Department of Energy & Climate Change

Community Energy Strategy: Full Report

27 January 2014

Devolved Administrations

Parts of the energy system are devolved to different extents in Wales, Scotland and Northern Ireland, hence each policy measure within this Strategy applies differently in each territory. All the Devolved Administrations have been fully engaged in developing this Strategy, but retain the right to develop policies for devolved areas.

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This document is available from our website at https://www.gov.uk/government/publications/community-energy-strategy.

Ministerial Foreword

We're at a turning point in developing true community energy in the UK.

For too long, community energy has been a policy footnote, with all the focus on big generators and individual households – all but ignoring the potential of communities to play a key role.

Now, however, communities are coming together to take more control of the energy they use – both to cut their gas and electricity bills and to help combat climate change.

Already there have been more than 5,000 groups in the UK working to transform how their community uses energy. From collective switching schemes helping people buy energy more cheaply to community-owned wind farms generating local jobs and revenue, and from neighbourhoods joining forces to insulate their homes to community advice schemes helping vulnerable consumers save energy and money, community energy comes in a wide variety of forms and sizes.

So this Strategy aims to help these existing groups grow and to inspire more to set up and expand. We want to tap into the enthusiasm and commitment that's so evident in community groups across the country – whether it's for helping people struggling with energy bills or for playing a part in the global race to decarbonise our society.

While the UK's community energy sector is relatively small today compared to Germany's or Denmark's, the evidence we have gathered for this Strategy illustrates the huge potential of community energy here. On generating electricity, for example, estimates suggest that schemes involving local communities could supply enough electricity for 1 million homes by 2020, if we get the support right. In a recent survey, 42% of people said that they would be interested in taking part in community energy if they could save money on their energy bills.[1]

We want to play to the advantages that community-based action offers energy and climate change policy. Communities are often more effective in reaching the vulnerable in society and may be more trusted by sceptical consumers. They are better placed to maximise the benefits of certain renewable technologies, such as district heat networks, and can gain wider benefits such as local economic regeneration and a stronger sense of community. Throughout this Strategy we have tried to identify where communities have a genuine advantage or can provide something extra.

[1] Research for DECC, January 2014

This Strategy is unapologetically practical. We focus on what the evidence shows is needed to make community energy expand – stronger partnerships, improved skills and capacity, better access to finance, and more sharing of best practice and measuring impact.

The extra support we are offering is ruthlessly pragmatic. Engaging private sector renewable developers in community shared ownership schemes offers new partnership models. Our funding for a new 'one stop shop' information resource will allow the community energy sector to self-help. Our new £10 million Urban Community Energy Fund will work alongside the £15 million Rural Community Energy Fund announced last year. The quadrupling of the Green Deal Communities Scheme to £80 million will increase infrastructure and capacity across English local authorities. DECC's Heat Networks Development Unit is partnering councils in the largest programme of local heat network developments ever.

This Strategy will itself kick off new momentum for partnership working in the development of better policy for the community energy sector. New working groups have been established to examine in detail the regulatory issues on grid connections, hydropower and planning and permitting to remove any barriers to growth, and will report to me later this year. A Communities and Local Government Conference later this year will aim to increase awareness of the sheer scale of the opportunities. New research and pilots linked to different aspects of community energy will help inform the best practice analysis that will be vital for the next stage of growth for the sector. A new Community Energy Unit in DECC will not only provide leadership for DECC's role in this Strategy but link the sector into the wider working and objectives of the department.

By making community energy an easier option, achievable by more people, we want to enable communities and individuals to exercise real market power and add a further dimension to our wider energy market reforms.

My hope is that Britain's first ever Community Energy Strategy will mark a step change for the sector and lead to a sustainable and significant expansion in the years ahead.

Rt Hon Edward Davey MP, Secretary of State for Energy and Climate Change

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Executive summary

The benefits of putting communities at the heart of energy policy

1. The way energy is generated and used in Britain is being transformed: increasing the proportion of home-grown low-carbon generation, while using less through an energy efficiency revolution. Much of this will be led by large companies and major investors in our reformed energy market, but individuals and local communities can also make an important contribution to maintaining energy security, tackling climate change and keeping costs down for consumers.

2. Community-led action can produce energy, reduce energy use, manage energy demand and purchase energy. It can often tackle challenges more effectively than government alone, developing solutions to meet local needs, and involving local people. Putting communities in control of the energy they use can have wider benefits such as building stronger communities, creating local jobs, improving health and supporting local economic growth.

3. Community energy can unlock opportunities for lower energy bills and carbon emissions saving that would otherwise be missed. A community role in electricity generation, whether in shared or full ownership or as part of a community benefits package, can help encourage investment. Various heat generation technologies are dependent on community level action.

4. This is the UK government's first ever Community Energy Strategy. It marks an important step in meeting our commitment to encourage community-owned renewable energy schemes, set out in the Coalition Agreement.[2] Our ambition is that every community that wants to form an energy group or take forward an energy project should be able to do so, regardless of background or location. We will back those who choose to pursue community energy, working to dismantle barriers and unlock the potential of the sector.

5. We want to build on the best approaches to supporting community energy from across the UK. This means learning from what has already worked well in Scotland, where the Community and Renewable Energy Scheme (CARES) already offers financial and other support to communities looking to develop their own electricity projects, and in Wales, where communities can access support and advice through the Ynni'r Fro programme. While much of this Strategy focuses primarily on Great Britain, a recently published study of communities and renewable energy in Northern Ireland noted that the approaches in this Strategy would be considered in the forthcoming development of an Action Plan for Northern Ireland.

6. Our *Call for Evidence* ran from June to August 2013, and gathered evidence from communities, individuals, local authorities and organisations in the private, public and voluntary sectors. We would particularly like to thank the Community Energy Contact Group (CECG) and the Community Energy Coalition (CEC) for their valuable input and expert advice during this process.[3]

7. In this Strategy, drawing on these experiences, *Call for Evidence* responses and expert input, we focus on creating a supportive environment for community energy and removing specific barriers to growth.

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[2] *The Coalition: our programme for government* (2010) (https://www.gov.uk/government/publications/the-coalition-documentation)

[3] See Annex 2 for a list of members of the CECG. More information about the CEC is available at http://ukcec.org/

Creating the right environment for community energy to grow

8. **Partnerships** are crucial to community energy activities, with local authorities, commercial organisations and local networks supporting and enabling community action (see Section 3). We will encourage partner organisations to support community energy in all its forms, and help communities to build strong and productive partnerships with the private, public and voluntary sectors.

Realising our vision: Supporting strong partnerships

- The renewables industry has committed to substantially increase shared ownership of new onshore renewables developments. By 2015 it should be the norm for communities to be offered the opportunity of some level of ownership by commercial developers.
- A Community Benefits Register for onshore wind in England will be established in spring 2014. This will make public the range of benefits from different projects – from new community buildings to cheaper electricity. This will help communities when negotiating benefit packages with developers for new projects. Scotland has had a register in place since 2012.[4] We will closely monitor the operation of the Register and its impact on supporting community benefits, and will consider future options for extending it to other technologies.
- A new Community Energy Unit in DECC will work with communities and local authorities to provide a step-change in the support offered to community energy projects.
- A national Communities and Local Government Conference in 2014 will review early progress and assess the various community energy initiatives launched since 2010, including this Strategy.

9. The *Call for Evidence* identified a range of **capability and capacity** barriers (see Section 4). Activities are more likely to succeed where the community has access to the right information, advice and expertise. For community energy to achieve scale, we need to empower groups to learn from each other and share information about what works.

[4] http://www.energysavingtrust.org.uk/scotland/Communities/Community-And-Renewable-Energy-Scheme/Scottish-Government-Register-of-Community-Benefits-from-Renewables

Realising our vision: Community capability and capacity

- We will support the establishment of a 'One Stop Shop' information resource for community energy, developed with community energy groups using seed funding from government. In Scotland the Local Energy Scotland Community And Renewable Energy Scheme (CARES) website, funded by the Scottish Government, was re-launched on 20th January 2014.[5]
- In November, DECC and the Cabinet Office launched a £500,000 peer mentoring scheme to enable experienced community energy groups in England to offer peer-to-peer support to newer entrants. The scheme closed in December and the first groups will receive funding in early 2014. In Wales, community energy groups are already able to access peer-to-peer support through the Renew Wales scheme, funded by a grant from the Sustainable Steps programme delivered through the Big Lottery Fund.

10. Building **good evidence on the impact of community energy** (Section 5) will help realise its full potential. It will help government to develop policy that best supports community energy and maximise the contribution to energy and climate change goals. In addition, this will help communities learn from their own and others' experience, building on the best and avoiding unproductive ideas.

Realising our vision: Measuring the impact of community energy and promoting best practice

- The One Stop Shop information resource will enable cost effective sharing of new community energy monitoring and evaluation tools and case studies of their use.
- We will evaluate community energy activities funded by government and will survey the sector again in two years' time to evaluate the impact of this Strategy.

Supporting communities to produce, reduce, manage and purchase energy

11. As well as addressing the barriers which affect all types of community energy activity, we have identified issues specific to individual strands of community energy.

12. On **electricity generation** (Section 6), community involvement at any scale can bring benefits in strengthening communities and sharing financial returns, including options for lower energy bills in community buildings.

13. Independent modelling undertaken for DECC[6] shows that under some scenarios, by 2020, community electricity could provide between 0.5GW and 3GW of installed capacity through solar photovoltaic (PV), onshore wind and hydro projects – representing between 2.2% and 14% of the total capacity of these technologies, and generating between 0.3% and 1.4% of the UK's entire electricity consumption in 2020, or enough to meet the electricity needs of 1 million homes. To help drive the growth of the sector, as part of the implementation of this Strategy we will work with the community energy sector to set a clear level of ambition for the community electricity generation.

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[5] www.localenergyscotland.org

[6] *Community Renewable Electricity Generation: Potential Sector Growth to 2020*, independent modelling for DECC: https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020

14. Generating energy is not just about electricity. Huge changes in **heat** production (Section 7) are needed, and these can only happen at a local level. We are actively supporting communities to get involved in generating heat, and are the first country in the world to introduce a renewable heat incentive.

Realising our vision: generating electricity and heat

- In June we launched the £15m DECC / Defra Rural Community Energy Fund (RCEF) to provide finance for rural communities in England to explore the feasibility of, and planning for, electricity and heat projects. This will now be complemented by a new £10m Urban Community Energy Fund (UCEF). Communities in Wales can already access similar financial support through the Ynni'r Fro scheme, while in Scotland the Community and Renewable Energy Scheme (CARES) includes a pre-planning loan scheme.
- We are working with the European Commission on including the small-scale onshore wind and hydroelectricity sectors within the Green Investment Bank's (GIB) approved scope of operation.
- We will be consulting in spring 2014 on doubling the Feed-in Tariff (FIT) maximum capacity ceiling from 5MW to 10MW for community projects.
- We will continue to work with the sector to explore new and innovative ways of addressing access to finance such as crowd-funding and aggregation models.
- Through the Renewable Heat Incentive (RHI) we have provided the world's first financial incentive for renewable heat projects. The non-domestic RHI was introduced in 2011 and we will introduce a domestic version in spring 2014.
- DECC's new Heat Networks Delivery Unit (HNDU), with a budget of £6.9m, aims to transform district heating in the UK, providing financial support, guidance and expertise for local authorities, especially in the crucial early stage of developing a heat network. In the first round of the programme, 31 local authorities will be receiving £1.95m.
- New working groups bringing together regulators and industry will produce action plans during 2014 to tackle issues communities face on planning and permitting, electricity network connections, and hydropower.
- We will work with communities and Ofgem to look at ways to enable communities to supply electricity, including Licence Lite.

15. Community-led action can help **reduce energy use** and save people money (Section 8). This includes influencing one-off decisions (such as installing energy efficiency measures or purchasing a new appliance) and everyday behaviour (such as switching off appliances and use of heating), and helping to tackle fuel poverty. We will increase the opportunities for communities to get involved in delivering energy efficiency and help identify new sources of funding for energy saving and energy advice projects.

Realising our vision: reducing energy use

- We are piloting and deploying a community approach to energy efficiency by increasing the Green Deal Communities scheme from £20m to £80m. This provides a new opportunity for community groups, in partnership with local authorities, to get involved in energy efficiency.
- A new £100,000 community energy saving competition will incentivise communities to develop innovative approaches to saving energy and money. The best projects will be given extra support to develop further, with a cash prize going to the community that demonstrates the biggest impact on helping consumers save energy.
- A package of Community Energy Advice pilots to identify the most effective community-based approaches to cutting waste and spending less on energy through behaviour change, including a £500,000 scheme to trial and scale up peer-to-peer approaches to energy saving advice in housing associations, which was launched in November.
- The Zero Carbon Home 'Allowable Solutions' framework will offer a potential source of funding for community energy groups from 2016.

16. Communities can also play a role in **managing energy demand** (Section 9), at a local level, piloting different approaches to new smarter technologies to pave the way for more widespread use in the future.

Realising our vision: managing energy demand

- Through the Smart Grid Forum we are working with Ofgem, network operators and wider industry and consumer groups to unlock the potential of smarter grids. The Forum will shortly be publishing its vision for smart grids, which will provide a useful overview for communities on the role of smart grids and help them to understand how they can get involved in driving deployment.

17. **Collective purchasing** of energy and collective switching of suppliers (Section 10) can help consumers to cut their bills, tackle fuel poverty and engage people in energy issues. In a survey in January 2014, 40% of people[7] said that they would be interested in joining a collective switching or purchasing scheme.

18. Already collective switching has delivered substantial savings to consumers, with over 21,000 households switching energy supplier through the Cheaper Energy Together scheme and making an average saving of £131[8]. These collective switching schemes helped significant numbers of people to sign up, many of whom may be considered vulnerable, and 49% of whom had not switched energy companies for at least 3 years.[9] We now want to build on the valuable experience and infrastructure developed through these schemes to enable even more consumers to benefit.

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[7] Research for DECC, January 2014

[8] Helping Customers Switch: Collective Switching and Beyond (DECC, 2013) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253862/Helping_Customers_Switch_Collective_Switching_and_Beyond_final__2_.pdf

[9] Helping Customers Switch: Collective Switching and Beyond (DECC, 2013) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253862/Helping_Customers_Switch_Collective_Switching_and_Beyond_final__2_.pdf

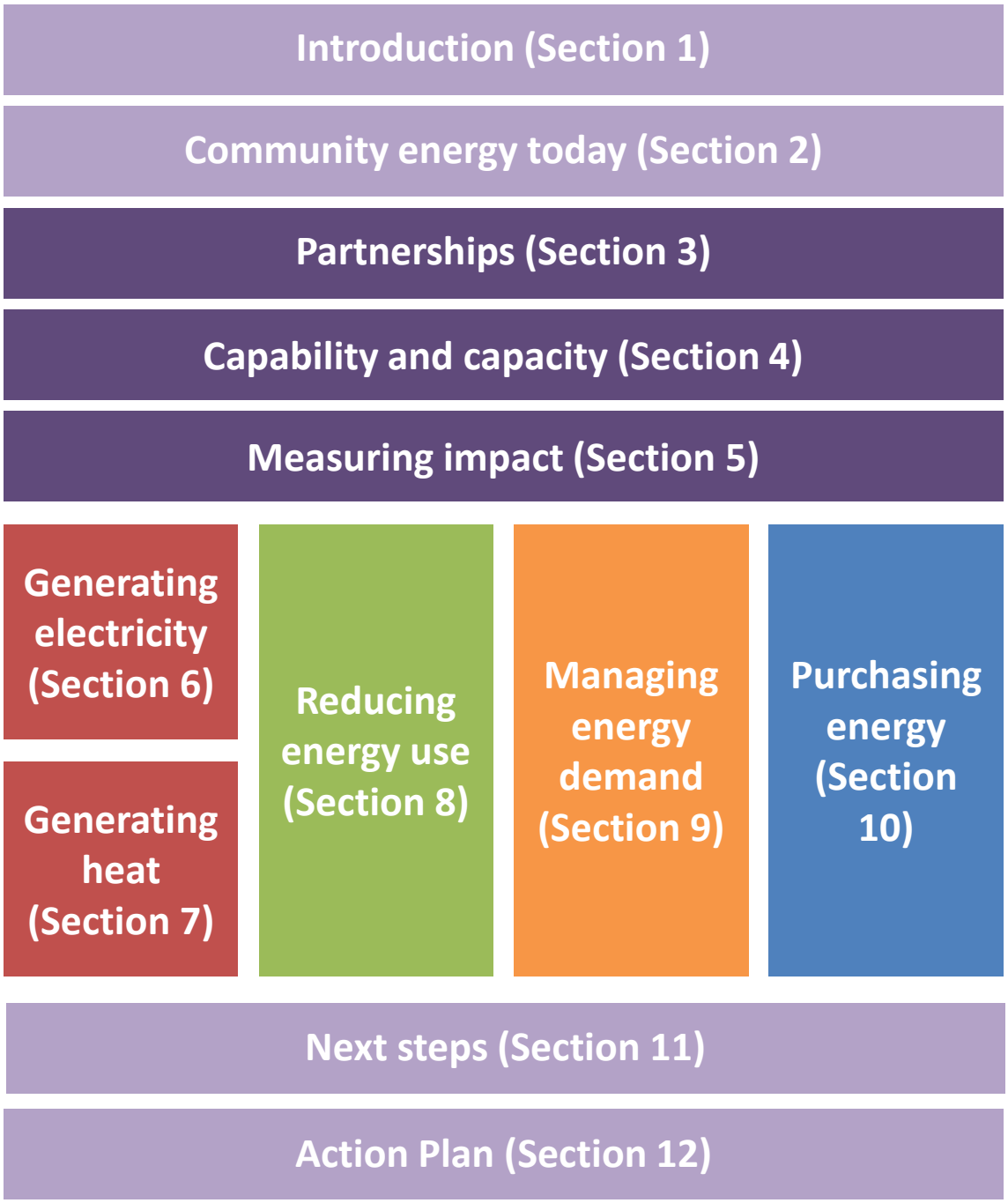
Realising our vision: collective purchasing and switching

- The Big Energy Saving Network (BESN) is a £900,000 programme established last year to support eligible third sector organisations and community groups to deliver an extensive programme of outreach to vulnerable consumers, focussed on helping them to reduce their energy costs through assisted action on tariffs, switching and take-up of energy efficiency offers. Additional funding of £1m will allow us to continue supporting and growing BESN in 2014/15.
- Revised and updated guidance and best practice for organisers of collective switching schemes is published alongside this Strategy, drawing on the learning from the DECC Cheaper Energy Together scheme.
- Ofgem's Retail Market Review includes new rules for collective switching and wider reforms that are designed to make the market simpler, clearer and fairer.

