficult.

During the summer the Green Investment Bank Commission also produced a report on the potential role of the GIB (Green Investment Bank Commission 2010). It is not entirely clear what level of support community level schemes would receive through the development of this bank, the initial focus appears to heavily favour large scale renewables, with community only getting one mention in the whole report.

Evidence from Other Countries

Many other countries provide evidence for the types of approach that can be developed to support renewables, including community approaches. A recent report from DBCCA (2009), linking to the discussion above on the GIB, shows how other countries have established banks to fund and promote renewable energy. DBCCA suggest that these have played an important role in giving access to debt markets at preferential rates that have optimised the cost of energy and increased Internal Rates of Return for the project – these have been used in the US and within Germany, who provided low-interest loans alongside the FiT, to significantly increase uptake. Looking at the evidence within this research, it is clear that many feel a similar approach is needed within the UK to support community renewables.

A better approach to planning was also called for within the evidence, with the approaches in some European countries highlighted. This has been discussed by Roberts (2009b:3) who highlights within Spain, Denmark and Germany “planning decisions on individual development...
proposals are taken by officials guided by the local development policies (which are themselves the focus of democratic involvement and consultation)”. This, he suggests, moves away from the current situation within the UK where planners appear to assume a lack of community consent within the decision making process. This is despite what national polls consistently show in reflect to public opinion on renewable energy (DECC 2009b; Ipsos MORI 2009; Burnyeat, J. 2009).

Cultural and Behavioural Change

The research did not seek to assess the potential role that the models would play in changing behaviour, although this is implicit within some of the research that has started to emerge, including the findings from the BGC (Houghton 2010). This suggests that the creation of self-sustaining income streams is a strong mechanism by which communities can tackle a much wider range of low carbon initiatives within the households they contain. This is also clearly evident in the range of projects that have emerged to date – Annex 2, with the creation of assets playing a central role in supporting communities to tackle climate change through energy, food, waste and transport, alongside the wider regeneration of communities.

Some of this relates to the way that the centralised energy system has resulted in people becoming remote from both the production and supply of energy (Warren & McFadyen 2010); and has led to a dominant view of energy primarily being a commodity, in which people are characterised by deficits of ‘interest, knowledge, rationality and environmental and social responsibility’ (Devine-Wright 2007: 69), the alternative view is that people could become engaged and active within the system to become ‘energy citizens’ or ‘green citizens’ (Devine-Wright 2006; Martiskainen & Watson 2009) – examples to date suggest that community-led approaches are helping enable this. This links into much wider literature on lifestyle change, consumerism and the role of social norms, rational choice and the value-action gap (e.g. Jackson 2005; Jackson 2009). There is also a considerable amount of emerging work on these issues, such a recent book on Low Carbon Communities (Peters et al 2010) and a forthcoming Energy Policy issue focussing on carbon reduction at a community scale (Mulugeeta et al 2010). There is insufficient room to discuss these, but they provide detailed information on the links between lifestyle and climate change at a community level and provide evidence for the types of innovative solutions that are being taken by communities. Further information will also be provided by the evaluation of the LCCC (DECC 2009) and through the research that is being supported by the recent RCUK call (ESRC 2010). This is a dynamic area of research, which community renewables sit firmly within.
Neighbourhood Approaches

Two other major reports that were released during the course of this research looked at the role of communities in improving their neighbourhoods. One from CAG Consultants looked at the lessons from some of the energy projects supported by the Ashden Trust (CAG 2010). This highlights the role of local sustainable energy projects in tackling climate change and other energy policy goals. They highlighted how such approaches can reduce energy demand, increase the uptake of low carbon technologies, and change behaviour, beliefs and values systems.

The second report from the Sustainable Development Commission considers how communities could be empowered to renew their neighbourhood property and infrastructure in the most cost effective way to make them fit for the future (SDC 2010). They suggest that there is a real opportunity to cost-effectively tackle climate change whilst delivering economic, environmental and social benefits, by taking an integrated approach. They call for clear policy away from single issue programmes to a more co-ordinated level of support. The report also highlights how funding can be unlocked, suggesting the GIB could play an important role in making access to commercial finance easier. Importantly, in relation to this research they also highlight that to make communities sustainable in the long-term, there is a need to enable the development of self-sustaining local investment vehicles, calling on public sector resources to be used to minimise risk at the early stages of project development, using underwriting, the use of public assets and seed funding. This strongly mirrors the findings of this research and links back to the BGC policy recommendations (Houghton 2010).
5. Conclusions

This research set out to explore the issues and opportunities for communities to secure at-risk finance to develop revenue-generating renewable energy projects. Evidence has been gathered over a number of areas to identify the range and types of issues that exist and the solutions that are being offered by those working within community renewables.

Issues for their Development

A key problem facing the development of community renewables is access to finance for the early development stages of the project. Given that this money is at-risk, it is extremely difficult to secure and in nearly all cases the projects that have been developed so far have only been possible as result of grants or other awards. Given the predicted decline in the availability of public financial support this will become a growing problem for the development of further projects.

It has been suggested that in order to overcome this problem communities will need to make themselves more investment ready. However, community approaches in many respects increase risk, making it hard for them to secure money. This in part reflects the nature of communities themselves which, in the eyes of commercial financers, lack credibility because they do have a track record and their structures create further concerns around leadership and decision-making. In addition, there are issues that relate to the projects themselves, which tend to be small scale and based on a single site or approach, this considerably increases planning, and financial, risk. Combined, all of these problems create a real challenge for commercial financers, so whilst communities can and should work towards becoming more commercially minded, by developing appropriate and robust projects, this alone may not be sufficient to overcome the hurdle of securing at-risk finance.

There is also a recognised issue with the skills and capacity of communities to take on the development of these projects. The examples to date have clearly been driven by strong and determined individuals within communities and have made use of local experts and support, either through working in partnership or by bringing in expertise as and when needed. Skills and capacity will vary from community to community, making generalised assumptions about the ability of a community to develop these projects difficult, as what works in one area may not work in another.

Reducing Risk

There are a number of ways that risk can be reduced. Risk within community renewables is not only a function of the communities and project scale, it includes a range of other aspects
including planning, technology, site characteristics and the complexity and skills needed to take a project from feasibility to operation. All of these elements interact with each other to create an overall risk profile for a project. Securing at-risk finance is therefore a function of a much wider range of considerations.

One of the main elements of risk relates to gaining planning consent and much can be done to reduce this. A widely held view is that community-based projects should have a lower planning risk profile, as objections will be fewer and local people can actively support an application through the planning process, although more evidence that this is actually happening is needed. A number of factors influence planning risk, this relates to technology and scale to some degree, although the choice of these should be driven by the site and the opportunities and constraints that it has. These issues can be determined through good initial scoping and feasibility, which are a fraction of the costs of working up a full planning application. It is also clear that communities should attempt to talk to planners early within this process.