19 The structure of the Community Energy Strategy is shown in Figure 1. The Strategy first sets out the benefits of community energy and outlines its current scale and potential. Sections 2 to 5 cover the issues which are common across all types of community energy: partnerships; community capability and capacity; and measuring impact.

20 We then turn to the specific issues faced by communities in each of the four strands of generating, reducing, managing and purchasing energy, setting out the main barriers to community energy activity in each area and the actions that need to be taken to help realise the potential of community energy (Sections 6 to 10).

Figure 1: Structure of the Community Energy Strategy



1. Introduction

1.1. Communities are central to meeting our energy and climate change challenges

19. Over the coming decades, the country needs a continued supply of reliable and affordable energy as we move our economy onto a low carbon basis to meet our climate change responsibilities. Over time, this will mean a major shift in the way we generate and use energy nationally and in local communities.

20. Much of DECC's focus has been to help deliver large national infrastructure projects. Our electricity market reform programme will deliver the huge amount of new low carbon capacity we will need. But these reforms also provide real opportunities for local communities to help meet the challenge of affordable energy security in a low carbon economy – and in the process provide jobs and reduce bills for local people.

21 Community-led action can often tackle the most difficult issues more effectively than government alone. Communities can mobilise and engage people effectively by tailoring their community engagement to an audience that they understand well, using their existing presence and 'representative voice' to good effect.[10] They have more freedom to develop creative solutions that meet local needs.

22 'Community energy' covers many different types of community getting involved in many different ways: a group of local people setting up their own solar installation or wind turbine; a local authority leading a collective purchasing scheme to help local people get a better deal on their energy; an energy advice session at a local community centre; or a whole range of other schemes, many of which are showcased in this Strategy. The definition of 'community energy' used in this Strategy is outlined in more detail in Section 2.1.

1.2. Community energy can help maintain energy security and tackle climate change

23 In this Strategy we talk about community involvement in four main types of energy activity:

- Generating energy (electricity or heat)
- Reducing energy use (saving energy through energy efficiency and behaviour change)
- Managing energy (balancing supply and demand)
- Purchasing energy (collective purchasing or switching to save money on energy)

24 Often community energy projects may combine these elements – for example, by using any surplus revenue from renewable energy generation projects to fund energy efficiency or energy advice. DECC is examining how an integrated approach to demand side measures involving the use of demand reduction, demand side response and distributed generation (D3) can help deliver carbon and energy savings. D3 aims to take into account the localised nature of community energy, and a more holistic consideration of energy consumption and generation.

25 On electricity generation, community involvement – such as community-owned projects or part community ownership of larger commercial projects – can help achieve our goals of

[10] Local Energy Assessment Fund evaluation, DECC 2014

decarbonising the power sector and seeing a 15% share of our energy provided from renewable sources by 2020.

26 Independent modelling for DECC[11] suggest that, by 2020, community electricity[12] could generate between 0.5GW and 3GW from a mixture of solar PV, onshore wind and hydro projects – representing between 2.2% and 14% of the total installed capacity of these technologies, and between 0.3% and 1.4% of the UK's entire electricity consumption in 2020. 3GW, the top end of this range could provide enough electricity for over 1 million homes.[13] The analysis also suggests that beyond 2020, community electricity has the potential to make an even greater contribution.

27 This would not represent additional generating capacity on top of that we already expect to be deployed to 2020.[14] Rather, it would mean a shift in the ownership model of this generating capacity, from commercial developers to communities (at the large scale) and from individual household-level generation to community ownership models (at the small scale). So while not necessarily leading to a greater amount of renewable electricity being generated overall, it would enable communities to share in the wider benefits such as financial returns, social benefits and improved community cohesion (see Section 1.4).

28 In some cases, increased community ownership could lead to reduced barriers to deployment of some renewable electricity technologies. For large projects, offering communities the chance for a share in ownership can often strengthen local support for new energy infrastructure, which in turn can help unlock additional investment and lead to more renewable electricity developments being built.[15] We will work with the renewables trade associations and the community energy sector to set an overall level of ambition for community electricity generation (see Section 3.3 for more detail of this process).

29 Heating accounts for a third of the UK's greenhouse gas emissions, and 70% of our heat is generated by burning natural gas, a fossil fuel. We therefore need to transform how we heat our buildings to meet our decarbonisation goals. Decarbonising our heat supply will mean rolling out heat networks and encouraging homes and businesses to adopt lower-carbon alternatives. These changes depend on action at the local level – whether by individual households or businesses, or, in the case of heat networks, by local authorities.

30 Communities can help increase the uptake of renewable heat technologies, whether by installing them in community buildings or by raising awareness of their benefits among households in their area. Community action can help us change the way we use heat, through engaging consumers – particularly those who are vulnerable or fuel poor – in how to use their heating systems most effectively to reduce waste and cut bills.

31 As well as changing how we generate our energy, we need to change how we use it. Meeting our greenhouse gas emissions targets will require reductions in energy use of

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[11] *Community Renewable Electricity Generation: Potential Sector Growth to 2020*, independent modelling for DECC: https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020

[12] This includes both fully community-owned electricity generation projects and the share of commercial electricity developments owned by communities under shared ownership models.

[13] www.ofgem.gov.uk//ofgem-publications/83193/methodologyforsupplymarketindicators.pdf

[14] For information about the UK's renewable energy potential see DECC (2013): *UK Renewable Energy Roadmap: 2013 update* (https://www.gov.uk/government/publications/uk-renewable-energy-roadmap-second-update).

[15] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf

between 21% and 47% per capita over the period 2011 to 2050.[16] Homes and businesses need support to become more energy efficient. Involving communities in making energy efficiency policies such as the Green Deal and the Energy Company Obligation (ECO) work better, helping communities share energy-saving advice and tips, or encouraging communities to develop innovative new approaches to saving energy and money has the potential to transform the way that we use energy.

32 In addition to reducing energy use, by shifting energy demand away from peak times of the day, we are able to reduce the need to invest in costly energy infrastructure. This also reduces our carbon emissions as we become less reliant on fossil-fuel power plants.[17] As we move towards smarter energy management, communities can pilot new approaches to balancing supply and demand, providing valuable learning that can be applied elsewhere. Communities can also help people engage with new technology such as smart meters, improving their understanding of how to get the most out of the increased consumption information that they provide.[18]

1.3. Community energy can save money on bills

33 Energy must be affordable for consumers. Community energy can have financial benefits for consumers. By putting communities in control of the energy they use, generate and purchase, community energy can help people control their energy spending and keep down the cost of living. Indeed, 51% of people[19] said that they would be motivated to get involved in community energy if they could save money on their energy bill.

34 Community energy activities provide many opportunities to save money on energy bills. This might be through a community building cutting bills by generating its own renewable electricity or heat; or using bulk buying power to get discounts, for example on heating oil, insulation materials or PV panels; or households becoming more energy efficient so that they can spend less on heating and powering their homes; or local people signing up to a collective switching scheme to get a better deal on their energy bills; or a bulk buying scheme to help households save money on the heating oil fuel they use. Some examples of savings made by community energy groups are in box 1.

35 Research commissioned by DECC shows that community groups can help vulnerable and fuel poor members of their community to access the benefits of the changes that we are driving in our energy system. The DECC-funded Local Authority Competitions Process found that by assisting people to get the best deals in the market, directing them to help that lets them keep their homes warmer for less[20], and highlighting low cost offers, participation in community wide schemes significantly facilitated uptake of energy efficiency schemes. [21]

36 DECC is working with the Community Energy Coalition (CEC), a group of leading civil society organisations working together to promote community energy,[22] to increase understanding of how community action can support vulnerable and fuel poor households. In the first instance, the joint focus of DECC and the CEC is to better develop our understanding of how communities can help to tackle fuel poverty, and how government and

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[16] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf
[17] https://www.gov.uk/government/publications/electricity-system-assessment-of-future-challenges
[18] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43042/7224-gov-resp-sm-consumer-engagement.pdf
[19] Research for DECC, January 2014
[20] https://www.gov.uk/energy-company-obligation
[21] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation
[22] See http://ukcec.org/ for more information about the Community Energy Coalition

others can support these groups in doing so – for example, through advice and examples of best practice.

37 In order to do this, DECC and the CEC will meet in February 2014 to discuss questions and ideas for the Community Energy Coalitions' research into helping vulnerable and fuel poor households, and how this could feed into the forthcoming consultation on the Fuel Poverty Strategy and Target, to be published this spring. In addition, the CEC will convene a round table for the government, energy efficiency, fuel poverty and community sectors to develop ways to enable community groups to play a greater role in helping households out of fuel poverty. They will present their results to date at this roundtable. This research will also feed into the Fuel Poverty Strategy and Target consultation alongside other stakeholder representations.

38 This will form part of the CEC's programme of work on fuel poverty in 2014 that will see them running a working group to find ways to help community groups play an even greater role in reducing energy bills and tackling fuel poverty in their communities. This will examine how community models can deliver energy efficiency measures using the Green Deal, ECO and other models on an area or street by street basis, and examine success factors and barriers being experienced by pioneering community groups in this sector. 'Tackling fuel poverty' will also be a theme of events during the CEC's Community Energy Fortnight, running from the 13th to 29th September 2014.

Box 1: Examples of savings made by community energy projects

39 Amberley Primary School in Newcastle was able to generate **25% of the school's electricity requirements** through installing solar panels and a wind turbine in a project funded by the Big Lottery Fund. Previously the school had been spending around £8,000 per year on electricity.[23]

40 Ashton Hayes Going Carbon Neutral in Cheshire managed to reduce energy consumption by 23% in three years. This saved households **up to £300 per year**, through encouraging behaviour change and installing simple energy efficiency measures.

41 Energy assessments undertaken on 119 households under the Warming Barton project in Oxford, funded by DECC's Pioneer Places Green Deal pilot scheme, recommended 579 energy efficiency measures, which would adding up to **potential savings of £450 per household**.

42 A 53kW solar thermal system was installed to heat Fenham Swimming Pool in Newcastle, with the help of a loan from PURE and the British Airways One Destination Fund. This will lead to estimated savings of **almost £900 per year on energy bills**.[24]

43 A collective switching scheme launched by local cooperative Community Energy Direct and Which? in several locations in Yorkshire led to more than 600 households switching energy supplier, with **average savings of £173 per household**.

44 Members of Allen Valleys Oil Buying Co-operative in Northumberland saved **approximately £50 per 1000 litres of heating oil** by buying in bulk, and reductions in the number of trips by oil tankers means delivery costs are lower too.

1.4. Community energy can have wider social and economic benefits

45 Addressing climate change or reducing carbon emissions, as well as saving money on energy bills, are the main motivating factors for community groups starting energy projects.[25] However community energy goes beyond energy security, climate change and energy bills, and can also bring further benefits to communities. These include:

- **Build stronger communities.** Community energy activity can bring local people together to achieve something for their community[26], fostering common cause and empowering communities to take action on issues that matter to them. Many people are willing to volunteer a great deal of time and effort to make initiatives work in their local areas[27], and we recognise the importance of these dedicated individuals to community energy. Respondents to our *Call for Evidence* considered it important that everyone is able to participate and benefit, and stressed the importance of including more vulnerable members of the community in community energy activities.

- **Develop new skills.** Members of the community of all ages can benefit from opportunities to learn new skills through involvement in community energy activity; some schemes have specifically engaged young people in work experience or energy and

[23] Big Lottery Fund evidence submitted to *Call for Evidence*
[24] http://www.puretrust.org.uk/filelibrary/case_studies/Fenham-Case-Study.pdf
[25] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2
[26] Community energy in the UK: A review of the evidence, *Call for Evidence* responses
[27] Seyfang G, Park JJ and Smith A (2013) A thousand flowers blooming? An examination of community energy in the UK. Energy Policy 61, 977-989

climate change education activities. Community energy projects can build confidence and skills both within the group and more widely.

- **Bring financial benefits.** Community energy presents opportunities to generate income for the community, through FITs for generation of renewable electricity and RHI payments for generation of heat, or through part ownership of larger commercial energy developments. This income can be used to benefit the community in a variety of worthwhile ways, and some community energy groups have used income from generation to fund energy saving measures in their community. Community energy groups can also choose to purchase local services and products, having a positive effect on the local economy. In addition, community energy projects can draw on investors willing to accept lower financial returns in exchange for social benefits, and there is great potential for local investment in community energy projects through community share offers.

- **Reduce costs for communities**. Many examples of community energy achieving results at lower cost than conventional approaches were cited in response to our *Call for Evidence*. Examples included installing insulation and draught proofing using a small amount of paid time to leverage larger amounts of voluntary time, or where community-scale renewable generation is deployed at a larger scale than individual households would be able to achieve.

46 Despite a growing body of evidence on community energy, quantitative evidence on the social impacts and relative costs and benefits of community energy remains quite limited. It will be important to build on this in the future as the sector grows, both to inform future policymaking and to ensure that communities are able to learn from the experiences of others.

2. Community energy today

2.1 Definition of community energy

47 In the *Community Energy Call for Evidence*[28] we used the term 'community energy' to mean community projects or initiatives focused on the four strands of reducing energy use, managing energy better, generating energy or purchasing energy. This included communities of place and communities of interest. These projects or initiatives shared an emphasis on community ownership, leadership or control where the community benefits. The *Call for Evidence* demonstrated broad agreement with this definition.

48 For many, an important characteristic of 'community energy' was the sharing of benefits and a focus on social outcomes, rather than only financial benefit for shareholders. Many noted the importance of including activities combining several strands of community energy carried out alongside a wider interest in sustainability. It was also felt that the focus of 'community energy' should be wider than specific projects, ideally supporting ongoing energy-related activities. These activities are included in our definition of community energy.

49 There was some support for expanding the definition of community energy to include activities led by local partners such as local authorities, housing associations, 'intermediary' or advisory organisations and local businesses. We acknowledge the crucial role that these partners can play in supporting and enabling community energy (see Section 3 – Partnerships).

50 However, defining community energy too broadly risks blurring the line between it and other parts of the energy system. We therefore maintain a distinction between 'community energy' and other models of 'local energy'.

51 'Community energy' in this Strategy refers to all activities encompassed by the above definition and also considers shared ownership or joint ventures where benefits are shared by the community. This includes activities based on formal community ownership models such as co-operatives, social enterprises, community charities, development trusts and community interest companies, as well as projects without these formal structures.

52 A number of respondents raised the specific issue of the definition of 'community' within FITs regulations, with several commenting that the current definition excludes some types of organisation which are currently active in community energy, for example charities, particularly in Scotland and Wales. This issue is outside the scope of this Strategy, but the government will be consulting on the definition of 'community' as part of a wider consultation in 2014 on increasing the FITs threshold for community projects from 5MW to 10MW, for which we took powers under the Energy Act 2013 (see Section 6).

[28] https://www.gov.uk/government/consultations/community-energy-call-for-evidence

2.2 The current scale of community energy in the UK

53 A systematic assessment for this Strategy has found at least 5,000 community energy groups active in the UK since 2008.[29] Groups vary in size, although many have a small core of dedicated volunteers who organise activities.

54 Community energy projects are geographically dispersed, with responses to our *Call for Evidence* received from groups in many different locations. Research in *Community Energy in the UK: Part 2*[30] found that groups are undertaking energy projects across all parts of the UK (See Figure 2), with South West England and Scotland home to a larger proportion of groups than would be expected based on population size.

55 More community energy activities occur per person in rural areas. Work by *Seyfang et al*.[31] found that 65% of the respondents to their survey were rurally located, and of the Local Energy Assessment Fund (LEAF) projects funded by DECC, 54% were rurally located[32]. In *Community Energy in the UK: Part 2*[33], 41% of groups were found to be in rural areas, which have an 18% share of the population.

56 Community energy in the UK is currently focused largely on renewable electricity generation, with the most prevalent technologies being solar PV and onshore wind.[34] At least 60MW of community-owned renewable electricity generation capacity is currently in operation.[35,36] While this remains a small fraction of the UK's installed renewable electricity generation capacity,[37] the growth potential for the sector is potentially significant when both wholly and partly community-owned renewable installations are considered, as set out in Section 1.2.

57 Community energy projects have also begun to develop new approaches to renewable heat, reducing energy use, purchasing energy and managing demand. Our *Call for Evidence* and research work has not allowed us to assemble a comprehensive picture of such activities, although we are aware of a number of examples from communities across the UK.

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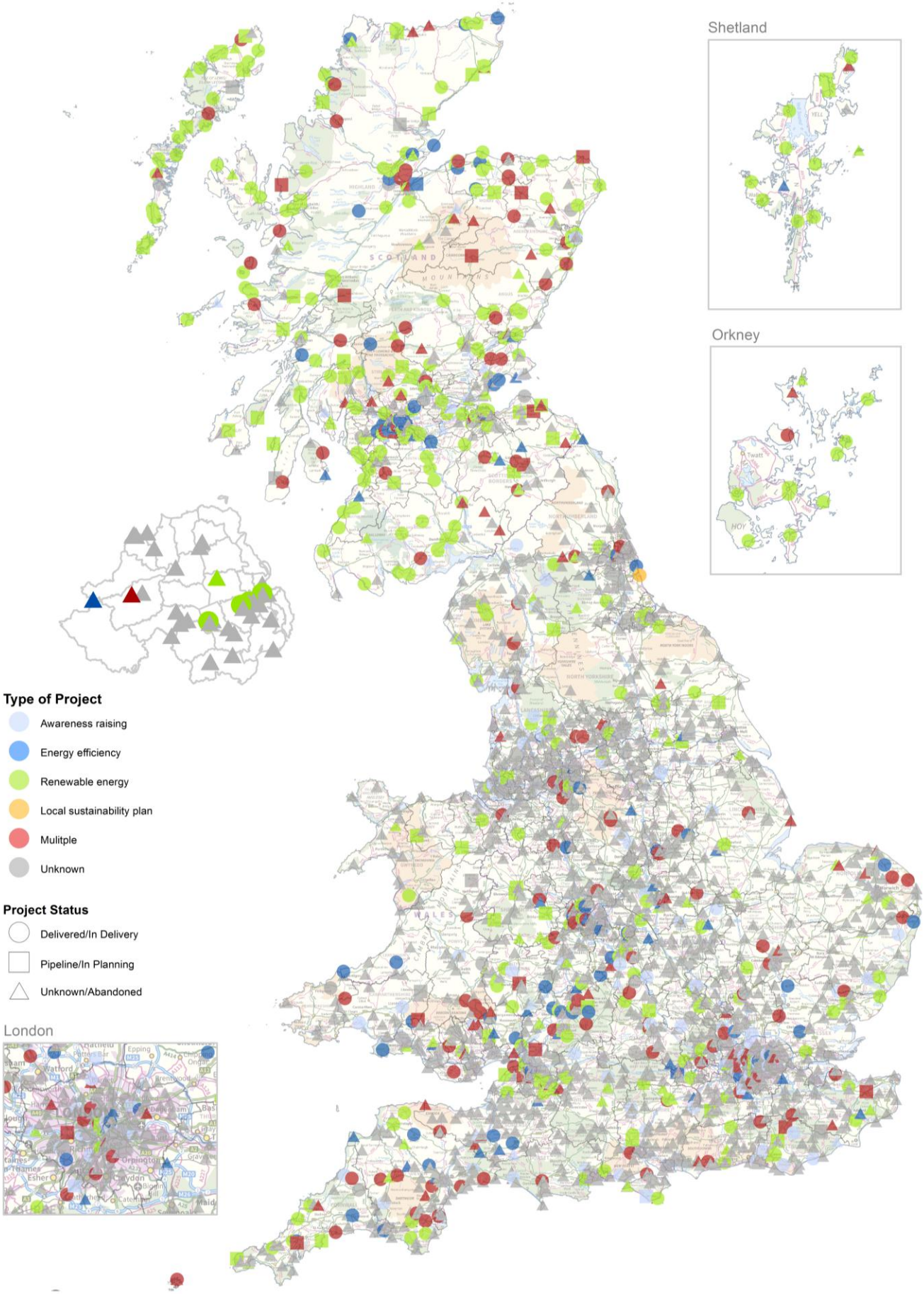
[29] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2
[30] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2
[31] Seyfang G, Park JJ and Smith A (2013) A thousand flowers blooming? An examination of community energy in the UK. Energy Policy 61, 977-989
[32] Local Energy Assessment Fund evaluation, DECC 2014
[33] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2.
[34] Responses from the *Call for Evidence*, Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2 and Local Energy Assessment Fund evaluation, DECC 2014.
[35] *Community Renewable Electricity Generation: Potential Sector Growth to 2020*, independent modelling for DECC: https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020
[36] The Community Renewables Economy: Starting up, scaling up and spinning out (Respublica). http://www.respublica.org.uk/documents/yqq_Community%20Renewables%20Economy.pdf
[37] Overall installed renewable electricity generation capacity in the UK is 19,500 MW and total installed generation of all types is more than 89,000 MW. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATIO___.pdf

Figure 2: Location of community energy groups in the UK



2.3 Community energy has a strong track record in other countries

58 Community energy – particularly renewable electricity generation – is often reported to play a prominent role in the energy systems of other European countries, such as Germany (see case study 1), Denmark (see case study 2) and Austria. There are also examples of community energy providing alternative models of energy provision and distribution across the world, from North America to Nepal.

59 In some of these countries, the definition of 'community energy' used is broader than in this Strategy and includes locally-owned energy of all types, for example by municipal authorities or landowners.

Case study 1: Community involvement in transforming the German energy system

In Germany, Energiewende – the transformation from fossil fuels and nuclear power to renewable energy – builds on a tradition of local energy activism. Municipal energy companies and citizens' energy cooperatives are providing a sizeable contribution to this change in Germany's energy system.

By the end of 2010, 'community' energy made up 40% of Germany's total renewable energy capacity, largely through private citizens investing in energy cooperatives. A further 11% was owned by farmers and 14% by project developers with the 'Big Four' utility companies – E.ON, RWE, EnBW and Vattenfall - only controlling a 13.5% share of the market.[38] Community and shared ownership of wind turbines and increasingly solar PV installations are the most common forms.

There has also been a move towards community ownership and management of local electricity grids. Municipal energy companies already control more than half of the low voltage distribution system operators in the country and some energy cooperatives are now running their own local grids too. Over the five years to 2012, approximately 150 distribution grids have been taken over in this way with some 450 new energy cooperatives formed to generate and manage energy across the country.[39]

An example of this in action is in Feldheim, a small village south of Berlin. The village set up a cooperative to provide heat and electricity from a local biogas plant running on pig waste. They also have wind turbines and a solar PV array all connected to their own independent regional grid. The village is carbon neutral, self-sufficient in energy and any excess electricity they generate is sold back to the national grid for a profit. They also benefit from significantly cheaper energy prices than the national average and about a third of the inhabitants are employed directly by the local wind farm or solar PV factory.[40]

The success of community energy in Germany can be attributed to a number of factors. These include: a well-established environmental and alternative energy movement and a general tradition of forming cooperatives and other associations to achieve change at a local level; a high level of leadership and support from municipalities; and macro-level institutional factors such as the feed-in tariff system, first introduced in 1991, and the state owned bank, the KfW, that has been running for over 60 years and is able to provide loan capital at preferential rates.[41]

[38] http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/07/SP-26.pdf
[39] http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/07/SP-26.pdf
[40] Marsh, G (2013), Community Crowd and Conversion – renewable energy focus
[41] Schreuer, A. & Weismeier-Sammer, D. (2010), Energy cooperatives and local ownership in the field of renewable energy technologies: A literature review

60 These, and other, examples of local involvement in energy in other countries demonstrate that community or local energy can be fully integrated into a country's energy system. However, it is difficult to directly compare factors for success of community energy between the UK and other countries due to differences in market structures, energy system governance and wider social and cultural precedents. The countries cited as pioneers of local or community energy have built up their energy systems over a period of decades, and we should not expect the UK to be able to emulate these systems overnight.

61 Nevertheless, we can identify some key enabling factors in countries with widespread community or local ownership of energy. These include payments for electricity generated, ease of network connection, community investment and strong partnerships, which all facilitate community energy. This Strategy therefore seeks to build on our existing policies to dismantle some of the barriers which currently hinder the growth of community energy in the UK whilst recognising that community energy must fit alongside other components of our existing energy system.

2.4 Unlocking the potential of community energy in the UK

62 Community energy may be a relatively small sector today, but as set out above, it is growing rapidly and has significant scope for further growth, making a real contribution to meeting the UK's need for clean, secure and affordable energy and helping keep energy bills down.

63 Our vision starts from the position that every community that wants to form an energy group or take forward an energy project should be able to do so, regardless of background or location. Government will back these pioneers, working to dismantle unnecessary barriers, and helping create partnerships to deliver important energy and climate change objectives

64 But we want to go even further. This means reaching out beyond those who are already active and encouraging more communities to get involved in all areas of community energy. To help drive this growth in community energy, we will work with the community energy sector to set a clear level of ambition for community electricity generation. In Scotland, the Scottish Government has already set a target of 500MW of renewables to be locally-owned or community owned by 2020. In addition, as part of the implementation of this Strategy, we will discuss with community energy groups whether setting targets for other parts of the sector at a future date – including heat generation, reducing energy use, demand management and switching or purchasing – would help community energy to achieve its potential.

65 The remainder of this Strategy examines in more detail some of the barriers to realising this vision, and sets out actions that will help to remove them.

66 The structure of the Strategy is set out in Figure 1. Some of the issues faced by community energy are common across all four strands of generate, reduce, manage and purchase. These are:

- Helping communities build strong partnerships with local authorities, businesses and others (Section 3);
- Building community capability and capacity, to ensure communities have the skills, knowledge and advice they need to develop successful projects (Section 4);
- Supporting communities to build up evidence of their achievements so that they can demonstrate the impact of community energy activity (Section 5).

67 We then turn to the specific issues faced by communities in each of the four strands of generating, reducing, managing and purchasing energy, setting out the main barriers to community energy activity in each area and the actions that need to be taken to help realise the potential of community energy (Sections 6 to 10).

3. Partnerships

3.1 Building partnerships to support community energy

68 Working together with public, private and third sector partners can be an effective way for communities to achieve their objectives. It can bring together the right mix of skills, experience, assets, finance and investment with local interests and engaged communities.

69 Many responses to our *Call for Evidence* cited partnerships as a key factor in increasing the reach and scale of community energy in the UK. Evaluations of DECC's Low Carbon Communities Challenge (LCCC) and LEAF schemes found that many projects benefitted from working in partnership, as this often meant that specialist skills or infrastructure services could be accessed in-kind or at a lower cost, having a positive influence on projects.[42,43] International examples show how partnerships with municipal authorities and commercial developers are crucial to community energy activity achieving scale and becoming mainstream (see case studies 1 and 2).

Case study 2: Community ownership of wind turbines in Denmark

In Denmark, the majority of wind turbines are wholly or jointly owned by citizens, communities, landowners and farmers. 150,000 households in Denmark owned or held shares in wind farm projects as far back as 2001.[44] 29% of Denmark's total electricity generation capacity in 2010 was provided by wind turbines[45]; this high proportion can be partly attributed to the involvement of Danish people.

In recent years the industry has become more 'professionalised' with the development of larger, more expensive turbines. This has meant that partnership models are increasingly common.[46] For example, the Middelgrunden 40MW offshore wind farm outside the Harbour of Copenhagen is a shared ownership partnership between a cooperative and the municipal-owned utility company, DONG Energy.

Factors that led to Denmark's success include: a strong domestic market underpinned by incentives provided through feed-in regulation; capital support for early-stage projects; standardised rules for grid-connection; and tax advantages.[47]

70 We recognise that some groups may have little interest in creating formal partnerships to scale up their ambitions beyond the local, specific nature of their activities. Nevertheless, most groups could benefit from working more closely with other organisations to achieve their goals.[48] These include local authorities, renewable energy developers, other energy and non-energy businesses, local enterprise partnerships (LEPs), housing associations, third sector organisations, farmers and other landowners.

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[42] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48458/5788-low-carbon-communities-challenge-evaluation-report.pdf
[43] Local Energy Assessment Fund evaluation, DECC 2014
[44] Walker, G. (2008) What are the barriers and incentives for community-owned means of energy production and use? Energy Policy 36, 4401–4405.
[45] http://www.ens.dk/en/info/facts-figures/key-figures/danish-key-figures
[46] Schreuer, A. & Weismeier-Sammer, D. (2010), Energy cooperatives and local ownership in the field of renewable energy technologies: A literature review
[47] Schreuer, A. & Weismeier-Sammer, D. (2010), Energy cooperatives and local ownership in the field of renewable energy technologies: A literature review
[48] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2

71 Community energy partnership models are underdeveloped in the UK. This is in part due to the diverse, grassroots nature of community groups, which often require a flexible approach; that does not always come easily to larger private or public sector organisations. Little in the way of intermediary platforms to broker connections between communities and potential partners currently exist. However, as the case studies in the following section highlight, these connections are possible and organisational differences can be overcome to achieve significant results.

72 This chapter focuses on the opportunities for scaling up community energy through:

- Local authorities;
- Partnerships with commercial organisations, including shared ownership; and
- Local partnerships and networks in the wider community energy sector.

3.2 Local authorities

73 Local authorities are uniquely placed to work with communities and other partners to increase the reach and scale of efforts to reduce energy bills, fuel poverty and emissions in their local area. Engaging with community energy can also help them meet wider local government priorities involving community integration and development, economic regeneration and jobs.

74 DECC commissioned research in 2013 funded under DECC's Local Authority Funding Competition 2012/13 found that consumers, including vulnerable consumers, were more likely to take part in schemes if they were organised by their local authority which they viewed as a 'trusted intermediary'.[49] And in a recent survey 26% of people[50] said that they would find support from their local authority helpful if they were thinking about getting involved in community energy.

75 Many of the successful community energy projects both in this country and internationally have had significant backing and support from local government. Our *Call for Evidence* highlighted a large disparity in the level of support offered to community energy groups between different local authorities. In some places local authorities are perceived as having unintentionally undermined projects. The main barriers reported were a lack of capacity and understanding of the benefits of community energy; inconsistency compared with other local authorities in the application of planning rules and consents; and confusion over interpretation of government's energy and climate change targets.

76 Government wants to see all authorities showing leadership to help deliver community energy projects. There are a variety of ways local authorities can catalyse and scale up activity that can also help them meet their own goals. Key opportunities include:

- Guidance, coordination and administrative support
- Partnerships and investment
- Planning and local energy strategy

[49] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation
[50] Research for DECC, January 2014

Guidance, coordination and administrative support

77 Local authorities can be valuable sources of information, data and advice for community energy groups.[51] Responses to our *Call for Evidence* highlighted that local authorities can be particularly helpful in the early stages of project development on funding applications and technical, planning and legal issues. They can also play an important role bringing the right organisations together through local networks and meetings, promoting joint working with the wider community.

78 Some local authorities have a specific community energy contact to deal directly with enquiries providing a vital function in linking up national and local policy with action on the ground and other sources of support. For example, Lambeth Council's Community Energy Officer helps coordinate and drive action within the local authority and the wider community (see case study 3 – Lambeth Community Energy Programme). Bath and North East Somerset Council has supported both energy efficiency and energy generation projects in the area (see case study 4).

Case study 3: Lambeth Community Energy Programme

In 2011, Lambeth Council adopted an energy programme to create viable, community-led renewable energy schemes that would also address fuel poverty, harness local skills and resources, create jobs and work experience and increase the borough's energy resilience and security.

The programme has been a successful collaborative partnership with Repowering London, a community-based organisation that supports community groups in creating their own energy projects across London. Lambeth Council and Repowering London have co-produced three community-owned solar projects on social housing estates in Brixton.

These projects have installed a total solar PV capacity of 132kW through community share offers, raising £180,000 from largely local investors. Not only providing training and work experience for local young people, the projects also generate funds for installation of energy efficiency measures and further training opportunities in some of the poorest housing in the area.

Lambeth Council has supported the programme through officer time and a small fund. Lambeth's Community Energy Officer's work has ranged from being a local facilitator, to acting as a chair and project manager providing strategic direction, quality assurance and business development.

Photo: Young interns installing solar panels on the roof of the Loughborough estate in Brixton, South London

[51] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation

Case study 4: Bath & North East Somerset Council

Bath & North East Somerset Council is committed to community enablement and partnership working, resulting in several successful community energy projects.

In October 2011 the Council signed a Cooperation Agreement with the social enterprise Bath & West Community Energy (BWCE). The Council has enabled dialogue with BWCE across its own teams and with external stakeholders, and provided a pump-priming grant to support project development. This facilitated installation of solar PV on six schools via roof-rental agreements and is laying the foundation for a range of further community solar, wind and hydro projects in the future.