Access to finance also plays an important role in reducing risk, particularly in enabling projects to overcome the at-risk stages of project development. So far, public funding support has bridged the gap between early development and planning for most community projects, helping to get them to a stage where they are more bankable. This support de-risks the project in the eyes of commercial investors, enabling finance to be secured and on more favourable terms. It has also helped communities with their equity share within a project, either directly, or by enabling them to develop local share issues, further increasing their bankability.

The provision of support also helps to reduce risk by enabling communities to identify the most appropriate and realistic local options for renewable energy and understand how to take these to completion. Frameworks and project plans can ensure that this is done in a way that aids the development process, by providing the right information in the right way for planners, developers, funders, etc. It can also help to ensure that communities understand how finance works and what is needed to make a project more bankable. Support needs to include both resources and on the ground help, to effectively enable communities to develop projects, including access to financial, technical and other expertise. This will help to reduce risk and build the skills and capacity within the community.

**Opportunities for their Development**

The issues facing communities to develop revenue-generating projects are well understood by those working within the community renewables sector. A number of these have a long track record of facilitating their development and several new and innovative models have also emerged. Collectively, these provide a real opportunity for communities to overcome the early
at-risk development stages. In all, 15 different approaches have been identified and they all share the view that the provision of benefit to communities is an essential part of the development of a renewable energy project, far beyond the levels that have been offered by commercial developers. Whilst they all take slightly different approaches in terms of the way they operate, the type of technologies they support, and in some cases the scale they focus on, they fall roughly into two types:

- Those that are process and outcome focussed, which support communities through the development process, building their capacity and creating projects that the community owns.
- Those that are more outcome focussed, which place more emphasis on the benefits that the project provides, doing most of the work on behalf of the community.

These differences are reflected by the importance that the organisations place on community ownership and control. Those with a process and outcome focus place a lot of importance on the need for community development and control not only within the development process but in terms of the ownership and benefits provided. Such approaches seek to build the skills and capacity of the community throughout the process. Some of the other models question whether communities actually want to own and control assets and place their focus on delivering benefit, carrying out much of the work on behalf of the community from feasibility through to operation and maintenance. Control is given to some degree within this process, but mainly at the point of managing and planning how to use the income that the project will provide. This approach clearly helps to overcome the recognised issues associated with the skills and capacity of communities; and it is quite possible that such approaches may also build the capacity of communities in the long run, as they start using their funds to deliver other local projects, this will just happen much later within the development process. It is also clear that some models sit between these two simple classifications.

There is a range of evidence to show how the bottom-up approach, that both supports and funds communities to develop renewables, results in the creation of sustainable, resilient communities. The alternative approach, in which developers lead on much of the work is less established or evaluated, so it is not yet possible to evaluate how effective these will be achieving similar results to the supported route. Even then, comparing different approaches could be fairly subjective and very community specific. Both could bring about the kind of social and behavioural change that has been recognised by the BGC, as they are both based on the provision of a self-sustaining fund. Further evaluation of these new approaches is therefore required.
Supporting their Development

A number of policy recommendations have been provided within this research, relating to the planning process, access to finance, the need for support and resources and changes to regulations. There seems little value in repeating them here; all will help with the development of revenue-generating community renewables.

In terms of the main focus of this research, it is clear that Government should continue to make improvements to the planning process to help support community-based approaches, as this is a principal issue for securing at-risk finance. However, a mechanism also needs to be put in place to provide communities, and those that support them, with access to a risk capital fund. This will help to overcome many of the wider barriers and effectively enable the development of many more community renewable projects. This fund does not need to take a grant based approach, no or low interest loans, or project underwriting would de-risk the whole process and open up access to capital finance, on much better terms. This could be based on a self-sustaining, revolving fund model that spreads risk across a portfolio of projects, ensuring those that are supported repay the capital they are provided with. However, a recent survey request from Government, via the LCCN, that sought feedback into policy and action on climate change appears to show that they are looking for ways to support communities without providing any funding (LCCN 2010b). This should be reviewed given the evidence within this research. In addition, with the right political will, this could be a central role of the Green Investment Bank, if it was required to have a stronger focus on the role of community-based approaches. Without some sort of financial support the Government is effectively leaving it to the market to deliver, something that has not proved particularly effective in enabling the transition to a low carbon future to date. There is also a risk of the private sector moving into this space, to provide ‘free’ power or heat (if the RHI is established) whilst taking the financial benefit away from communities, such approaches are likely to miss the wider benefits that the models within this research can clearly bring.

It is also clear that independent advice and support will need to be provided for the different models and approaches that exist. They all have different implications for communities in regard to their role within projects and the benefits that they will receive. Communities will not only need help to identify the range of different models that exist, but also make informed decisions about which will best meet their own needs or desires. Government should clarify the role of Community Energy Online and if this is just designed to support the development of heat technologies, it should also consider its expansion into generating technologies, but consideration should also be given to how to provide support alongside this. The Government also needs to clarify what it means by community renewables and community ownership.
This research shows there is a great deal of expertise, from a range of individuals and organisations, across a number of different sectors. DECC should more actively and formally engage and work with these groups to help develop their own approach to community renewables. Support could also enable greater co-ordination between these people to maximise the current knowledge and resources that exist, for example, several different organisations (including DECC) are in the process of developing information and resources for communities on the development of community renewables, there is the potential for much duplication and unnecessary expenditure between these. In addition, some excellent and detailed information is already available from those communities that have gone through the process, particularly within Scotland. Such resources could easily be developed into detailed guides or integrated into the frameworks, project plans and web resources that many appear to be developing.

**The Role of Community Renewables**

Community renewables are multi-dimensional and multi-functional, delivering a wide range of outcomes to both communities and those that work within them. Whilst they are only one part of the jigsaw in the transition to a low carbon economy, they are an important one. They provide a mechanism to install renewable energy technologies and bring about sustained cultural and behaviour change by enabling communities to take control over their own future, democratically. They deliver carbon savings, increase energy security and build the resilience and capacity of the community to improve its own infrastructure. A number of examples of revenue-generating projects have already emerged, showing how the creation of a self-sustaining fund is playing an important role in enabling environmental, social and economic benefits to be delivered for their communities, without the on-going need for public funding. There is a clear demand from other communities to do the same and policy should support this process by removing barriers and by providing access to an easily accessible at-risk capital fund.

**Areas of Further Research**

There will be an increasing amount of research emerging on community renewables through the LCCC and RCUK, but this research has identified a number of areas where more work is needed, including:

- A need to check some underlying assumptions regarding community and planning risk.