To promote retrofitting of energy efficiency measures, the council set up the Bath Green Homes project in 2012 in partnership with Transition Bath and Bath Preservation Trust. This year 19 Green Homes were opened to the public, receiving over 900 visitors. The project is vital to the council's retrofitting work (see below) and as such was pump-primed by the council and will be supported until it is self-sufficient.

The council has also developed the Energy@Home Partnership to lead a community approach to retrofitting and ensure the best use of government incentives. The Energy@Home Partnership includes BWCE and local social housing provider, Curo Group. It has cross-departmental Council participation so that frontline services can help with the community-based marketing of retrofitting, and is underpinned by a Community Energy Forum. A year-long pilot is underway, and the involvement of community groups has already generated a high number of Green Deal Assessments. The Energy@Home Partnership will go to market shortly to procure a Green Deal Provider partner and an enhanced energy advice service to ensure quality and meet a range of objectives including carbon reduction, fuel poverty and economic development.

79 Local authorities can stimulate collective action by marketing and supporting community initiatives that help increase local trust and confidence.[52] Many have led or supported successful collective switching programmes in the last two years and continue to do so – 74 local authorities across the country participated in a new auction in November. There is now a great opportunity to harness this success and engagement to go further in facilitating all strands of community energy project.

[52] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation

Partnerships and investment

80 Government urges all local authorities to fully explore partnership and investment opportunities for community energy in their local area. Investment in community energy projects – not only renewable projects – can provide a financial return for local authorities as well as helping to de-risk and leverage additional private sector investment in them. This can help build a pipeline of community energy projects and establish local supply chains.

81 A variety of different partnership models and agreements are possible. These include those that involve collaborating on external funding bids; shared use of public land and property to locate and deliver projects; and by opening up procurement processes for energy services to community groups and other social enterprises, including due differentiation between these and profit making enterprises through analysis of local economic and social impacts.

82 Where the business rate retention scheme exists, government encourages all local authorities to reinvest revenues in information, advice, and support services for community energy projects. But we want them to go further in considering using other resources or prudential borrowing (for example from the Public Works Loan Board) to provide capital loans for community energy projects. An example of providing capital loans is the Green Cornwall Programme (see case study 5 - Green Cornwall Programme).

83 LEPs also have a role in encouraging strong community energy enterprises in their areas, given these often involve infrastructure developments and can create and sustain jobs. The allocation of money from the European Regional Development Fund (ERDF) and European Social Funds through LEPs could be a particularly important opportunity since up to 20% of ERDF funds are ring-fenced for low-carbon work.

Case study 5: Green Cornwall Programme

Established in 2009, the Green Cornwall Programme (www.cornwall.gov.uk/green) has a £35m capital budget that projects can bid for. The programme is reducing bills and fuel poverty, generating clean, local energy, and creating local jobs through projects such as:

£1.3m community renewable energy revolving fund. This has agreed its first four loans to community energy groups, including Gorran community wind turbine (pictured below). These projects will generate enough electricity to power 145 homes.

Glow Cornwall (www.glowcornwall.co.uk), which aims to reach 20,000 households and has already completed the installation of measures in over 100 households. It also aims to employ around 120 people.

Cornwall Together (www.cornwalltogether.com), a collective switching programme part-funded by DECCs Cheaper Energy Together scheme, which has so far switched 3,500 households and delivered a total saving of nearly £300,000.

7MW of installed renewable electricity capacity on Council land including the first local authority owned solar farm.

Photo: Community wind turbine owned by Community Power Cornwall at Gorran in Cornwall.

Planning and local energy strategy

84 The role of local authorities in the planning process is another key area. The National Planning Policy Framework[53] (NPPF), which was published in March 2012, states that local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable and low carbon sources, and support community-led initiatives for renewable and low carbon energy sources.

85 In July 2013 DCLG issued planning practice guidance for renewable and low carbon energy, which encourages community initiatives, and says 'local planning authorities may wish to establish policies which give positive weight to renewable and low carbon energy initiatives which have clear evidence of local community involvement and leadership.' [54] The new guidance also underlines that protection of landscapes, heritage and local amenity should be given proper consideration.

86 The guidance highlights that neighbourhood plans are an opportunity for communities to plan for community led renewable energy developments. Neighbourhood planning was introduced in 2011 and allows communities to come together to shape where and what type of development is permitted in their area. Over 850 areas have applied to their local authority to designate a Neighbourhood area. Creating a neighbourhood plan can be an opportunity for communities to start a conversation about energy use and generation in their area and incorporate this into their plan. Case study 6 gives examples of neighbourhood planning engaging with renewable energy.

Case study 6: Examples of neighbourhood planning engaging with renewable energy

Many areas are promoting small-scale renewable energy generation as part of their neighbourhood plan. In Balsall Heath, Birmingham, one of their goals is to make one of the main aims for the plan 'to improve the availability of renewable energy and sustainable waste management facilities'. The plan also calls for the possibilities of a local stream generating hydroelectric energy to be investigated. The community hope to bring the plan into force in 2014.

In Broughton Astley, Leicestershire, their plan has passed examination and will go to a referendum of local residents in January 2014. The village's plan strongly supports the use of renewable energy solutions as part of new developments and specifies that such solutions should be used on the two sites the plan puts forward for development. These include 310 new homes, new businesses, a community centre and a medical facility. The community back this with 86.2% of those responding to a residents' survey supporting renewable energy as part of new developments.

In Allendale, Northumberland, although the Parish Council was in favour of renewable energy micro-generation in general, they felt that certain recent developments had been poorly designed and sited. This experience moved them not only to promote small scale renewable energy in their plan but also to provide guidelines for the siting and use of the equipment. Allendale hopes to submit their plan for examination this year.

[53] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[54] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225689/Planning_Practice_Guidance_for_Renewable_and_Low_Carbon_Energy.pdf paras 17-18, pg 6

87 Responses to our *Call for Evidence* suggest that in many cases the local planning authorities need to have more positive policies and practices in support of community led projects. The Planning Advisory Service provides free, tailored advice and support to local planning authorities on writing local planning policy documents.[55]

88 Respondents to the *Call for Evidence* also cited several examples of practical planning support for community energy projects provided by local authorities. These included free or reduced cost pre-application advice; planning officers attending local community energy projects or workshops to learn and provide planning advice; supplementary planning guidance providing a clear indication of the types of projects that would be supported; and neighbourhood planning support.

Realising our vision: Driving local authority action on community energy

89 The Secretary of State has written to all local authority Leaders in England calling for more recognition of the positive benefits that community energy can provide, and a step-change in the support offered to projects. Community energy offers significant opportunities with regards to the local authority policy context, including reducing fuel poverty and increasing economic regeneration, and the letter sets out a range of possible options local authorities are encouraged to pursue. The Welsh Governments Housing and Regeneration Minister has written to all local authorities in Wales.

90 The new Planning & Permitting Working Group established as part of the work for this Strategy will address barriers and potential solutions in this area, reporting back to the Secretary of State in summer 2014 (see Section 6.5).

91 The government will convene a national Communities and Local Government Conference in autumn 2014. This will review early progress and assess the various community energy initiatives launched since 2010, including this Strategy, with a focus on leveraging community energy partnerships in the future. The Conference will be delivered in partnership with the Low Carbon Hub, Oxford City Council and Oxfordshire County Council. It will bring together influential leaders in this space, providing a platform to disseminate and build on best practice. It will also facilitate feedback to government from community groups and local authorities to inform national policy.

92 Neighbourhood planning offers a real opportunity for the growth of community energy where communities identify this as a priority for their neighbourhood. DCLG will work with DECC to coordinate the work of advice and support services in order that communities considering including policies or proposals for community energy in their neighbourhood plan or through a neighbourhood development order have access to advice, best practice on neighbourhood planning for community energy, together with information on existing examples.

[55] http://www.pas.gov.uk/

3.3 Community partnerships with commercial organisations

93 Where communities are involved in commercial energy installations, for example through shared ownership, the community can develop a stronger sense of ownership. Evidence from other countries suggests that this increased engagement of communities increases acceptance and support for large low-carbon infrastructure. [56,57,58,59] This can translate to greater understanding, less opposition and a quicker, cheaper development process. There may also be additional benefits such as increased awareness of energy and climate change issues and strengthening communities.

94 Larger projects have the potential for good returns on investments, but may also have high costs and risks. Commercial organisations will often have skills, resources, investment and ability to hedge risk that community groups do not. Working more closely with commercial partners can be an effective way of achieving shared objectives – each party taking some of the risk, contributing finance and receiving financial returns.

95 Responses to our *Call for Evidence* and DECC's Onshore Wind Consultation[60] provided a range of possible models for community involvement in renewable energy developments, including different models of shared ownership. These include:

- Community benefit payment per megawatt installed that is paid by a commercial developer into a community trust fund ;
- Partial ownership whereby a community invests into a commercial scheme, through a share offer or other means;
- Joint ventures where a 'special purpose vehicle' is formed between the community and commercial developer to own and manage the installation together (see case study 7 - Neilston Community Wind Farm).

96 For electricity generation in particular, independent modelling suggests that partial-ownership or joint ventures with a commercial developer could deliver over 50% of the potential community capacity for renewables projects. This could equate to over 1.5GW of new projects with some level of community ownership by 2020.[61]

97 Shared ownership models with community groups can offer developers and other energy companies significant value through access to new business opportunities and new customers. An expansion of these types of models would unlock a significant additional source of investment for energy infrastructure in the UK. Communities have already invested around £17m in community renewable electricity through 40 community share offers, and investment is growing rapidly. If the current growth rate is maintained, independent

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[56] http://www.embark.com.au/download/attachments/2889510/Warren++Does+Community+Ownership+Affect+Public+++++Attitudes.pdf
[57] http://www.carboncommentary.com/2013/06/12/3108#more-3108
[58] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf
[59] Schreuer, A. & Weismeier-Sammer, D. (2010), Energy cooperatives and local ownership in the field of renewable energy technologies: A literature review
[60] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205423/onshore_wind_call_for_evidence_response.pdf
[61] *Community Renewable Electricity Generation: Potential Sector Growth to 2020*, independent modelling for DECC: https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020

modelling estimates this could rise to more than £320m by 2020, or as much as £1.5bn under the most optimistic scenario.[62]

98 The onshore wind industry's new community benefits protocol[63] commits to a fivefold increase in the amount that developers pay to communities. It means that, in England, community benefits packages should be worth at least £5,000 per MW of installed capacity for communities every year. DECC is working to help communities that host wind farms negotiate an appropriate benefit package, and we will produce guidance by spring 2014 that will set out how communities and developers should work together to agree how the money should be used. It will also set out how developers can work in partnership with local communities to offer them a stake in a windfarm.

99 There are also opportunities for effective partnerships between communities and commercial organisations in other areas, such as the roll-out of energy efficiency measures or renewable heat technologies.

100 However, despite the many potential advantages of partnerships with commercial organisations there are barriers to these models being well-understood by both sides. Cultural and operational differences can be an issue. Perhaps the biggest of these is that it is difficult for relationships to become established or sometimes even for key actors to identify each other. There is a need for better dialogue and greater transparency between industry and community groups to increase understanding of opportunities for collaboration.

[62] *Community Renewable Electricity Generation: Potential Sector Growth to 2020*, independent modelling for DECC: https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020

[63] http://www.renewableuk.com/en/publications/index.cfm/community-benefits-report

Realising our vision: Facilitating industry-community models on shared ownership

101 The renewables industry has committed to facilitate a substantial increase in the shared ownership of new, commercial onshore renewables developments and is already developing ever more ambitious and innovative approaches to community engagement and benefits, including some good examples of shared community ownership.

102 The Secretary of State for Energy & Climate Change has asked an industry taskforce to work with the community sector and report back to him by summer 2014. This report will include a robust framework and timetable for implementation. In addition to identifying measures to increase community ownership of new commercial developments, the taskforce will work with community energy groups to set an overall level of ambition for community ownership of new renewables developments (including both wholly and partly community-owned developments).

103 We expect that by 2015 it will be the norm for communities to be offered the opportunity of some level of ownership of new, commercially developed onshore renewables projects. We will review progress in 2015 and if this is limited, we will consider requiring all developers to offer the opportunity of a shared ownership element to communities.

104 We will establish a Community Benefits Register for onshore wind in spring 2014. This will provide a tool to record publically the range of benefits offered from different projects in a transparent manner and will help support communities in engaging and negotiating benefit packages with developers, which may include shared or joint ownership of the development. We will closely monitor the operation of the Register and its impact on supporting community benefits, and will consider future options for extending it to other technologies.

105 DECC is also developing guidance to accompany the Community Benefits Register, setting out how developers can work in partnership with local communities to agree community benefit packages, including those which offer a stake in a windfarm.

Case study 7: Neilston Community Wind Farm

Neilston Community Wind Farm LLP (NCWF) near Glasgow owns and operates a 10MW four-turbine wind farm. It is a shared ownership project between Neilston Development Trust (NDT) and Carbon Free Developments Ltd (CFDL).

NDT wished to secure long term income to fund projects outlined in the community's 'Town Charter' – the regeneration plan developed by NDT and the Neilston community. Operating a wind farm offered attractive cash flows to NDT, but it had no access to high risk development capital, limited technical knowledge and was largely reliant on volunteer input.

The solution was shared ownership, whereby CFDL would identify, fund and develop - at its own risk - the pre-planning consent studies and applications. NDT agreed to support the planning application in exchange for an 'option-to-purchase' up to 49.9% of the equity, should planning consent be received. Conversely, if consent was not granted NDT could walk away, owing nothing.

The project was granted full planning consent in May 2011. The total capital expenditure was £15.5m, requiring £3.0m of shareholder equity to complete the funding. NDT accessed 28% of the NCWF equity through equity loans from a range of social lenders and the Scottish Government. This stake is expected to return more than £10m to NDT over the project's life. The wind farm commenced construction in March 2012 and was officially opened in May 2013.

The project has had a range of technical, social and political challenges to overcome. The 'Town Charter' provided NDT with a robust rationale to offer a vocal minority of local critics and has supplied the framework for the future allocation of funds. Meeting these challenges together has helped forge a strong and productive partnership between NDT and CFDL.

3.4 Local partnerships and networks, and the wider community energy sector

106 Third sector organisations such as the Centre for Sustainable Energy (CSE) and its website PlanLoCaL, Community Energy Scotland, National Energy Foundation, PURE Leapfrog, Co-operatives UK and other regional energy agencies currently play a critical role in providing expert information, advice and support to community energy groups.

107 More established community energy organisations such as Energy4All, Low Carbon Hub, Communities for Renewables, Bath & West Community Energy and Repowering London are also key players in developing the market. These organisations can promote learning by acting as role models and mentors to less developed community energy groups without losing the creativity and empowering elements of community ownership. Many of these organisations also provide professional support services to those without the necessary skills and knowledge.

108 Both third sector and community organisations can act as intermediaries in brokering partnerships. In so doing they can make it easier for public and private sector organisations to communicate and co-operate with communities. The role of expert and peer advice in supporting community energy is covered in Section 4.3.

109 Community energy networks, such as Bristol Energy Network (see case study 8), can promote more effective working between community energy groups and other actors as the sector grows. Better coordination of activities can provide an increased density of work, economies of scale, and a broader and deeper depth of engagement with local communities.

Case study 8: Bristol Energy Network

The Bristol Energy Network is an umbrella organisation for community energy groups in Bristol and the surrounding area. It has a diverse membership, including Transition and neighbourhood energy groups, energy co-ops, small consultancies and innovation start-ups, installers and architectural practices, housing associations and interested individuals. It aims to facilitate and promote the diverse activities undertaken by its members by:

- Cascading information from local partners and national organisations;
- Acting as a conduit between local groups and external organisations; and
- Providing an open platform for the sharing of resources, ideas and debate through regular open meetings.

The network model has enabled organisations like the CSE, Bristol City Council, the Universities of Bristol and the West of England and the Bristol Green Capital Partnership – to support to groups in the Bristol area more efficiently.

Many of the groups have observed that they would not have got so far so fast without the opportunities to network, support and share learning – some report they started up as a result of the network. Informal peer mentoring and sharing ideas and experiences together with regular meetings provide the basis for action-focused partnerships to form.

The publication of the Bristol Community Strategy for Energy, through a collaborative process, is now catalysing the development of new relationships and even more action across the city: http://www.bristolenergynetwork.org/strategy.

Photos: Members' activities include the Solar Tree project, collaborative planning and liaising with local agencies & leaders.

Realising our vision: a new partnership between community energy groups

110 Now that community energy in the UK is beginning to grow from its initial low base, practitioners in the sector are exploring collaborative actions which they can take to support this growth. Leading community energy enterprises met in late 2013 and are taking forward an action programme aimed at:

- Developing the vision for the community energy sector;
- Forming a representative body (alongside existing organisations in other parts of the UK such as Community Energy Scotland and Community Energy Wales);
- Sharing best practice;
- Fostering links between community and commercial energy developments;
- Working with local and national government to support the implementation of the Community Energy Strategy.

4. Capability and capacity

4.1 Capability and capacity barriers can hold community energy back

111 Community energy projects are more likely to succeed where there is access to the right information, advice and expertise, and where members of the group have the necessary time, dedication and skills. Responses to our *Call for Evidence* revealed a range of capability and capacity barriers which can prevent community energy schemes of all types from reaching their full potential.