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2 Considerable detail and expertise is available on the development of revenue-generating community renewables from the workshops and events that CES have recently run; in particular the presentations from All Energy 2010 Joint Venture workshops and the Revenue Training Event 2010 – all are available under the ‘presentations’ section of the CES website. [http://www.communityenergyscotland.org.uk/library.asp](http://www.communityenergyscotland.org.uk/library.asp)
• Further work to evaluate and compare the different models that are emerging, including comparing their impact within communities that have used them, in terms of capacity building and wider social change.

• More work to help quantify the economic, social and environmental benefits provided by community renewables.
References


http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What%20we%20do%20%20Energy%20supply%20%20Energy%20mix%20%20Renewable%20energy%20%20SCORE%20%201_20090721102927_e_@@_DeliveringcommunitybenefitsfromwindenergyATookit.pdf&filetype=4


http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What we do\UK energy supply\Energy mix\Renewable energy\Renewable Energy Strategy\1_20090717120647_e_@@_TheUKRenewableEnergyStrategy2009.pdf&filetype=4


Walker, G. (2007b) *Embedding socio-technical innovation?: niche management and community-based localism in renewable energy policy in the UK.* Available from: [http://www.google.co.uk/search?sourceid=navclient&ie=UTF-8&rlz=1T4DKUK_en-GBGB255GB255&q=%22In+the+discourse+of+sustainability%2c+the+local+and+the+community+has+often+occupied+a+privileged+position%22 (Accessed June 2010)].


Annex 1: Individuals Contributing to Research

**Primary Interviews**

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<tr>
<th>Name</th>
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<tr>
<td>Dominic</td>
<td>Farrugia</td>
<td>Carbon Free Developments</td>
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<td>Simon</td>
<td>Roberts</td>
<td>Centre for Sustainable Energy</td>
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<td>Felix</td>
<td>Wight</td>
<td>Community Energy Scotland</td>
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<td>Neil</td>
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<td>Maynard</td>
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<td>Alex</td>
<td>Grayson</td>
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<td>Paul</td>
<td>Smith</td>
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<td>Jake</td>
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<td>Tim</td>
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<td>Steve</td>
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<td>Barbara</td>
<td>Hammond</td>
<td>South East England Development Agency</td>
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<td>Steve</td>
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**Secondary Interviews**

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<tr>
<td>Ian</td>
<td>Rothwell</td>
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<td>Tim</td>
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<td>Dan</td>
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<td>Neil</td>
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<td>Ayling</td>
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<td>John</td>
<td>Malone</td>
<td>Energy4All</td>
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<td>Juliet</td>
<td>Davenport</td>
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<td>Mike</td>
<td>Kinghan</td>
<td>Low Carbon Communities Network</td>
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<tr>
<td>Matthew</td>
<td>Clayton</td>
<td>Triodos Renewables</td>
</tr>
<tr>
<td>Paul</td>
<td>Sander-Jackson</td>
<td>Wessex Reinvestments</td>
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Fintry Development Trust (FDT)

Project Summary
- FDT is located in Stirlingshire and has over 150 members from a local adult population of around 500
- Its trading arm, Fintry Renewable Energy Enterprises (FREE) secured the ownership of a wind turbine on the Earlsburn Wind Farm
- They have also been able to secure further grants and make links with established programmes like CERT, to maximise the use of their income in delivering their aims

Reasons Developed
- It was a proactive response to commercial wind development - the wind farm was coming and they wanted to capitalise on it, rather than just oppose it.
- The income from the turbine and other grants will be used to support their aim to reduce energy use in the village, with the ultimate goal of making the village a zero-carbon, zero-waste community.

Technology & Scale
- Wind, single 2.5MW turbine

Costs & Finance
- Grants were secured from a number of sources for the early work and feasibility
- The upfront capital cost of the turbine was £2.5m and was covered by the wind farm developer
- This money is being repaid over 15 years on a mortgage arrangement that includes the capital cost, plus interest.

Model
- FREE has a Production Sharing Agreement with Earlsburn Wind Energy Limited for the operation of a wind turbine
- This approach shares similarities with the approach of a development by a non-profit distribution body on behalf of all the people in the community, but also could be considered in terms of a joint venture between a private and non-profit distributing company

Use of Income
- Their 1st yr accounts suggest an income of £228k of which £140k was donated for community projects. In the 2nd year most of the income has serviced the debt interest and depreciation of the asset.
- Funding from the turbine and additional grants are being used to cover a variety of local projects including the insulation of homes and provision of grants to sports club, school and village hall. Further insulation work is planned.
- The development of FRESCO (micro-renewables) financial model & FEET (Fintry Energy Efficient Transport) project.
- They have also been running awareness raising activities and have established a separate organisation to enable other communities to benefit from their experience and expertise
  http://www.frost-free.co.uk/

Sources of Information
- Adams (2008)
- Hoggett (2010)
  http://www.free-energy.org.uk/
Gigha Community Wind Farm

Project Summary
- Scotland’s first community owned, grid-connected wind farm.
- Island bought by community in 2002, to take charge of their own future.
- History of socio-economic problems – job losses, out migration, falling school numbers.
- These trends changed following buy-out.

Reason Developed
- To meet own electricity requirements, with the surplus sold into the grid
- Secure income stream for reinvestment, used to help drive the socio-economic regeneration of island

Technology & Scale
- Three 225kW second-hand wind turbines.
- Currently planning to develop a bigger turbine.

Costs
- Total capital cost of £440k
- Funding raised through three routes: £132k grants (lottery & SCHRI); £148k commercial loan (Social Investment Scotland); £120k equity holdings (Highlands and Islands Enterprise & Gigha Heritage Trust). The equity held by Highlands and Islands Enterprise comprises shares upon which a 6% dividend is paid.

Model
- Gigha Renewable Energy Limited was established as the trading subsidiary of the Isle of Gigha Heritage Trust.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- Estimated gross annual income of £150k after running costs.
- This is used to create a capital sinking fund, to repay the loan and equity re-purchase. Leaving around £75k/yr to fund other projects on the islands.
- This includes activities around affordable housing, energy efficiency, a development officer, plus awareness raising and funding for other groups on Gigha.

Sources of Information
- Hoggett (2010)
**Green Valleys**

**Project Summary**
- Developing community-owned micro-hydro schemes, and improving the energy efficiency of homes in the Brecon Beacons National Park.
- It enables and supports community groups in the area to source and install community owned micro-hydro generation projects.
- Their goals aligned with strategic goals of Brecon Beacons National Park Authority increasing partnership working and support, whilst enabling learning in both organisations.
- They take a portfolio approach to these schemes to help reduce risk and attract finance, with a plan to aggregate 40 micro-hydro projects to provide a more attractive investment portfolio.