112 This chapter focusses on:

- Access to reliable information and advice;
- Skills and expertise;
- Having enough dedicated and enthusiastic participants able and willing to devote their time to community energy.

4.2 Access to reliable and relevant information and advice

113 There is a wealth of information potentially available to support communities seeking to get involved in energy activity.

114 Respondents to the *Call for Evidence* cited 87 separate sources of information and advice relating to community energy. The complexity and fragmented nature of this information means that it can be difficult for communities to navigate existing resources to find the advice they need, and they may need help in identifying which are most relevant, reliable and up to date. This is particularly true for England, where there is no central body to support community energy. When asked 31% of people[64] said that they would find having easy access to information about community energy helpful if they were thinking about getting involved

115 Centrally available information and guidance is often generic in nature, and is not always tailored to local situations and audiences. Access to specific guidance and assistance with finance and legal issues is a particular challenge.

116 Face-to-face advice, including advice from local peers and expert advice, can work alongside information resources to help fill these gaps. The role of expert and peer advice in supporting community energy is covered in Section 4.3 below.

Realising our vision: One stop shop information resource

117 We are working with the community energy sector to develop a 'One-Stop Shop' information resource for community energy groups and their partners. Government will provide seed-funding for start-up costs, with the aim of producing an independent and self-sustaining resource managed and led by the community energy sector. The One Stop Shop will be delivered via a multi-channel approach, and will include a range of services and resources that will help build the capability and capacity of community energy. We envisage this including an open database of community energy specialists and resources such as guides, shared templates and protocols. We aim to procure a provider in 2014.

[64] Research for DECC, January 2014

4.3 The right mix of skills and expertise

118 Community energy projects require a wide range of skills to be successful. Although many community energy groups have some specific expertise thanks to the professional backgrounds or previous experience of their membership, it is rare to find the full range of skills needed among members of a single project, including:

- Community engagement and consultation;
- Financial and accounting skills;
- Project management and delivery;
- Website development;
- Business planning;
- Monitoring, evaluation and impact assessments;
- Civil and electrical engineering;
- Planning expertise;
- Legal knowledge.

119 Lack of this range of skills can lead to projects failing to get started, running out of steam halfway through, or limiting their ambition at the outset. All of these can prevent community energy from achieving its potential.

120 Furthermore, skills and knowledge are not evenly distributed between communities, meaning some are less able to participate. This effectively limits the potential of community energy to those communities which happen to have the right balance of skills – potentially preventing those who could most benefit from community energy from accessing the benefits, and restricting the potential growth of the sector.

121 Even where members of community energy projects have relevant skills, they will still have to invest time and effort in learning about the process and overcoming the challenges of undertaking a community energy project. There is potentially a great opportunity to share this learning and experience with other groups to avoid them 're-inventing the wheel'.

122 Many established community energy groups which responded to the *Call for Evidence* reported receiving numerous requests for help and support, and they were generally keen to share their skills and knowledge where possible. However, their ability to respond is often limited by members' inability to take time off work or away from their own projects, or a lack of resources to meet costs such as travel expenses. Some groups report being overwhelmed by the volume of requests for help. In Wales, the Renew Wales programme has recently launched a peer mentoring scheme for community energy in an attempt to address this issue (see case study 9 – Renew Wales).

Realising our vision: A peer mentoring scheme for community energy

123 In November 2013 the government launched £500,000 Peer Mentoring Fund for community energy, jointly run by Cabinet Office and DECC. This new fund invited community energy organisations and intermediary groups to come forward with proposals to offer peer-to-peer support and mentoring to help other community energy groups develop their project and provide new opportunities for social action.

124 The fund will also be used to cover outreach activities and dissemination of knowledge, and will be evaluated to build up an evidence base on the effectiveness of peer mentoring.

125 The fund closed in December 2013, with groups receiving funding in early 2014.

Case study 9: Renew Wales peer-to-peer support programme for community energy

Renew Wales (Adfywio Cymru) was set up to help community groups tackle the causes and impacts of climate change through advice, training, mentoring and technical support from other experienced community practitioners. The scheme was set up with a £620,000 grant from the Sustainable Steps programme, delivered through the Big Lottery Fund .

Support is provided from peer to peer, by people who have already delivered projects in their communities.

Thirty coordinators across Wales each work with at least five community groups, connecting to small community organisations and linking them to a pool of Peer Practitioner Mentors. Coordinators can spend up to three days to help groups develop an action plan and identify relevant support, including through the Peer Mentors who are able to offer a further two days of support. Renew Wales direct specific expertise to groups when they need it, at key stages of the projects' development, for example in writing effective funding bids or getting in specific knowledge and expertise.

Four of the projects that have received support are tackling the energy efficiency of community buildings, five are undertaking awareness raising activities, and others are developing a solar PV cooperative. A wide range of groups have engaged with Renew Wales, from small scale community organisations wishing to develop local ideas, to more established groups with a clear goal.

Renew Wales aims to use the experience from community groups, practitioner and pioneers to support, inspire and engage a new wave of communities, building a network of support which can thrive after the initial two-year funding. http://www.renewwales.org.uk/

4.4 Dedicated and enthusiastic participants

126 Many community projects rely on a core group of participants to drive the project forward. This requires real dedication and often a large time commitment.

127 In much community energy activity, participants are involved on a voluntary basis. Volunteer involvement can be part of what makes these projects so dynamic and so effective. However, it can also present a major challenge to long-term sustainability.

128 Reliance on a particular individual or small group of participants, particularly where they are volunteers, means community projects can be very vulnerable to changes in circumstance. For example, when a leading member needs to reduce their involvement due to family or work commitments, projects can lose momentum.

129 Maintaining enthusiasm over a long period of time is a particular challenge. This is particularly the case for more complex projects which can take years to come to fruition, and which may encounter many hurdles along the way.

130 Several respondents to the *Call for Evidence* mentioned the importance of paid staff in providing continuity, driving projects forward and helping co-ordinate voluntary activity. For many community energy groups, this role is played by local authorities or community energy support organisations. Some groups who develop their project to the point where they generate income may choose to take on paid staff to help scale up their activity.

131 Enthusiasm and buy-in within the wider community is also an important factor. Some groups felt that lack of interest in or understanding of energy issues in the wider community

can be a barrier to success, even with the most committed and enthusiastic group of volunteers.

132 Where there may be local opposition to new energy infrastructure, this can be an additional barrier. It is important that community energy projects are able to get as much support from the wider community as possible, and to have a plan for addressing any concerns people have about local impacts.

133 Respondents to our *Call for Evidence* reported that a lack of sense of 'community', a lack of spare time or lack of interest in collective action made it difficult to make headway in some cases. The level of interest and engagement in the wider community can be influenced by the characteristics of the community, including community composition and working patterns and wider social and economic situation in the community.

Realising our vision: Supporting and enabling social action

134 The government is committed to creating and encouraging social action and empowering local communities. Support for community energy is part of this wider programme of support for community-led action. The government has a range of support to make it easier for people to give their time and skills to society and their local community. This includes:

- Community First – an £80m government-funded programme that will run until March 2015, and will support communities to come together to identify their strengths and local priorities, to plan for their future and to become more resilient. Community First funding has already helped communities get involved in energy projects in communities across the UK (see case study 10).
- Training 5,000 Community Organisers by 2015, who will empower local people to improve their area by identifying local leaders, projects and opportunities within the community. Case study 11 gives an example of Community Organisers supporting people to take action on energy issues.
- Recognising and rewarding community action through awards such as the Queen's Award for Voluntary Service.
- Encouraging civil servants to spend at least one day a year volunteering – a total of 30,000 volunteering days per year.
- Providing financial support through the Social Action Fund to organisations such as Vinspired and the Citizenship Foundation which promote social action to new audiences.

Case study 10: Community First fund and community energy

The Community First Neighbourhood Match Fund is a Cabinet Office funded programme where 600 volunteer panels in England's most deprived wards decide how to allocate £30m of government money. The community must match the cash from government with local donations – which can include 'in kind' donations of goods and time. To date, Community First panels have distributed over £14m to 9,000 community projects across England. This has been matched with nearly £50m, including just under £8.4m in cash and 2.5m volunteering hours. Many panels have chosen to fund projects which reflect the concerns of their residents with energy prices.

Ham and Petersham Community First Panel funded the Ham United Group £1,400 to run an Energy Advice and Information Service. Richmond Council offered the group space for a permanent energy advice and information service in the newly refurbished Ham Library. The library now houses a wealth of energy advice leaflets and an energy efficiency display highlighting the low carbon achievements of the community and information on ways to save. Weekly volunteer-run drop in sessions will provide impartial advice on how to minimise energy costs and make the most of the options available. This work builds on the expertise the community built up as a Low Carbon Zone, where a network of volunteer 'street champions' used social marketing and home visits to encourage behaviour change, reducing carbon emissions by 19%.

Case study 11: Community Organisers

The Community Organisers programme is about inspiring action at a neighbourhood level. Organisers listen to the concerns and aspirations of people in their area, build relationships and help people take action on their own behalf on the local issues that matter to them.

The Community Organisers programme, run by Locality and funded by the Cabinet Office, will train 500 community organisers around England by 2015. These organisers will recruit a further 4,500 volunteer community organisers.

Victoria Gallagher is a community organiser working in Ashington, Northumberland.
When a member of her community told her she was struggling to pay her fuel bills, Victoria was able to offer practical advice.

Victoria said: 'One of the mums in the school yard was concerned about the amount she was paying for her gas and electric. I asked if she knew anyone else who might have similar concerns. 'Everyone' she replied.

'We had a chat about how to save on energy bills and I mentioned a scheme the council were running, to get people together and get the suppliers to bid for their custom. Denise loved this idea and has decided to round up her friends and family so they can all use this scheme and reduce their bills.

'Getting people together to work as a whole to better their prospects is what community organising is all about and if sign-posting helps get people started, I'm happy with that.'

5. Measuring impact

5.1 Building the evidence base for community energy

135 It is important to have a good evidence base for community energy, both at the national level and at the local level. At the national level, it is needed so that we can learn from past experience and develop effective new policies.

136 At the local level, monitoring and evaluating different community energy activities helps groups maximise their chances of success and increase their impact. This learning, from projects whether successful or unsuccessful, can be usefully shared with other groups so that they also benefit.

137 Community energy groups value opportunities to share learning.[65] Evaluation can also help motivate communities by highlighting their achievements. For example in case study 12, a group in Urchfont, Wiltshire, identified the financial and carbon savings that had resulted from their activities.

138 Community energy groups need to be able to demonstrate their financial sustainability and wider social benefits to secure investment, both from their local community and from other sources. They also need to be able to demonstrate how they will address any local impacts of their activities which may be perceived as negative by some residents. An evidence base from previous work or other similar projects is important to allow them to make the case.

Case study 12: Urchfont Climate Friendly Group monitoring the outcomes of their projects

In the village of Urchfont in Wiltshire, the Climate Friendly Group, initially under the auspices of the Parish Council, carried out a number of activities with the support of the local Council and the Wildlife Trust to promote a more sustainable lifestyle with initiatives related to energy efficiency, waste reduction and locally produced food.

Several pilot schemes were undertaken. These included an energy efficiency project with 18 households, involving detailed surveys of fuel consumption over a one-year period. Advice and support were provided on energy saving improvements including low energy light bulbs, radiator panels, draught proofing and pipe lagging, and in some cases more ambitious improvements to boilers and windows. Evaluation of this work by the group showed that it resulted in estimated savings of 34 tonnes of carbon per year. One household saved more than 50% of their heating oil bill. Reports at key stages of the pilot studies were written by volunteers with assistance from council and wildlife trust staff.

The Climate Friendly Group now exists within the Redhone Community Trust, a company limited by guarantee, which aims to promote sustainable projects and good living in their community.

[65] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48458/5788-low-carbon-communities-challenge-evaluation-report.pdf

139 *Community Energy in the UK: A review of the evidence* found that the current evidence base is limited in scope and quality. In response to our *Call for Evidence*, we received many examples of limited evaluation of community energy initiatives, and DECC has carried out some evaluation of programmes it has funded in this area.

140 There is currently a wide range of approaches to evaluating projects, and many activities are not subject to any evaluation at all. Around half of community energy projects have done some form of monitoring and evaluation.[66] This was carried out either by their own members or in collaboration with academic researchers. A small number of responses to the *Call for Evidence* described 'evaluation fatigue' whilst several other responses indicated that groups did not see any benefits at all in evaluating their projects.

141 Based on responses to the *Call for Evidence*, we have identified one main barrier to effective monitoring and evaluation of community energy activities: community energy groups find it difficult to measure the outputs and outcomes of their activities in a way that enables comparison with other groups, due to a combination of complex data (that seems difficult to measure), lack of knowledge about methodologies to examine the data, and a lack of volunteer time.

142 The rest of this section explores this barrier in more detail and explains the action government and others are taking to address it.

5.2 Improving resources for measuring the impact of community energy

143 DECC convened a workshop in September 2013 to discuss monitoring and evaluation in the community sector with representatives from a variety of organisations including intermediaries, academics and independent researchers. One clear theme emerging from this and the *Call for Evidence* was that easy-to-use tools to measure different types of projects are not available to community energy groups.

144 Where the impact of community energy activities has been measured, simple quantitative measures were favoured. These include the power output of renewable generation installations, income generated, amount of insulation installed, expenditure on the project or numbers of people attending events. Social impacts are harder to measure, but to gain a comprehensive picture of the outcomes of community energy, it is important that these are also considered. Similarly, it is important to be able to measure the environmental impacts of community energy projects.

145 There is currently a range of tools and resources available to community groups, some of which are free, and others which require paid membership of a variety of organisations. No common methodology for measuring different outcomes is currently used, making it hard to make meaningful comparisons between projects. To devise bespoke methods for evaluating a particular initiative or to tailor available resources to an individual project requires skills which not all community energy groups may possess. This is not only a problem for groups wishing to compare the effectiveness of different approaches, but also in building a more comprehensive picture of the outcomes from community energy across the UK.

[66] Hamilton, J. (2013) *Community Monitoring and Evaluation methods survey report and analysis,* EVALOC, Oxford

146 In some cases, evaluation of community energy activities has been carried out to meet the requirements of funders. Examples of this include the evaluation of the LCCC[67], LEAF[68] and the DECC Local Authority Competition.[69] In other cases, evaluation was not part of the original specification and has been added afterwards, hampering collection of baseline data and making it harder to measure the impact of activities. Respondents to our *Call for Evidence* reported that a lack of specific funding for evaluation meant it was often a low priority activity for groups.

147 Another concern raised through our *Call for Evidence* was that where evaluation is carried out, it tends to be fairly immediate. This means that data on benefits and outputs realised over a longer timescale is not captured so that, for example, longer term behavioural changes as a result of community energy interventions are not known.

148 Currently it is hard for community groups to find out the energy consumption of households and businesses participating in their projects without frequent labour-intensive meter readings. This makes evaluation of these activities difficult and time-consuming.

149 Another part of the difficulty in measuring the outcomes of community energy is the time required. For projects dependent on volunteers, it can be difficult to set aside time for surveys, meter readings or interviews in preference to other activities required to keep the community energy group going.

Realising our vision: better resources for measuring impact

150 There is considerable enthusiasm within the community energy sector, in universities and in other organisations which support community energy groups, to improve the measurement of impact of community energy through monitoring and evaluation.

151 In 2014 we will commission a One Stop Shop information resource. This will include resources for communities to measure and evaluate their activities. We hope this will enable case studies of good practice to be shared and the learning from community energy to be shared widely so that more communities can benefit from others' experience. To enable projects to compare their data, we also encourage groups to share their views on the different tools available to develop a consensus on those most suited to different types of projects.

152 There are several examples of academic studies in partnership with community groups, and we encourage the results to be shared widely. One example is the 'Monitoring and Evaluation for Sustainable Communities' project. This is funded by the Economic and Social Research Council (ESRC), was launched on 1 December 2013 and will run for one year. It is a Knowledge Exchange project that will bring together researchers from the University of Oxford, members of UK low carbon community groups, the Transition Network, and Low Carbon Communities Network to trial monitoring and evaluation tools within community groups. The project builds upon a recently completed' knowledge exchange' pilot project funded by the University of Oxford's Higher Education Innovation Fund (HEIF).[70] Overall, the project aims to explore the feasibility of constructing monitoring and evaluation tools that meet the

[67] https://www.gov.uk/government/publications/low-carbon-communities-challenge-evaluation-report
[68] Local Energy Assessment Fund evaluation, DECC 2014
[69] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation
[70] http://www.geog.ox.ac.uk/research/technologies/projects/monitoringandevaluation.html

needs of community groups while also facilitating cross-group comparisons and aggregation of outcomes.

153 DECC recognises its role in building the evidence base on community energy, and has this year carried out evaluation of the LEAF competition. Through LEAF, 236 community-led organisations were awarded a total of £9m to undertake activities such as opportunity and feasibility studies, demonstration projects, awareness raising, covering both energy efficiency and renewable energy projects. This research provides an overview of how LEAF funding was spent, factors that supported or hindered success, and the role played by community engagement in the projects.[71]

154 Monitoring and evaluation will be carried out on the UCEF and RCEF. For the £80m Green Deal Communities scheme, the evaluation will look at the impact of community energy group involvement in Green Deal Communities schemes.

155 In order to understand the effects of this Strategy on the types and locations of community energy projects, we plan to survey the sector again in two years' time. This survey would be a partnership with the networks of community energy projects to ensure wide distribution and maximise response rates. DECC will publish the results of this survey.

156 In our *Call for Evidence*, we received requests to make energy consumption data more readily accessible to assist energy saving projects in measuring their impact. DECC currently publishes local level data on gas and electricity consumption on an annual basis[72], and is able to provide small amounts of household level data to groups or academics on request, if they send copies of the relevant consent forms. Smart meters will be a better long-term solution which will enable Community Energy groups to access energy consumption data, as long as certain steps are taken, including obtaining consumers' consent. This will make monitoring and evaluation of such projects easier and less time-consuming.

[71] Local Energy Assessment Fund evaluation, DECC 2014

[72] https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/mlsoa-and-llsoa-electricity-and-gas-estimates

Case study 13: Evaluating Low Carbon Communities (EVALOC)

The EVALOC research project is led by Oxford Brookes University in collaboration with the University of Oxford. The work is funded by Research Councils UK's Energy and Communities Programme and brings together building science and social science based researchers. The researchers worked in partnership with six communities who took part in DECC's LCCC.

EVALOC has assessed and explained changes in energy use in the participating communities due to their LCCC activities, looking at both the household and community level. At community level, 14 focus groups and community events have increased understanding of the role of community groups in changing energy behaviours and reducing energy use. Emerging findings show that community events are important in facilitating knowledge exchange, promoting learning and increasing motivation. The focus groups have reviewed the impacts of the LCCC capital grants on community engagement and social networks as well as the roles of the community energy groups.

The researchers have developed a robust approach to evaluating the impacts and effectiveness of community-led renovations of homes and behaviour change initiatives on household energy use. They have used methods including smart energy metering data, thermal imaging surveys, semi-structured interviews, occupant diaries and social network analysis. To help community groups reduce energy use a carbon mapping tool called DECoRuM is also being used to measure, visualise and communicate house-by-house energy use and the potential for carbon savings. Emerging findings suggest that behavioural interventions can reduce gas consumption but have less effect on reducing electricity consumption. Despite this, behavioural interventions appear to positively influence attitudes, knowledge and capacity in individuals.

The EVALOC project is developing a Community Energy Toolkit that includes materials and guidance for community energy projects to capture what they have learnt from the project. The toolkit also includes methods for monitoring and evaluation of household energy use as well as carbon mapping tools to help groups identify, action and monitor energy projects in their communities.

Further information is available from Prof Rajat Gupta, rgupta@brookes.ac.uk or www.evaloc.org.uk

Ministerial Vision

Rt Hon Gregory Barker, Minister of State

Our Community Energy Strategy marks a sea change in the way we approach powering our homes and businesses. It has been the result of a great deal of team work. As a minister, I have been hugely impressed over the last four years by the determination of community organisations, new energy entrepreneurs and the brilliant groups of local residents who are pioneering new ways of generating and consuming energy on their doorstep.

Just as in recent years we have seen local food economies take off, so I believe that energy can be generated much closer to the point of use and by the people who need it. The proliferation of cost effective clean technologies that can now be deployed easily, means communities have more energy choices and options than ever before. This is bringing communities together and helping them save money – and make money too.

Government, both local and national, should be a reliable and ambitious partner to help unleash this potential and assist communities to achieve their ambitions. We want to help more consumers of energy become producers of energy and in so doing increase choice and competition, helping to further break the grip of the dominant big energy companies. Decentralised energy has finally come of age under the Coalition but we have only just begun to tap the potential of our communities. This means communities not just generating energy for their own use but also exporting it into their local grid. Businesses, community groups and charities, public buildings as well as public sector and private housing can all be part of this revolution.

But we mustn't stop there. Local energy entrepreneurs and energy cooperatives have the potential to really make a difference at scale. Not just a few eco-exemplars but right across the country, in rural Britain and in our city centres. I want the Big 6 to be challenged by an army of new entrants, that I call the 'Big 60,000'.

Jobs, growth, investment, resilience, lower bills, higher energy efficiency, a cleaner, greener environment and stronger communities all spring from this agenda. By empowering communities to generate energy locally, we can also raise awareness of the imperative of saving energy too. It is a win all round.

6. Generating electricity

6.1 Supporting the community electricity generation sector to grow

157 Community electricity generation projects are the most established part of the community energy ecosystem (see Section 2 – Community Energy Today). The recently published Renewable Energy Roadmap outlines the role of community energy in meeting the UK's future renewable energy needs for the first time.[73]

158 Nevertheless, the community electricity generation sector is still in the early stages of development and has the potential to contribute far more. As with any sector at this stage of development, there are a number of barriers to growth.

159 In addition to the cross-cutting issues discussed above, the *Call for Evidence* and informal consultation with stakeholders indicated that the specific issues for community electricity generation can be largely broken down into four areas:

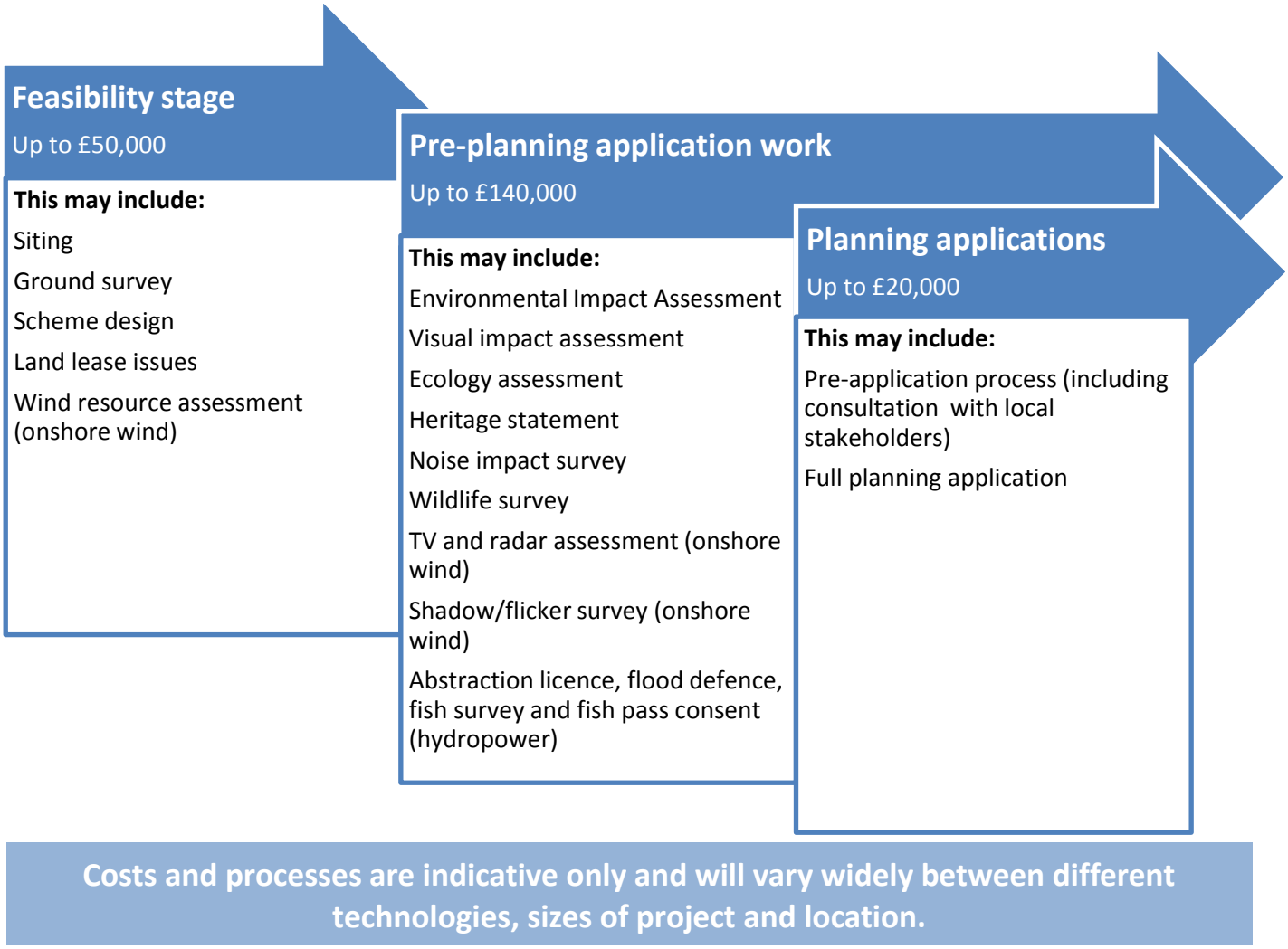
- **Access to investment**
- **Reliable income streams for the electricity generated**
- **Ability to supply consumers directly**
- **Difficulty in navigating systems related to regulation, planning and network access**

6.2 Helping community electricity projects to access investment

160 Access to investment is critical to the success of community energy projects. Figure 3 shows the different phases of a community electricity generation project, before construction and the major investment begins.

[73] https://www.gov.uk/government/publications/uk-renewable-energy-roadmap-second-update

Figure 3: Indicative costs of community electricity project (pre-construction phase)



161 During the feasibility and planning stage – before it is certain that the project will go ahead – community energy projects can struggle to attract investment. Unlike larger commercial organisations, community groups usually have neither assets to borrow against nor a portfolio of potential projects over which to spread the risk. The result is that project development finance is usually entirely 'at risk', such that if the project does not go ahead all the money is lost. Depending on the technology and scale of the project, more than £100,000 can be required at this point. Private sector investors are rarely interested in providing such finance.

162 Once the project has passed the 'at risk' stage, it requires project finance for construction. At the point of requiring project finance, a community energy group should have a project with a sound business case, which includes clear income streams through FITs or Power Purchase Agreements (PPA). Costs can also rise due to unforeseen problems. Ultimately such issues can prevent some projects from being completed.

163 The findings from LEAF showed that a lack of access to funding after LEAF was a factor behind 12% of online survey respondents reporting 'no additional activity since LEAF'.[74] Communities are often looking for project finance in the range of a few hundred thousand

[74] Local Energy Assessment Fund evaluation, DECC 2014

pounds to two million pounds, a range in which it can be difficult to access finance. Indeed 'city' level project finance does not usually start below £20m. Although this is exacerbated by the small number of project finance providers for the community energy sector, this 'finance gap' for smaller projects is not a problem specific to community energy, and government already has various schemes[75] to address it, for example the Enterprise Investment Scheme (EIS)[76], and the National Loan Guarantee Scheme.

164 Finance costs are often higher than it would be for a commercial developer. Project failure rate is uncertain, making it difficult for investors to accurately gauge the risk profile. Additionally, given the generally small size of the loans in community energy projects, fixed costs (such as due diligence) can form a significant percentage of the cost of a loan.

165 Community energy projects often look to raise equity locally through mechanisms such as community share offers. There have been several successful examples of community share offers raising quite large amounts. For example, the Osney Lock Hydro Scheme in West Oxford raised over £530,000 in just a few weeks, and BWCE has raised over £2.5m through three separate community share issues.

166 Most groups involved in community energy recognise the benefits of their schemes to the wider community, alongside their direct membership. Accordingly they tend to use legal forms such as Community Interest Company, or Society for the Benefit of the Community (often known as a Bencom) - both of which require an overarching community purpose that reaches beyond its membership.

167 Equally, a proportion of community energy projects use the Society for the Benefit structure to raise finance and ensure community ownership through a community share offer. Community are supported through this by the Community Shares Unit.[77] There have been over 40 completed share offers in the renewable energy sector since 2009, raising almost £14m.

168 The average minimum investment through a community share offer is £200; this is often due to the administration costs associated with share offers and the ability for the enterprise to meet their overall capital requirement. Whilst this level of investment is accessible for many people, it can make it difficult for less affluent members of the community to participate.

169 There are already examples (see case study 14) of projects developing creative approaches to address this issue. There are also opportunities for groups to work with other partners and funders to offer instalment schemes, and equity-matching products to help boost inclusion.

[75] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/192618/bis-13-p176b-sme-access-to-finance-measures.pdf

[76] For electricity generation EIS schemes are only qualified to invest in hydro and anaerobic digestion or projects operated by a community interest company, a co-operative society, a community benefits society or a Northern Irish industrial and provident society (see HMRC website for details).

[77] http://communityshares.org.uk/find-out-more

Case study 14: A chance for all residents to invest: Brixton Energy

Repowering London is a not-for-profit organisation that specialises in co-producing community-owned renewable energy projects with local authorities and community groups.

Its third project, Brixton Energy Solar 3, on the Roupell Park Estate, has raised funds through a community share offer. As a co-operative they have found a wide range of ways to engage with the local community.

While the usual minimum shareholding is £250, residents on the estate can have access a lower minimum shareholding of £50, which provides an opportunity for the majority of the community to be active participants in the projects.

Providing work experience for young people over 20 week placements gave 15 local youth training in IT, finance, legal, media, structural, and draught proofing, as well as four weeks of paid work experience alongside professional installers on the solar array.

Building on existing networks and community spaces, strong relationships can be developed with the local community. Activities such as solar panel making, draught proofing, energy advice switching, curtain lining workshops and home energy audits are run for interested local residents.

Realising our vision: Unlocking investment in community energy

170 In June 2013, Defra and DECC jointly launched the £15m RCEF, a grant and loan fund, to help rural communities develop energy projects in eligible rural areas of England. Scotland and Wales also offer a range of financial support for community energy projects – see box 2 and box 3.

171 An additional £10m Urban Community Energy Fund (UCEF) will sit alongside RCEF. This fund will be open to non-rural communities and, just as with RCEF, will provide up to approximately £150,000 of funding for feasibility and pre-planning development work to help projects become investment ready (see figure 3 above). The funding will be available in two stages:

- Stage one will be a grant of up to approximately £20,000 for feasibility of renewable energy projects.
- Stage two will be a loan of up to approximately £130,000 to support pre-planning development work, planning applications and to develop robust business cases to attract further development.

172 The UK recently opened discussions with the European Commission about the possibility of including the small-scale onshore wind and hydro energy sectors within GIB's approved scope of operation. Should this proposal be accepted, it would become possible for GIB to provide wholesale financing to these sectors, including community based projects. We hope to make progress on this matter in the early part of 2014 (see box 4).

173 The sector and others have been exploring new and innovative ways of addressing access to finance, and we will continue to work with the sector to explore and support such innovation. Examples of such funding mechanisms include:

- Crowd-funding, where organisations such as Abundance Generation[78] are already offering crowd-funding finance options to the community energy sector. DECC has been working with partners to understand the potential of crowd-funding, including a roundtable in 2013.
- Aggregation where some organisations, such as Pure Leapfrog[79], are building portfolios of projects in order to reduce financial risk through aggregation.

174 In September 2013, in conjunction with DECC and Cabinet Office, CSE organised a finance round table. This involved finance providers, community energy intermediaries and government officials. Four key areas were identified as benefiting from further discussion, with the government and collaborative work to design solutions in policy and/or practice:

- Investment readiness and community capacity;
- Investment 'product' design, distribution and associated regulatory frameworks;
- The availability of at-risk finance for pre-consent development;
- Ideas of how to de-risk projects and build a market for debt finance.

175 DECC and Cabinet Office will convene further meetings of this round table group to look at each of these areas, with a particular focus on tapping into opportunities in the social investment market to address them, with CSE acting as chair. An initial

[78] https://www.abundancegeneration.com/
[79] http://www.pureleapfrog.org/

report to the Secretary of State for Energy & Climate Change and the Minister for Civil Society will be made in summer 2014.

176 The community energy sector is working towards standard funding templates. As part of an Intelligent Energy Europe project, Oxford City Council and Oxfordshire County Council, along with Low Carbon Hub, are already working on producing standard templates. Government will provide support where relevant, for example through its convening power.

177 More generally, the government's work on supporting the growth of a social investment market will help a range of different social and community projects access investment, including community energy projects (see box 5).

Box 2: Finance for community energy in Scotland: the Community and Renewable Energy Scheme (CARES)

The Scottish Government offers a wide range of support to communities and rural businesses on all aspect of renewables, through its Community and Renewable Energy Scheme (CARES).

CARES is designed to accelerate progress towards the Scottish Government's target of 500MW of renewables to be locally-owned or community owned by 2020, and to maximise the benefits to communities from commercially-owned schemes.

The main component of CARES is a pre-planning loan scheme offered to communities and rural businesses, with the latter being conditional upon a commitment to provide a minimum community benefit of £10,000 per megawatt of installed capacity. CARES also facilitates access to capital support for community generation and community buy-in to commercial schemes via the Renewable Energy Investment Fund.

CARES is delivered by a consortium of social enterprises based across Scotland.