**Reasons Developed**
- The Green Valley's mission is to create carbon neutral, financially secure and sustainable communities and it aims to become a zero-carbon valley through renewable generation and energy efficiency.
- Ultimately hoping to be an exporter of renewable electricity, with much of this revenue reinvested into carbon reduction measures in the community.

**Technology & Scale**
- Uses high head, low flow micro hydro schemes installations
- They currently have 10 hydro installations within The Green Valleys ranging from a couple of kilowatts to 36kW

**Costs and Finance**
- Green Valleys themselves were one of the Big Green Challenge winners receiving a £300,000 prize.
- They and the individual schemes have also been able to secure additional funding from a variety of sources including: National Park Sustainable Development Fund; EAGA; The Waterloo Foundation; Renewable Energy Assistance Program

**Model**
- Not for profit, membership Community Interest Company.
- Model supports the development of micro-hydro schemes by local communities, farmers and other land owners for local benefit and the wider project goals of reducing carbon within the national park.
- Green Valleys take the projects through the risk stages in return for a 25% equity stake in each project.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

**Use of Income**
- The income from the projects appears to be split in several ways using money via the FiT. This appears to include an income stream for the local community, the owners of the scheme and Green Valleys itself, based on their 25% equity share.

**Sources of Information**
- Houghton (2010)
- BRE (2010)
Isle of Eigg

Project Summary

- Residents of the Isle of Eigg have worked to create a green island by generating renewable electricity, installing insulation, producing local food and developing low-carbon community transport schemes.
- Eigg is not connected to the mainland electricity supply and after decades of diesel generators, they created Eigg Electric to provide 24hr electricity from wind, solar & hydro projects, backed up by a battery bank and 2 diesel generators. Distributed via their own grid.
- The system generates power at a number of locations around the island using hydro, wind and solar. This is available to all households and businesses via an island-wide high voltage distribution grid. They expect to meet 95%-98% of their energy needs renewably over a year.

Reasons Developed

- In 2008 the residents decided to make the most of their natural resources and adapt their way of life to depend less on oil and coal, to help reduce CO\textsubscript{2}. It also enabled them to develop a more reliable island-wide supply of power.
- Income from energy use now stays on the island, the use of fossil fuels has gone down and the islanders have successfully become more self sufficient and sustainable. The scheme has also increased living standards, quality of life and increased their energy security.

Technology & Scale

- Hydro – one 100kW scheme and two smaller 5-6kW schemes.
- Wind – four 6 kW turbines.
- PV - 10kW system.
- Installed own 11km distribution grid.

Costs and Finance

- The total cost was £1.66 million and funding came from a wide range of sources including: SCHRI, ERDF, Big Lottery Fund, HIE Lochaber, EST, IEHT & its residents and Highland Council.
- They were also a Big Green Challenge winner

Model

- EHT registered not-for-profit company & charity; Egg Electric is a community owned company.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income

- Income generated from electricity sales (15p kWh plus 12p standing charge) & from ROCs.
- This covers maintenance costs and provides a sinking fund for replacement.
- The levels set insure the system is financially self-sustaining.

Sources of Information

- Houghton (2010)
- www.islandsgoinggreen.org;
- Community Renewable Toolkit (CES 2009)
- Hoggett (2010)
Low Carbon West Oxford (LCWO)

Project Summary
- LCWO supports projects on renewable energy generation, domestic energy efficiency, land use management, and production of local food.
- It is developing a portfolio approach to the development of renewable energy projects using a range of technologies. This spreads the technical risks for investors - balancing ease of installation (PV) against technologies that have a longer development process (wind and micro-hydro) with a bigger financial return. The income from these projects is expected to provide a long-term income stream to sustain their initiative.
- Their goals align with the strategic goals of their RDA which aided partnership working.

Reasons Developed
- LCWO was set up after the 2007 floods by residents concerned about climate change and local flooding.
- It aims to combat climate change by cutting community CO2 emissions by 80% by 2050, encouraging residents to live more sustainably, and contributing to a more cohesive and resilient community.

Technology & Scale
- Large scale PV systems; wind turbines; micro-hydro

Costs and Finance
- Seeking £1.4m for the package of renewable projects
- It is anticipated this money will come from grants/awards – up to £640k, a target of £140k from a share issue, leaving around £625k to be financed through debt.
- They have successful secured funding under DECC’s LCCC and were a runner up in the Big Green Challenge.

Model
- Set up West Oxford Community Renewables to develop community-owned renewable energy projects. This is an IPS, which passes most of its income back to LCWO
- West Oxford Community Renewables is an Industrial and Provident Society.
- They have issued a share offer, that offers investors full accounting covering social, financial and carbon returns and are seeking investors concerned about long-term broader societal and environmental goals rather than short-term financial gain.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- The income from their renewable energy projects will go into financing carbon reduction measures in local homes and in the community, including a revolving loan fund to help householders undertake low carbon retrofitting.
- Once the energy projects are up and running (some PV has been installed) they will start generating revenue derived from selling the electricity to the grid. The revenue generated will also provide a small return to individual investors.

Sources of Information
- Houghton (2010)
- Low Carbon West Oxford: www.lowcarbonwestoxford.org.uk
- Hoggett (2010)
- BRE (2010)
Settle Hydro

Project Summary
- Small-scale hydro scheme in Settle in the Yorkshire Dales
- The scheme expected to save around 3,200 tonnes of carbon over an expected lifetime of 40 years.
- Settle Hydro was established to deliver and manage the project and undertake the ongoing management of the hydro plant. They are also responsible for any community funds available after project costs have been met which will be used to fulfil their aims.
- The project was completed in partnership with Water Power Enterprises

Reasons Developed
- The twin aims of Settle Hydro are to regenerate the local economy and promote the environmental sustainability of the Settle District.

Technology & Scale
- 50kW Hydro scheme using an Archimedean screw
- Expected to generate around 165 MWh electricity/year

Costs & Finance
- Total cost of scheme estimated at £410k.
- Initial feasibility and support work was carried out by Water Power Enterprises at their own risk (although they had partly been supported through a Co-operative Group grant to help develop three community-led renewable energy projects).
- A share issue was launched, pre-planning, with a target of £100k. This was exceeded, with a total of £135k raised through 165 individual shareholders. They were successful in securing Enterprise Investment Scheme tax relief for this offer.
- The remaining finance was raised from grants and a bank loan, including: Grants (Yorkshire Forward £75k and Future Energy Yorkshire £50k); and Loans (Keyfund loan £20k; Bank loan £125k). They also received a grant of £45k for maximising learning opportunities

Model
- Settle Hydro is an Industrial and Provident Society for the Benefit of the Community.
- The share side of the scheme is based around a social investment model, with a view that the members will receive an interest payment on their investment, but the primary aim of the scheme being of community benefit.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- Annual revenue forecast at £28,000, with pre-tax surpluses expected to be around £11,000 to £15,000 per annum
- This money will be used to repay the loan, tax and a balance between a fair return to shareholders and meeting the social obligations of the society.
- It will also repay the risk work carried out by Water Power Enterprises

Sources of Information
- [http://www.settlehydro.org.uk/](http://www.settlehydro.org.uk/)
Tiree Wind Turbine

Project Summary
- Tiree is in the Inner Hebrides off the west coast of Scotland.
- Installed a single large wind turbine to provide a sustainable income stream.
- Income will support the Tiree Development Trust (TDT) which was formed in March 2006 and is owned, and managed by Tiree’s community. It takes a community-led approach to rural development promoting the sustainable, environmental, economic and social development of the island.

Reasons Developed
- Principle motivation for the development of the turbine has been to finance projects on Tiree for the benefit of the local community.
- These projects were identified in their development plan, which was produced by the island’s community.

Technology & Scale
- 900kW single wind turbine

Costs & Finance
- Total cost approximately £2.1m
- Three main sources of finance:
  - 2 grants – National Lottery £886k and CARES £150k.
  - 1 loan - £1m from Co-op Bank

Model
- Tiree Renewable Energy Company Limited is a wholly owned subsidiary of the development trust, which manages the turbine and provides an income back to TDT.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- Anticipated income is suggested to be £100k a year for 25 years, with an anticipated surplus of around £3.9m over 25 years
- Although it looks as though these figures may have been based on the sale of electricity through a PPA, they have now switched to a FiT which they suggest will increase their income by 40% per kWh generated
- The income will cover operation & maintenance, service the debt (10 years repayment) and support projects on the island, which the draft development plan suggests could include:
  - an island swimming pool
  - improved harbour facilities
  - better facilities for local businesses
  - affordable housing
  - support for youth groups.

Sources of Information
- http://www.tireerenewableenergy.co.uk/
Torrs Hydro, New Mills

Project Summary
- Community-funded and owned hydro-electric scheme to create electricity from the Torr Weir on the River Goyt in Derbyshire.
- Started in 2006 with support through Water Power Enterprises, a social enterprise whose mission is to set up small-scale hydro plants and reduce carbon emissions.
- The power is sold to the local Cooperative food store, with any surplus sold to grid.
- Income from sales of power support local regeneration projects in New Mills.

Reasons Developed
- Act on climate change and raise awareness of it.
- Regenerate local area.

Technology & Scale
- Archimedean screw hydro scheme
- Maximum output 63 kWh.
- Hope to achieve average annual output of around 240 MWh

Costs and Finance
- Total cost around £226k.
- Community share issue raised nearly £100k; with additional grant funding from East Midlands Development Agency, The Co-operative Fund and the Sustainable Development Fund of the Peak District National Park providing the other £100k. A small loan from Co-operative bank of £26k.

Model
- Incorporated as an Industrial and Provident Society.
- About half the shareholders (231 in total) are local people and businesses, a further 15% are within a 20 mile radius of New Mills.
- The share offer was based on a social dividend, rather than personal financial reward.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- Income expected to be in the region of £20k a year.
- It will be used to help regenerate the community and environmental sustainability of the New Mills area.
- Developing an educational programme on environmental issues and supporting existing and new services that contribute to the local economy/community.

Sources of Information
- CIFCS (2010)
- Torrs Hydro: http://www.torrshydro.org/index.php
- http://www.cooperatives-uk.coop/live/cme2823.htm
- Hoggett (2010)
Westray Wind

Project Summary
- Westray is amongst the Northern Orkney Islands.
- During the 1990s the island’s population was in decline, with reduced economic opportunities from traditional industries. A development plan was established to ‘develop the economic, social and cultural sustainability of our community by harnessing the quality of our resources, people and island environment’ and Westray Development Trust (WDT) was formed in 1998 to take this forward by improving the economic and social opportunities for the island.
- In 2003 they identified that a wind turbine could provide an income stream to support their work and they set about developing a scheme

Reasons Developed
- The turbine was seen as a good way to generate a long term, sustainable source of income to address a range of issues on Westray, including a decline in population, traditional industries and employment. It could also help to reduce the high cost of living, including fuel costs and help to tackle climate change.
- They also recognised that grants were becoming scarcer and there was a need to avoid volunteer burnout.

Technology & Scale
- 900kW single wind turbine
- Commissioned in 2010 and is expected to generate around 350MWh a year

Costs & Finance
- Total cost of the turbine was around £1.9m
- This was funded via grants, one from the National Lottery £885k and with a further £200k from Community Energy Scotland, Enercon and Smartest Energy.
- The remaining finance was debt secured via Triodos Bank £835k

Model
- WDT is a company limited by guarantee with charitable status. It set up Westray Renewable Energy to operate the turbine and to sell the power generated which after the costs to run the company, are passed back to WDT.
- This is an example of a development by a non-profit distribution body on behalf of all the people in the community

Use of Income
- The turbine is expected to provide an income of £100k for the first ten years, as the debt is paid off. Once cleared the income will rise to £200k
- They have identified numerous projects to fund including:
  - energy efficiency (auditing homes, raising awareness, carrying out insulation, reducing the risk of fuel poverty)
  - stimulating economic development by providing improved access to further education, training and job opportunities through their Learning Centre
  - reducing transport costs and environmental impact by producing their own Bio-fuels;
  - improving recreational opportunities for their residents and visitors

Sources of Information
- http://www.westraydevelopmenttrust.co.uk/
Annex 3: Topic Guides

Primary Interview Topic Guide

Intro:
• Thank them for agreeing to be interviewed. Make clear it will last around an 1 hour
• Make it clear that interview will be confidential
• Check if it is OK to record the interview & if include their name with the research
• Remind them of aim of research

Aim: To identify the opportunities and barriers for placed-based communities to secure the at-risk finance for the development of revenue-generating renewable energy assets. It seeks to map what options currently exist, or are emerging, and consider what these may mean for communities. Specifically, the research aims to answer the following research questions:

• Why are communities interested in developing renewable energy projects and what is important to them?
• What are the issues for communities in securing risk capital and how can risk be reduced?
• What are the current or emerging options available to communities that are interested in developing renewable energy projects and what do these mean for communities in terms of the processes involved and the outcomes offered?
• What are the implications for policy for enabling the development of these placed-based, revenue-generating renewable energy projects?

1: Perceptions of Community Renewables

Key Question Areas

1.1 Check if they think communities are showing an interest in developing renewable energy projects and why they think this is?

1.2 What principles or values do they think are important to communities in the development of such projects?

2: Risk Finance for Community Renewables

2.1 What do they think are the key issues facing communities for accessing risk finance?

Possible Probes:
• Do they think there is any reason for apparent interest in revenue generating projects?
• Do they think community control and benefits are important?
• Do they think there any way to ensure some of these outcomes?
2.2 Are there any specific ways in which they think risk can be reduced for community renewables?