Further details can be found at:
http://www.energysavingtrust.org.uk/scotland/Communities/Community-And-Renewable-Energy-Scheme

Box 3: Support for community energy in Wales: Ynni'r Fro

Ynni'r Fro is the Welsh Government's programme which supports community groups to develop renewable energy projects. The programme uses funding from the European Regional Development Fund and is administered on the Welsh Government's behalf by the Energy Saving Trust: http://www.energysavingtrust.org.uk/wales/Communities/Finding-funding/Ynni-r-Fro-programme

Ynni'r Fro employs a network of technical development officers who help, support and advise groups in the process of setting up a community scheme. Grants of up to £300,000 as well as loans of up to £250,000 are available to community groups through the Ynni'r Fro programme to develop community scale renewable energy schemes. The programme also offers preparatory grants of up to £30,000.

The mid-term evaluation of Ynni'r Fro was published on January 17th: http://wales.gov.uk/statistics-and-research/evaluation-ynnir-fro/?lang=en.

Box 4: Green Investment Bank and community energy

The GIB[80] may invest in any project that falls within its approved scope, including projects that are community based. The approved sectors include a number that may be relevant to community energy projects (including non-domestic energy efficiency, renewable heat and biomass power). GIB has engaged a number of specialist fund managers to make investments on its behalf in the areas of waste and non-domestic energy efficiency, including relatively small-scale projects.

In the course of obtaining state aid approval for GIB, the UK proposed that community energy should be considered a sector in its own right meaning that GIB would have scope to invest in any community-based project irrespective of the technologies involved. However at that stage there was insufficient evidence to enable the Commission to accept that proposal.

The UK recently opened informal discussions with the European Commission about the possibility of including the small-scale onshore wind energy and small-scale hydro energy sectors within GIB's approved scope of operation. Should this proposal be accepted, it would become possible for GIB to provide wholesale finance these sectors, including community-based projects. We hope to make progress on this matter in the early part of next year.

[80] http://www.greeninvestmentbank.com/

Box 5: Supporting the growth of the social investment market

Many of the barriers faced by community energy projects are also faced by other community-run initiatives and social enterprises. The government is supporting the growth of the social investment market, where capital is invested in social and community projects on the basis of both financial returns and social impact. The aim is to enable these projects to grow and be more sustainable in the long-term.

Renewable energy projects in local communities can provide innovative income streams for local and community groups, and so it is an area that social investors such as Big Society Capital are becoming increasingly interested in.

Big Society Capital (BSC)[81] was launched in April 2012 with up to £600m to grow the social investment market. To date it has invested in two funds providing 'at risk' and construction finance for community renewable energy projects, including £750,000 in the FSE Group Community Generation Fund (alongside £500,000 from the Esmee Fairbarn Foundation)[82] and £1,000,000 in the PURE Community Energy Fund[83] loan scheme. BSC is looking for more high-potential intermediaries and co-investors.

BSC and Big Lottery Fund have pledged £250m over the next decade to support communities with start-up costs and initial investment needed for community-led enterprises.

The £10m Social Incubator Fund[84], launched in 2012 and administered by the Big Lottery Fund, supports organisations providing finance and business support to social start-ups. This is not specific to community energy, but organisations supporting community energy projects have been able to bid for funding via this route as a way to build support infrastructure for community energy projects.

The Cabinet Office's Investment and Contract Readiness Fund[85] provides support to social enterprises that are up and running but need business support to access investment to grow.

In addition, in the Autumn Statement 2013 the government announced a new social investment tax relief to encourage individuals to invest in social organisations. This will apply to equity and certain debt investments in social enterprises with effect from April 2014. Organisations which are charities, community interest companies or community benefit societies will be eligible, meaning this could have potential benefits for community energy projects.

[81] http://www.bigsocietycapital.com/
[82] http://www.thefsegroup.com/social-impact-funding/community-generation-fund
[83] http://www.puretrust.org.uk/communityenergyfundeoi.jsp
[84] http://www.biglotteryfund.org.uk/socialincubatorfund
[85] https://www.gov.uk/government/policies/growing-the-social-investment-market/supporting-pages/supporting-the-development-of-more-social-ventures

6.3 Community groups need reliable income streams for the electricity they generate

178 FITs are a key source of income for community renewable electricity generation projects. They provide a reliable long-term source of income and have underpinned much of the growth of community energy.

179 Prior to the introduction of FITs the vast majority of community electricity generation projects would have had no reliable source of income on which to build their business case. When government introduced FITs it provided a new and important source of income which community groups could tap into. This provided the financial foundation that the sector needed for the nascent community electricity generation sector to grow. FITs has underpinned much of the growth of the sector since.

180 FIT rates for some technologies have decreased since the introduction of the scheme in 2010, but the lowering costs of installation and hardware, especially solar panels, means that FITs continues to provide an income stream which allows community groups to build business models that provide high rates of return. The introduction of a degression mechanism (reducing tariffs as installed capacity increases) creates long term signposting of any reductions in FITs tariffs as the amount of installed electricity generation capacity increases.

181 Many community groups have told us that the application process for FITs is relatively straightforward. However, difficulties have been reported with other aspects of the process. These include: delays in the registration process; uncertainties around the interaction between public grant funding and FITs.

182 In response to feedback from community groups on the type of financial incentive that works best for them, through the Energy Act 2013 the government took powers which will allow the Secretary of State to increase the maximum capacity for community projects eligible for FITs from 5MW to 10MW. We intend to consult on the use of this power in spring 2014.

183 At this stage our view is that this change would address the potential access to market issues that community groups looking at these larger projects faced, and remove the perverse incentive for community groups to limit their electricity generation projects to 5MW. This will help community energy realise its electricity generation potential.

184 A small number of community groups sell their electricity through PPAs. This route is most appropriate for larger community electricity projects that are not eligible for the small-scale FIT (i.e. those with a capacity greater than 5MW), and is the route that independent (not necessarily community-owned) generators often use.

185 PPAs can be negotiated by community energy projects with an energy supply company. These contracts set the terms under which a generator's electrical output is sold over a fixed period of time at a fixed rate. Currently PPAs are linked to Renewables Obligation Certificates (ROCs) as part of the Renewables Obligation, and some community energy groups are concerned about the impact that the introduction of Contracts for Difference (CfDs) will have on the PPA market as ROCs are phased out from 2016. We are working to improve the PPA market as part of our programme of Electricity Market Reform, and have been working with stakeholders to develop Best Practice Guidelines for the PPA market. Further details of how we are helping the PPA market work better for smaller generators, including community-owned projects, is set out below.

Realising our vision: providing sources of income to incentivise community electricity generation

186 In response to feedback from community groups on the type of financial incentive that works best for them, through the Energy Act 2013 the Government took powers to increase the maximum capacity ceiling for community projects eligible for FITs from 5MW to 10MW so that larger projects can benefit. We intend to consult on using this enabling power in spring 2014, with a view to bringing into force the necessary revisions to secondary FITs legislation in 2015 subject to state aid approval. The definition of 'community' will be included in this exercise.

187 We are aware that many community groups face particular difficulties in finding the professional skills and financial resources to take energy projects forward. We are therefore looking into how we might improve our guidance and change our policy to enable community groups to combine grants with FITs and RHI, consistent with EU State Aid rules, to help ensure worthwhile projects can reach fruition.

188 Although there are some difficulties in the current market for PPAs used by independent renewable generators, in the longer term, the introduction of CfDs is ultimately likely to improve the PPA market by removing long-term price risk from the generator. This reduces the requirement for price floors or fixed prices in a PPA to satisfy financiers that there will be a minimum price received for electricity generated. Removing this risk will make PPAs simpler and less costly for offtakers[86] to provide, and should lead to greater competition in the PPA market. In addition, competition in the market for PPAs should also be improved by removing the need to value and market the ROCs, which can only be done by holders of a supply licence. Removing this requirement will open up the market to new entrants.

189 To help independent developers find routes to market, we have taken powers under the Energy Act to enable the Secretary of State to implement an 'offtaker of last resort' scheme that will provide generators with a backstop route to market at a specified price. This arrangement will provide investors and lenders with more certainty that the project can access the market at a competitive price. We expect this will enable generators to use a wider range of possible off-takers, shorter term PPAs and potentially other trading arrangements. This will improve competition in the PPA market and encourage further investment in independent generation projects.

190 The government will also look at how it can support smaller generation schemes through its existing spending. In December 2012, the Government Procurement Service (GPS) launched Energy for Growth, an innovative scheme using government as the largest single energy customer to contract directly with new and existing generation capacity. Such contracts may allow access to finance as projects will have guaranteed income from a long term customer. This year, GPS successfully completed a pilot to diversify 2% of its demand, worth up to £25m a year. Taking this project to the next stage, GPS is now assessing the potential for smaller generation schemes, such as those in the community energy sector to participate.

[86] 'Offtaker' is the generic term applied to the party to a PPA that commits to taking the power generated and delivering it into the wholesale market.

6.4 Helping communities to supply consumers directly

191 Some groups would like to be able to supply electricity to consumers directly. This could enable them, for example, to offer their members and/or those in fuel poverty electricity at below current retail price. It would also potentially enable consumers anywhere in the country to buy their energy from a community energy project, enabling communities to access a new market.

192 While in principle it is possible for communities to do this by setting up a fully licenced energy supply company, the requirements of this licence act as a barrier to community groups. These requirements include start-up costs, complexity and business risks.

193 At present, only those projects with access to a private transmission ('private wire') network, or those supplying electricity directly to the site on which it is generated, are able to do this. Setting up a private wire, has significant added costs.

194 The ability to sell electricity locally, at a 'local price' could be one way of enabling all members of the community to benefit from a community energy project. We also recognise that community energy projects may wish to sell electricity beyond their local community, which ultimately has the potential to increase competition in the retail market and increase access for consumers to the sector. So the government is keen to see the first use of the 'Licence Lite' regime and welcomes the involvement of the GLA as the first applicant. We have also asked Ofgem to meet with DECC, community groups and other stakeholders to consider other options (see below).

Realising our vision: A route for communities to supply energy through 'Licence Lite'

195 In 2009 Ofgem recognised the importance of encouraging smaller-scale, distributed generation. They published licence modification proposals and guidance which allows for exemption from certain licence conditions as long as alternative arrangements are made with another fully licensed supplier. This arrangement, which has become known as 'Licence Lite', has been taken forward by the Greater London Authority (GLA) which has made application for a Licence Lite licence on behalf of the Mayor of London.

196 The GLA application is a welcome development which will help clarify the need for any further guidance in this area. Ofgem is planning to review and update the guidance relating to Licence Lite in 2014.

197 After extensive consultation with Ofgem, the GLA is looking to start the tendering process for the market services required under the Licence Lite arrangement in early 2014. The GLA would then be in a position to seek a final Licence Lite approval from Ofgem in the early part of 2014, subject to mayoral approval and the tendering process producing an offering of services of the right quality at an economic price. Clearly this would be an important step for Licence Lite, and would provide others with a route to learn from.

198 If Licence Lite is proven to operate successfully, we would be supportive of greater levels of uptake amongst community energy projects and low- and zero-carbon decentralised energy projects generally, including for the electricity element of heat networks supplied by combined heat and power (CHP) systems.

199 We will continue to monitor progress on Licence Lite and the GLA's application, and any others, and will seek to assist the development of viable business models in this

space. We want to see Licence Lite work for community groups and will actively work with Ofgem to support this. In doing this, we will seek to learn from the experiences and innovations of others, including the Eden Project's work to establish a service for communities to 'self supply'.

200 Government will also work with Ofgem and other stakeholders to look at additional ways, beyond Licence Lite, in which communities may be able to supply electricity to their local areas. As the first step we will convene a meeting between Ofgem and community groups in 2014.

6.5 Navigating the regulatory, network connection and planning process

201 Regulatory processes serve important functions such as protecting consumers, ensuring the right infrastructure is built in the right place, and protecting the environment. These processes, which are part of everyday activities for a commercial organisation, can seem insurmountably time consuming and complex to smaller, often volunteer-led community groups.

202 In particular, community groups have told us that connecting to the electricity network can be a major barrier to getting projects off the ground. The speed and cost of network connection, perceived inconsistencies between the way Distribution Network Operators (DNOs) engage customers, the need for greater transparency of network connection costs, and the apparent lack of opportunity for regular strategic engagement with DNOs are all issues for the sector. The electricity network is still adapting to a changing pattern of electricity generation, with more smaller scale generators and more households installing small-scale generation technologies.

203 Navigating the planning process designed around the needs of large commercial organisations can also be challenging for community groups. Specific issues include long timescales to process applications; the requirement for very detailed information; and variation in the extent of knowledge on energy and climate change issues amongst local authority planning officers. The role of local authorities in supporting community groups as they go through the planning process, and the role of neighbourhood planning as a means of supporting and enabling community energy, is covered in more detail in Section 3.2.

Realising our vision: Helping communities navigate the regulatory process

204 Planning & Permitting, Hydro-power, and Network Connections Working Groups will identify barriers on a thematic basis and develop potential solutions, reporting back to the Secretary of State in summer 2014. Examples of steps already undertaken are given below.

Hydro-power

205 In October 2010 a guide titled *Hydropower: A guide for you and your community*[87] was published to help community navigate the different steps in developing a hydropower project.

206 The hydro-power working group will be led by Low Carbon Hub, with other members including DECC, the Environment Agency, community energy practitioners and community energy intermediaries. This group will look at issues such as joining up Environment Agency processes as they relate to small scale hydro-power, and scope for improved guidance for community groups to help them through the various processes relating to hydro-power.

Planning & Permitting

207 Neighbourhood planning was introduced in 2011 and allows communities to come together to shape where and what type of development is permitted in their area – see case study 6.

208 The National Planning Policy Framework[88] (NPPF), which was published in March 2012, states that local planning authorities should support community energy projects by (see Section 3.2) adopting a positive strategy to promote renewable and low carbon energy Identifying suitable areas for renewable and low carbon energy.

209 In July 2013 DCLG issued planning practice guidance for renewable and low carbon energy, which encourages local planning authorities to 'establish policies which give positive weight to renewable and low carbon energy initiatives which have clear evidence of local community involvement and leadership.'[89] The guidance sets out the need to take into account the requirements of different technologies and the need to protect natural heritage and landscape when identifying sites for renewable energy. It encourages community energy projects through neighbourhood planning.

210 The planning & permitting working group will be led by the Town & Country Planning Association and will include DECC, DCLG, community energy practitioners and intermediaries, and planners. The group will look at the challenges faced by community energy groups in navigating planning and permitting processes, and make practical recommendations which are deliverable within the current regulatory and policy framework.

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[87] http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geho1010btdn-e-e.pdf

[88] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

[89] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225689/Planning_Practice_Guidance_for_Renewable_and_Low_Carbon_Energy.pdf

Network Connections

211 DNOs are already obliged to offer a network connection to any customer that requests one under the Electricity Act 1989. DNOs licence conditions require them to issue a quote within 3 months. The customer seeking the connection has to pay for the cost of the connection, and the costs that a customer is required to pay should reflect the minimum amount of work required to enable their connection.

212 Ofgem is taking a number of steps to improve the standard of customer service provided by DNOs through its RIIO ED1 price control.[90] These actions respond to feedback from stakeholders, including those participating in its Distributed Generation (DG) Forum. In particular:

5 A customer satisfaction survey (for minor connections customers). DNOs will be subject to financial penalties or rewards depending on how they perform against industry-wide targets. The financial incentive will be greater than under the current price control.

- A Time to Connect incentive (for minor connections customers). This is a new incentive that will provide financial rewards to DNOs that are able to issue quotes and complete connections more quickly than industry-wide target timescales.
- An Incentive on Connections Engagement (ICE) (for major connections customers). This is a new incentive that will require DNOs to submit evidence of how they have identified, engaged with and responded to the needs of their customers. DNOs will need to develop a forward-looking work plan of actions to improve performance (with associated delivery dates). Subsequent submissions should demonstrate performance against their relevant performance indicators and progress against their work plan of actions. A DNO that does not engage or respond to the needs of its customers will be subject to financial penalties under the ICE.

213 In 2011 and 2012 Ofgem hosted a series of DG Forum events to allow developers and DNOs a platform to discuss issues associated with connecting to the network. DNO progress reports have highlighted that this has led to genuine improvements in the form of online 'heat maps', simplified application processes, more resourcing and better customer service. This work is ongoing.

214 A recent initiative by DNOs has been the provision of ‘capacity maps’, which provide information on where there is capacity and where the network is more constrained. Some DNOs are already starting to provide these maps and these will help communities to understand the constraints at an early stage in planning a project.

215 The Network Connections working group will be led by Ofgem, with other members including DECC, DNOs, community energy practitioners and community energy intermediaries. This group will look at both shorter term and longer term options for how network operators can provide greater assistance to help community energy groups get connected. This could include looking at the potential of novel approaches to help community groups, for example, some have proposed that community groups should be allowed to spread connection payments.