2.3 What do they think communities need to understand about finance?

2.4 Other than what you are doing, what sources of risk finance are you aware of, that communities can access?

2.5 Beyond the risk stages, do you think communities will be able to secure finance for construction and O&M?

- Does technology or scale have an impact?
- Do those offering finance need to understand communities?
- Are they bankable post-risk?
- What impact have FiTs had?

Section 3: Their model/fund

3.1 What are they planning or offering?

3.2 Why have they developed this support?

3.3 What degree of control and ownership will communities be able to have through your scheme?

- How does it work?
- How is it funded?
- Where is it available?
- What stage is it at?
- Link back to any points raised in 1.2

4: Policy Developments

4.1 What policies do they think would help support the development community renewables?

- at a national level
- at a local level

WRAP UP

- Thank them
- Check OK to follow up
- Do they have any questions?
Secondary Interview Topic Guide

- Thank them for agreeing to be interviewed. Make clear it will last around 30 minutes
- Make it clear that interview will be confidential
- Check if it is OK to record the interview & if include their name with the research
- Remind them of aim

**Aim:** To identify the opportunities and barriers for placed-based communities to secure the at-risk finance for the development of revenue-generating renewable energy assets.

- Why are communities interested in developing renewable energy projects and what is important to them?
- What are the issues for communities in securing risk capital and how can risk be reduced?
- What are the current or emerging options available to communities that are interested in developing renewable energy projects and what do these mean for communities in terms of the processes involved and the outcomes offered?
- What are the implications for policy for enabling the development of these placed-based, revenue-generating renewable energy projects?

1: Perceptions of Community Renewables

**Key Question Areas**

1.3 Check if they think communities are showing an interest in developing renewable energy projects and why they think this is?

**Possible Probes:**

- Do they think there is any reason for apparent interest in revenue generating projects?

2: Risk Finance for Community Renewables

4.1 What do they think are the key issues facing communities for accessing risk finance?

2.2 Are there any specific ways in which they think risk can be reduced for community renewables?

**Possible Probes:**

- Does technology or scale have an impact?

Section 3: Sector Specific Questions

- What role does their organisation currently have within community renewables?
- Do they anticipate this changing?
• What do they think communities need to understand about their sector?
• Organisation specific questions
• Why?
• And vice-versa?

4: Policy Developments

4.1 What policies do they think would help support the development community renewables?
• at a national level
• at a local level
## Annex 4: Models and Support for the Development of Revenue-generating Community Renewables

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Summary Points</th>
<th>Approach</th>
<th>Further Info</th>
</tr>
</thead>
</table>
| Carbon Free Developments Ltd (CFDL)   | **Technology:** Wind<br>**Type:** Single Model<br>**Location:** Scotland (initially)<br>**Status:** Delivering - planning submitted for first project in Nov 09 | • Joint Venture Approach  
• CFDL take full responsibility for at-risk pre-planning work and later construction and operation stages of building a wind farm.  
• If planning is secured the community can choose to invest up to 49.9% in the venture on identical terms to CFDL. If it does, they will need to repay a pro-rata share of development costs and will need to contribute its share of equity to construct the wind farm.  
• CFDL will help source the project finance required to fund construction and will assist the community to find its share of the equity. From that point both parties share the operational risks and rewards through annual dividends.  
• Responsibility for project delivery remains with CFDL as does the burden of sourcing debt and equity requirements.  
• The community’s equity can be sourced from (a) low interest social enterprise loans (b) mezzanine debt (c) government and social grants. The community also has the option of selling a proportion of their equity back to CFDL to release partial project value at the outset. | Carbon Free Developments Ltd |
| Centre for Sustainable Energy         | **Technology:** Wind (initially)<br>**Type:** Support & Revolving Fund<br>**Location:** National<br>**Status:** Proposed | • Flexible model based on advice, support and finance to enable the development of community-owned wind projects in the 3-10MW scale range.  
• Based on a revolving fund, with those projects that get through planning to construction repaying the development costs back into the fund to enable the next round of communities to be supported.  
• Based initially on a proposed endowed revolving investment fund of £10 million that would support 50 communities at a time, although it’s completely scalable enabling it to work with a smaller fund. The model assumes planning success rates will at least match that of private sector developments, enabling the fund to be replenished every 2 to 3 years, on a rolling basis to support the next 50 communities.  
• As well as finance, the model is support driven, providing dedicated support and resources, right through the development process from feasibility to financial close. It will help with initial screening of project viability, community development, the creation of effective operating and organisational models, using a robust and transparent assessment and qualification process. It will make use of appropriate professional skills through all of these stages, using a consortium approach that provides the right skills at the right time.  
• Financial and planning risks are reduced by using a supported process and by taking a portfolio approach to development. Increasing the likelihood of success and enabling the fund to maintain itself. Once established biomass and AD could also be supported. | CSE |
<table>
<thead>
<tr>
<th>Community Energy Scotland CARES &amp; CRESP</th>
<th>Technology: Any Type: Support and funding Location: Scotland-wide (CARES) and Highlands &amp; Islands (CRESP) Status: Established</th>
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</thead>
<tbody>
<tr>
<td>Community Energy Scotland aims to build confidence, resilience and wealth at a community level in Scotland through sustainable energy developments; helping groups to develop projects which improve their community, generate power and gain income for further community development. A network of Development Officers provides support and they currently administer two funding streams on behalf of the Scottish Government— the Community and Renewable Energy Scheme (CARES) and the Community and Renewable Energy Support Programme (CRESP).</td>
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<tr>
<td>CARES provides grants to a range of community organisations to help with the installation of a variety of renewable energy technologies. Funding is available for both technical assistance, such as feasibility studies, scoping and capacity building, and for capital costs. For ‘facilities based’ projects (community buildings, schools, social housing) up to £15k is available for technical assistance; for ‘income generating’ projects there is no set limit for development costs (up to £150k). Capital grants of up to £150k are available for renewable energy equipment installations and associated costs,. The fact that it is a supported process means the total value is much higher than this.</td>
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<tr>
<td>CARES emerged from the previous SCHRI which was established in 2002, giving a long term track record of support for communities within Scotland. It supports projects up to 1MW in scale and over 1000 community based projects have been supported through these programmes with over 163 MW of community owned generation in development. In August 2010, new applications to CARES were closed, because of the unprecedented demand from communities; it is currently not clear what will happen to this programme.</td>
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<tr>
<td>CRESP emerged from previous work within the Highlands &amp; Islands that saw 18 communities secure planning consent for over 33 MW of generation. It supports community groups interested in developing sustainable energy projects over 1MW in size and is open to any non-profit distributing community group, based in the Highlands and Islands. Support and funding is available for looking at the most suitable technical options, carrying out technical work, building skills and installation costs.</td>
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<tr>
<th>Community Power Cornwall</th>
<th>Technology: Wind (initially) Type: Single Model Location: Cornwall Status: Delivering – planning submitted for first 3 schemes</th>
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<tr>
<td>A key aim of CPC is to increase the skills, knowledge and capacity of communities in Cornwall to advance the installation of renewable energy technologies and reduce carbon dioxide emissions. It aims to develop and operate small to medium scale projects focussing initially on wind.</td>
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<td>The model uses a community-benefit IPS co-operative structure that uses a revolving fund (the Community Development Finance Institutions (CDFI)), to help with the at-risk development stages and the process of running local share based schemes to raise equity, post-planning.</td>
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<tr>
<td>It is a supported approach with CPC helping with planning, funding, technical and legal structures, as well as with community engagement. It ultimately seeks to build the capacity of communities to develop these sorts of projects themselves and has built within it an approach to create a Peer Network, to encourage communities to support each other and to review allocation of finance in the CDFI.</td>
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<tr>
<td>It is anticipated that CPC and the local shareholders will provide the equity to build the project and to leverage necessary additional finance, with the income from the turbines being split between CPC, the shareholders, the CDFI and the local community where the turbines are based. This enables CPC to recoup its</td>
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</tbody>
</table>
The model is based on a blend of environmental, social and financial returns and as such they anticipate that the dividend to shareholders will be modest, rising to around 6-7% by year 5.

<table>
<thead>
<tr>
<th>Community Renewable Energy (CoRE)</th>
<th>Technology: Any Type: Single Model</th>
<th>Location: North England</th>
<th>Status: Delivering – planning secured for 3 schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Venture Model</td>
<td>CoRE work with communities to develop renewable energy projects that generate an income for communities and provide them with sustainable, low cost, reliable energy supplies.</td>
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<td>CoRE carries out an initial assessment of the commercial viability of any project, and if good seeks a Memorandum of Understanding, in which CoRE agree to carry out the development work at-risk, on the understanding that the anticipated costs of this will be recouped once the project is operational.</td>
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<tr>
<td>CoRE then work as advisors, fund-raisers and agents to support the project from feasibility through to a commissioned project.</td>
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<tr>
<td>They have established an ESCo - ESCoRE as a wholly owned subsidy of CoRE. This is intended to work on each side of the development process. Initially it will provide a mechanism that manages the scheme, including energy supply, billing and maintenance for the projects and be a route to recoup CoRE’s development costs, plus a margin, which they will use to support the development of further projects. It is also hoped the ESCo will be able to lend debt into projects once it becomes more established.</td>
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<tr>
<td>There is great deal of flexibility within CoRE’s approach and they are working with a number of organisations, in a number of areas, on a range of technologies, including: Northumberland - 800kW wind (planning gained), PV, AD, wood fuelled gasifier, and hydro; Newcastle - AD; County Durham – wind, AD; Yorkshire – wind and AD; Cumbria - AD (planning gained), with other projects in development.</td>
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<tr>
<th>Community Renewable Energy Co2Sense</th>
<th>Technology: Any Type: Fund Location: Yorkshire and Humber Region Status: Established</th>
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<tbody>
<tr>
<td>CO2Sense manage the Renewable Energy Programme - a fund that supports grid connected renewables across a range of technologies and which includes funding projects which are owned by the local community.</td>
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<tr>
<td>Funding is available from £20k to £750k, as grants or commercial investments, up until March 2011. The loans and commercial investments are repaid once projects are generating an income and they also sometimes take a share in future revenue for a limited period.</td>
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<tr>
<td>Grants are only made for community approaches, although the fund increasingly seeks to make no, or low, interest loans to enable these projects to go ahead, whilst enabling the money to be recouped to support further projects.</td>
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<tr>
<td>Support to communities to date has all been via intermediary organisations, but the funding goes directly to the community.</td>
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<tr>
<td>They also provide early stage support for the application process, to help identify what is needed, what can be offered, along with technical help; and they run an online renewable energy network, which provides information and can answer questions that communities have on renewables.</td>
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<tr>
<td>Empower Community Fund</td>
<td>Technology: PV (initially)</td>
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<td>Empower Community is a social enterprise that has been designed to accelerate the transition to a low carbon economy by providing access to capital for community renewable energy and energy efficiency projects.</td>
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<tr>
<td>It seeks to provide social and environmental benefits that encourage large-scale community participation, ownership and responsibility.</td>
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<tr>
<td>It is based on a funding mechanism that brings together institutional, public sector and community sourced finance to underwrite, finance and implement projects. A special project vehicle is set up for each project, with income from the FiT split between the individual investors, but including a profit share back to roof owners and a local community vehicle of around £100 per roof per year, to support further local activity.</td>
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<tr>
<td>Initially they are focussing on PV projects with social and public sector landlords, but the detailed financial model behind it is scalable and applicable to a wide range of technologies. It is based on an approach that seeks to balance the needs of different stakeholders by providing a high quality investment opportunity with attractive returns, reinvesting profits in further community projects and facilitating ultimate community ownership of assets.</td>
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<tr>
<td>It is anticipated that further technologies will be supported once Empower Community is fully established.</td>
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<thead>
<tr>
<th>Energy Saving Trust Wales</th>
<th>Technology: Any Type: Support and Funding</th>
<th>Location: Wales</th>
<th>Status: Delivering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run on behalf of the Welsh Assembly and funded by the EU, the Renewable Energy at Community Scale Programme provides funding and technical support for community renewables.</td>
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<tr>
<td>A network of development officers provides hand holding support for communities’ right through the development process.</td>
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<tr>
<td>Grants are available for early stage development to enable a project to happen, such as environmental surveys, planning applications, community engagement – basically the at-risk stages.</td>
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<tr>
<td>Capital grants are also available up to £300k.</td>
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<tr>
<td>The fund was launched in 2010 and can support any legally constituted community based social enterprise located in Wales.</td>
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<tr>
<th>GreenTrust Wind (GTW)</th>
<th>Technology: Wind Type: Single Model Location: South West Status: In Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTW is a Community Interest Company (CIC) that aims to help communities build large scale wind, from 850kW single turbines to 20MW plus wind farms.</td>
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<tr>
<td>Projects will only be developed with communities that are interested in large scale wind, have a long term vision and plan for creating their own low carbon economy and in which there is broad support across the whole community.</td>
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<tr>
<td>GTW take on all the risk of developing the project, providing finance and managing the whole project from feasibility through to operation.</td>
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<tr>
<td>They cover their own costs to do this, but all of the profits go to the local community, via a community trust fund, which they help the community set up. The community can use this money to re-invest in further community led initiatives. The community also has the option to invest with the scheme, through a co-operative share offer to receive individual dividends, although this is not needed within the financial model developed; and there is also an intention to allow people to buy the green power generated.</td>
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</tbody>
</table>
- The CIC model means the project is asset locked, so the benefits can only go to the community, which are based on a community benefit type model which pays £20-30k per MW per year (depending on project size, wind speed, power prices, etc), which is also provided in full once the turbines are built.
- They are currently in the process of establishing the first portfolio of 5 to 10 community wind projects for investment approval in late 2010.

| National Energy Foundation (NEF) | Technology: Any Type: Fund and Support Location: Nationwide Status: Delivering | NEF have established the Communities Fund, a supported financial fund that seeks to help communities overcome the non technical barriers they face in the early development of projects, including building community capacity, preparing planning applications and raising finance. NEF will provide professional skills to help communities get to the point where they are investment ready. They also intend to help build a network of communities, linking knowledge, understanding between projects and people to ensure lessons and success are shared. The fund itself is based on a revolving model that will provide interest-earning, but sub-commercial rate loans to projects that demonstrate substantial public benefit in terms of carbon reduction. The funding is expected to be recovered at the point of capital funding being secured by the project, enabling NEF to support further communities. The approach may also take an equity stake within projects, when appropriate. The fund is still in development and is based on an initial target of raising £5m, which would be used to provide staged funding to communities, with a maximum total limit of £250k per project. NEF have issued a prospectus to raise the income for the fund, which is an on-going process, to date they have supported one community through the fund. |
| National Energy Foundation | National Energy Foundation |

| Origin Energy | Technology: Wind Type: Single Model Location: Yorkshire & Humberside Status: In Development | Origin is developing as a CIC, which will assist communities to: access finance; markets, information and knowledge, through a participatory approach, based on wind projects. Their aim is to encourage communities to be responsible for their own energy creation and management; foster the requirements of communities to live sustainably within their own environment; support the up-take of sustainable construction and refurbishment. They carry out the development work at-risk and support communities to establish an autonomous community structure to oversee investments in local sustainability needs from the revenues generated. The model is a complete package from feasibility, through to construction and operation. This will include raising the finance to enable projects to happen. They cover their costs to do this work, but the net profits all go back to the community. For their first scheme they anticipate this will be in the region of £250k per year for the community, more than doubling once the debt is paid off within 10 to 12 years. They are currently doing the planning work for their first scheme. |
| Origin Energy | Origin Energy |
### Regen SouthWest

<table>
<thead>
<tr>
<th>Technology: Wind Type: Broker and Support Model Location: Southwest Status: In Development</th>
</tr>
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<tbody>
<tr>
<td>• Regen are in the process of developing Communities for Renewables, a model based on creating a sustainable route to funding that uses private sector development expertise to produce technically viable schemes that can attract commercial finance.</td>
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<tr>
<td>• This approach is designed to make use of the abundant and profitable wind resources within the south west in a way that ensures that local communities financially benefit from local projects; enabling them to finance other local low-carbon initiatives within their community, becoming more vibrant and sustainable in the process.</td>
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<tr>
<td>• It will provide information and support to enable communities to identify the opportunity for renewables in their area and guidance on the funding/business models available for different scales.</td>
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<tr>
<td>• It will also work with the wind industry to identify a range of business models, which Regen may co-invest within, to encourage the development of approaches that can meet the needs of developers and of communities, in a financially sustainable way.</td>
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<tr>
<td>• Regen will then act as a broker to bring together interested communities with the developers that come forward. This will give communities a choice of options or models to enable a scheme to go ahead, based on their own needs and desires in terms of ownership, control or benefit, at a scale which they feel is appropriate to them. The principle aim is to ensure that as much revenue as possible is retained locally.</td>
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<td>• They are currently in the process of gauging community interest and seeking funding to support the development of the programme.</td>
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### South East England Development Agency (SEEDA)

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<thead>
<tr>
<th>Technology: Any Type: Support and Funding Location: South East Status: In Development</th>
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<tbody>
<tr>
<td>• SEEDA have been working to create a sustainable, supported model that can enable the development of community based energy projects that deliver environmental, social and economic benefits to the communities and the region. It is based around providing the right type of support at the right time and in the right way for communities.</td>
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<td>• It is based around a model that identified the 6 natural stages in the development of a project from how communities initially come together through to community enterprises becoming established. This provides a flexible framework that communities can work within, to suit their own needs, ambitions, capacity, etc. Funding has been secured to test and refine this framework.</td>
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<td>• The early stages within this process involved relatively straightforward, but important, networking and learning as a group becomes established. To support these steps an interactive, web2 resource has been developed – Community Central which provides networking and forum opportunities, including information exchanges, virtual seminars, etc. This is a supported resource that is actively managed and monitored to facilitate the networking and information sharing, whilst picking up emerging themes to provide further support. Community Central has been soft launched.</td>
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<tr>
<td>• SEEDA has also identified a range of financial barriers that communities face, including the lack of risk capital to meet up-front expenses, the below commercial levels of return in the short and medium term and the challenge of raising sufficient equity. To help overcome these issues they are establishing the Community Energy Investment Fund that brings together public sector funding, with debt and equity providers to support...</td>
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</table>
The fund will enable projects to go ahead and deliver financial and carbon returns back to investors. The prospectus for the fund was ready for launch at the time of writing.
- It is intended that business support would be provided to communities at various stages along the development process.

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<tr>
<th>Water Power Enterprises</th>
<th>Technology: Hydro</th>
<th>Type: One Model</th>
<th>Location: Mainly North England</th>
<th>Status: Established</th>
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<tr>
<td></td>
<td>Water Power Enterprises is a social developer of low head hydro schemes that enables communities to make use of their local water resources to generate a source of income for the community.</td>
<td>They provide a complete package of support to the community from initial feasibility through to construction and maintenance. They raise the finance and carry out the at-risk work for the community and help communities secure funding and develop local share issues, helping with both the debt and equity needed to build a scheme.</td>
<td>Initially they approached communities themselves, but are now responding to demand.</td>
<td>Their financial model is based on a target of one third bank debt and two thirds equity from grants and share offers.</td>
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<td></td>
<td>They raise finance to help cover some of the risk work, but undertake this work at-risk to themselves, with communities paying back the costs and a fee once the project is operational, this can take years.</td>
<td>Their financial model is based on a target of one third bank debt and two thirds equity from grants and share offers.</td>
<td>To date they have helped established two schemes – Torrs Hydro and Settle Hydro, with three other schemes in development in Wensleydale and Stockport.</td>
<td>They also run workshops on how to set up a community owned hydro scheme, that has been attended by over 300 people so far.</td>
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