[90] https://www.ofgem.gov.uk/ofgem-publications/47068/riioed1decoutputsincentives.pdf

7. Generating heat

7.1 What are the opportunities for community heat generation?

216 As a society we use heating to keep our homes and offices warm. We also use heat to provide us with hot water, cook our food, and manufacture goods. Indeed, generating heat is the single biggest use of energy in the UK and it is responsible for around a third of all UK greenhouse gas emissions. A national transformation of heat generation and heat use is required to meet our carbon reduction and renewables targets, and DECC is implementing a heat strategy for the UK.[91]

217 There is great potential for communities to enable a cost effective, quicker roll-out of renewable heat. Heat has some specific issues that make communities well placed to help achieve the UK's low carbon vision:

- It is not always easy to distribute heat over large distances, so we either have to distribute the heating fuel (e.g. gas) over networks to individual homes where it is the burnt (e.g. in a boiler) to produce heat, or we have to generate heat at scale locally for local distribution.
- Renewable heat technologies are for most people still novel technologies and have low awareness levels. Take up is likely to be slow without some local leadership or incentive.
- Some renewable heat solutions like heat networks[92] can only work as community solutions.
- Some renewable heat technologies will only be cost effective if rolled out at scale across some or all of a local community.

218 Indeed, to fully understand the heat challenge it is important to recognise that, unlike electricity, different sorts of heat are required for different purposes. The heat requirement is dependent on the circumstances: where, when and why it is needed and how hot it needs to be.

219 There is a number of important renewable heat solutions that are very effective when installed individually and a community approach could help catalyse the deployment of many renewable heat options with major benefits at the local level.

220 The opportunities for a community approach to heat are many. Examples include:

- Developing heat networks – these provide the potential for cost effective low-carbon heating for communities with high density heat demand;
- Promoting understanding and acceptance of novel heating systems, particularly those that supply more than one property, and which may be disruptive to install or unfamiliar to operate;
- Switching building-level heating to low carbon sources (see case study 15);

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[91] https://www.gov.uk/government/publications/the-future-of-heating-a-strategic-framework-for-low-carbon-heat

[92] A heat network is a pipe network used in district heating, where district heating is the supply of heat to a number of buildings or dwellings from a centralised heat production facility by the means of a pipe network carrying hot water or steam.

- Helping vulnerable and fuel poor members of the community participate in heat schemes and benefit from new and possibly unfamiliar home heat technologies such as heat pumps and heat networks;
- Reducing heat demand in buildings: a lot of heat is wasted due to inefficient buildings that are not properly insulated (see Section 8);
- Influencing the ways households control and use their heating systems to maximise efficiency, saving energy and reducing bills.

221 Communities can play an important role in increasing the uptake of renewable heating technologies. This could be through installation in local community buildings (see case study 16) or by encouraging or enabling uptake at the household level.[93] Communities, and the organisations that represent them can also play a role in increasing awareness of renewable heat technologies and how to use them

Case study 15: Shared heating saving money for residents in Birmingham

In Birmingham, the EcoPod District Heating System is being fitted in six tower blocks. This is expected to save residents up to 40% on their energy bills.

The EcoPod system is a specialised centralised energy centre that provides water and space heating in high-rise blocks from its position on the roof, with savings coming from the efficiency of the system and through accessing commercial gas prices. Three of the six blocks are run by a tenant management organisation, bringing active community involvement.

This is part of the £6m BES7 project which has been jointly funded by the Department for Energy and Climate Change (£2.7m[94]), E.ON (as part of the government's ECO (£2.2m)), and by the ERDF (£1.1m).

[93] DECC (2014) Learning from the DECC Community Energy Efficiency Outreach Programme
[94] From the DECC Local Authority Fuel Poverty Competition 2012/13

222 There are a variety of ways communities may choose to incorporate renewable heat generation into their local energy supply. The most common examples are through group action to:

- Install individual renewable heating systems in community members' homes (such as biomass boilers, heat pumps or solar thermal systems);
- Establish a communal heat network to provide heating from a shared source (or sources) directly into individual homes; and
- Install renewable heating systems in a communal building, such as a community centre or library.

223 Community heat opportunities need not only be about renewable heat. Rural off-gas grid communities, in particular, may benefit from reduced bills by operating oil buying clubs (see Section 10). Some off-gas grid community groups have raised funds to extend the gas distribution network so their properties can be connected to cheaper heating fuels. The Centre for Sustainable Energy have recently published a complete updated list of all postcodes in Great Britain which are not connected to the mains gas grid, available here: http://www.cse.org.uk/news/view/1792

224 Equally renewable heat opportunities can be particularly beneficial for rural off-gas grid homes, including 'traditional' renewable heat sources such as wood. Rural communities tend to be well clustered, consisting of key buildings such as a community centre, school or public house which could be supplied by a community biomass scheme, along with housing.

225 Biomass heating systems are already producing cost effective solutions for many people.

226 There are about 170,000 hectares of unmanaged woodland which are not realising their full potential for timber production, recreation or conservation which could become hubs for local communities wishing to develop biomass projects. The Government's Bioenergy Strategy[95], published in 2012, helps to address these issues.

227 This chapter considers the three main barriers to community involvement in heat policy: awareness, cost and complexity.

[95] https://www.gov.uk/government/publications/uk-bioenergy-strategy

Case study 16: Renewable heat at St Michael's church, Reepham, Norfolk

St Michael's church in Reepham, Norfolk used £75,000 of LCCC funding from DECC to install a ground source heat pump, coupled to an underfloor heating scheme. The heat pump required three 100 metre deep bore-holes to be drilled along the rear churchyard path. Archaeological surveys were required prior to any work commencing due to the historic nature of the church grounds and the remains of a previous church adjacent.

St Michael's is the first medieval church in the diocese to incorporate this technology. The church has been transformed into a warm, comfortable and happy building that is seeing increasing usage by an expanding range of different community groups.

The church was one of 18 projects funded as part of Reepham's £1m LCCC bid. Other projects included new glazing, insulation, solar thermal and solar PV panels at Reepham Primary School; a new 15-seat electric minibus to meet the needs of local schools and community groups; and a new biomass boiler and building refurbishment for the old station house and engine shed at Whitwell and Reepham Station, now a heritage railway museum and café.

Photo: Installing a ground-source heat pump at St Michael's church, Reepham, Norfolk

7.2 Awareness of community renewable heat

228 Only 2% of the UK's heat supply comes from renewable heat[96], though the climate change challenge and the rising cost of gas has increased interest.

229 Studies show that there is a significant lack of knowledge and awareness of renewable heat technologies and the heat demand of buildings. Only 28% of the population have heard of heat pumps and just 16% have heard of district heating.[97] In the heating industry itself, the dominance of gas heating and oil (for off-gas grid) has meant that even many heating engineers and firms lack knowledge and confidence about alternative approaches. Almost 2 million boilers are replaced every year[98] in the UK so there is a big opportunity to raise awareness amongst installers and consumers.

230 Local authorities, parish councils and community groups are well placed to fill this knowledge gap, to raise awareness and to provide leadership to give people the opportunity and confidence to change.

Realising our vision: information, heat maps and partnerships

231 The proposed One Stop Shop (see Section 4) will include a new central information resource focused on community heat opportunities, explaining everything from the RHI to providing details of accredited suppliers and case studies, focussing on how communities overcame specific barriers.

232 The Communities Conference (see Section 3) will include a community heat workshop to develop a communication plan including case studies and toolkits to assist local authorities and community groups to raise awareness in their areas.

233 The National Heat Map[99], developed with DECC funding in 2012, is already helping organisations identify areas of high heat demand and potential sources of supply. We will review how this has been used, with the aim of both improving awareness of it and improving functionality for community energy groups. This review could also include the potential for overlaying off-grid data, taking information from the Office of Fair Trading Off Grid Energy Study: http://www.oft.gov.uk/OFTwork/markets-work/off-grid/

234 We will augment the National Heat Map with a new water source heat map. DECC will work with communities, industry and the Environment Agency to identify suitable locations for water source heat pumps including rivers, lakes, bays and canals. In additional, in consultation with the Environment Agency, industry and others, we will develop guidance for local authorities and community groups in the process of developing and permitting community owned water source heat pumps.

235 The forthcoming domestic RHI will include information and guidance for community groups seeking to encourage take-up in their areas as well as setting out clearly where community projects could chose to apply for the non-domestic RHI.

[96] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/249679/et_sep_13.PDF
[97] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191541/More_efficient_heating_report_2204.pdf
[98] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/70265/5533-final-stage-impact-assessment-for-the-green-deal-a.pdf
[99] http://tools.decc.gov.uk/nationalheatmap/

7.3 Community heat: finance and know-how

236 As the UK market for many low carbon heating technologies is relatively immature, current purchase and installation costs are generally higher than conventional alternatives, especially in the case of heat pumps. Running costs can also be higher, as electricity (for heat pumps) and biofuels (for biomass boilers) generally cost considerably more than natural gas. Similarly, the upfront capital costs for district heating networks are large; it is estimated that the cost of installing heat network pipes is up to £1,000 per metre, for example.[100] These high upfront costs are a major barrier for communities wanting to develop their own heat projects.

237 Obtaining funding for renewable heat schemes, or having the confidence that funding will be obtainable, is one of the main barriers for community groups. Accessing the know-how to exploit heat technologies within a community is also not easy, and local authorities rarely have the resources either.

238 Realistically, large-scale heat network installations are beyond the means of communities at point of installation due to their high costs and long pay back periods. However, there are opportunities for them to explore smaller-scale heat networks and partner with local authorities on larger heat projects.

239 Nonetheless, there are examples of communities overcoming the barriers already. Many communities have benefited from bulk-buying schemes to install large numbers of renewable systems in homes at a reduced cost. Predominantly these have involved electricity generation from solar PV panels. The potential for communities to take advantage of the economies of scale are even more significant in the heat market where costs can be increased by the need for specialist equipment or skills to manage the installation. For example, boreholes are required for the installation of a ground source heat pump system and hiring the necessary drilling equipment can cost as much as £10,000. Where a row of houses coordinate to have their systems installed at the same time the hire costs per household can be dramatically reduced. See Section 10 for more information on bulk-buying.

240 There is a range of opportunities for communities to engage in community heat projects. Recent evidence shows that larger community-scale anaerobic digester (AD) plants may combine the nutrient recycling benefits of smaller on-farm AD units with the optimised design, engineering and management standards of larger scale AD units. Community-scale AD plants may be deployed at a larger scale than an individual farm using wastes and residues, and may be suitable for receiving food wastes from local communities – providing community energy and biomethane. Forum for the Future are working on a project called ‘Farm Power’ which aims to bring together a coalition to explore the potential role farms and rural communities could play in a sustainable energy system.[101]

[100] http://www.scotland.gov.uk/Resource/Doc/217736/0091415.pdf
[101] Comparative Life Cycle Assessment of Anaerobic Digestion and other bioenergy options’, Defra, 2014

Realising our vision: the Renewable Heat Incentive and the Heat Network Delivery Unit

241 This spring, DECC will launch the domestic RHI, a world first. This is aimed at individual households to help them reduce their heating bills, and will be especially beneficial for rural off-gas grid homes. Like the non-domestic RHI, this is a compelling financial incentive. We will ensure information is available for local authorities and community groups to raise awareness of this and provide guidance on how RHI can be used in community buildings, apartment blocks, and whole street projects.

242 As well as receiving RHI payments, community groups generating heat can sell the heat to provide a supplementary income stream. We will work with industry, the Community Energy Coalition, and others to include in information on how to do this in the One Stop Shop (Section 4).

243 DECC's newly launched Heat Network Delivery Unit (HNDU) will to play a major role in catalysing heat networks of all sizes – both with finance and expertise with £6.9m of project funding to assist local authorities in the early stages of project development. By providing expertise and support for councils, the HNDU aims to help a range of heat network projects through to a stage where they can attract private investment, including from the Green Investment Bank (GIB). We will continue to investigate the opportunities for HNDU to support smaller scale community projects through the provision of advice guidance and financial support for all stages of the development, from initial feasibility through to the preparation of investment proposals.

244 THE HNDU has assessed 54 applications from 31 local authorities in the first funding round, which closed in November 2013. It has awarded £1.94m to 26 local authorities. Further HNDU fund bidding will be taking place throughout 2013/2014 and 2014/2015.

245 We would encourage community groups to partner with local authorities to apply for heat network funding to deliver networks across England and Wales at an unprecedented scale. Further information can be found at: https://www.gov.uk/government/publications/heat-networks-funding-stream-application-and-guidance-pack.

246 In June 2013 government launched the £15m RCEF. As part of this Strategy we are announcing the £10m UCEF. These funds can be used a source of early stage finance for community heat projects.

7.4 The complexity of community heat

247 Community heat projects can be technically complex or just complex to initiate due to issues ranging from lack of skills to wider supply chain issues. Innovation is taking place in reducing costs but can add to their complexity.

248 Heat projects tend to be more technically complex than renewable electricity projects though they may be less complex in terms of permissions and environmental studies. Heat pump field trials, for example, have illustrated the difficulties in this area.[102] Appropriate expertise is required to calculate heat demand and size heating systems appropriately. As a

[102] https://www.gov.uk/government/publications/analysis-from-the-first-phase-of-the-energy-saving-trust-s-heat-pump-field-trial

result the heat installation standards have been significantly revised and DECC are working with CIBSE on a Code of Practice for the heat network industry.

249 Supply chains needed to make a community scale heat option a reality will often not exist and have to be developed alongside a project. Biomass is an attractive option, for example, in many rural areas but communities will want to be assured ahead of investment that there is a woodfuel supply locally and that the timber source is sustainable.

Realising our vision: training, certification and partnerships

250 To ensure the skills needed for renewable heat are more widely available DECC has been supporting training and certification.

251 In 2013 we launched a £500,000 fund aimed at raising the skill set of domestic heating engineers so they can install and maintain renewable heating systems.[103] Based on the results of this initiative we will look to increase funding and support for the supply chain.

252 Renewable heat installations up to certain capacities can receive certification through the UKAS-accredited Microgeneration Certification Scheme (MCS). This means that community projects involving individual building-level renewable heating systems, such as heat pumps in private homes, can be assured that their installations meet minimum standards in line with British and European requirements.

253 There is gap in terms of certification and quality assurance for installations above 45kW and we are considering how this might be addressed. By increasing demand through the RHI we are engaging installers and encouraging upskilling in the market.

254 The Forestry Commission is working to encourage the production of sustainable woodfuel and timber from unmanaged woodlands. It will continue to work with communities, using the RHI to increase demand for woodfuel and to promote the sustainable management of forests in England. Through the Biomass Suppliers List (BSL), which is a list of registered suppliers selling biomass fuel that meets the RHI sustainability criteria expected to be launched in spring 2014, the government is ensuring that smaller biomass heat installations participating in the RHI will benefit from a light touch approach to showing compliance with the new RHI biomass sustainability criteria.

255 DECC will work with the Forestry Commission to produce simple a step-by-step guide for communities which are developing local and regional supply chains through bringing back into production local unmanaged woodlands.

256 In 2014, we will undertake further work to build the evidence base on innovation for heat networks, to help us prioritise public sector investment in low carbon heat, including opportunities for community heat. We will look at how we can include innovation for communities in our Technology Impact Needs Assessment work in 2014.

[103] https://www.gov.uk/government/news/training-voucher-scheme-launched-to-help-industry-install-renewable-heating-systems

8. Reducing energy use

8.1 Community-led action can help reduce energy use

257 Communities are taking action to reduce energy use in many different ways. Community energy saving activity might mean a small group of people organising a one-off meeting to share energy-saving tips; a project to insulate a community building; a long-term commitment by a whole village to cut their carbon emissions and energy bills; or a social enterprise becoming a Green Deal Provider and driving the uptake of energy efficiency.

258 We know that community-led action can have an influence on individual energy behaviour. For example, people's energy use can be influenced by their perceptions of how much their neighbours use, and people's attitudes towards saving energy can be affected by what is perceived as 'normal' in their community.[104] Some types of community interventions that focus on habitual behaviour change can have an impact of around 5-10% on a household's energy use.[105]

259 As has been seen across projects supported by the £31m DECC Local Authority Fuel Poverty Competition 2012/13, community groups and local partner organisations can play an important role in ensuring that vulnerable households and those that are struggling with the cost of energy can access support to help them save energy and lower bills. In cases where living in a cold home has a direct link to poor health and wellbeing, action to improve energy efficiency can have life-changing benefits. Use of local community networks and knowledge can help organisations to identify households most in need, and can help them through processes such as switching energy supplier, installing energy efficiency measures, using new and unfamiliar systems and checking entitlements to benefits that may lead to eligibility for support schemes such as ECO or Warm Home Discount. Recognition of this role underpinned the establishment of the BESN – see Section 10.[106]

260 The Community Energy Efficiency Outreach Programme, published alongside this Strategy, tested a number of engagement techniques in six pilot areas and one online forum. The results revealed that community engagement initiatives are most effective when they focus on fewer, simpler steps and where advice is provided through a trusted source.[107]

261 It remains difficult to model the potential impact of community activity on energy consumption overall, but there are some compelling examples of projects which have had a real and quantified impact. Existing projects such as the British Gas Green Streets programme (see case study 17) demonstrate the potential impact of community energy-saving activity on energy use and carbon emissions.

262 Similarly, in Ashton Hayes in Cheshire[108] (case study 21), one community has successfully reduced carbon emissions by 23%, including homes and transport. [109] 9.4% of

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[104] DECC, Cabinet Office and DCLG (2011): Behaviour Change and Energy Use (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48123/2135-behaviour-change-and-energy-use.pdf)

[105] http://webarchive.nationalarchives.gov.uk/20130109092117/http://decc.gov.uk/assets/decc/11/tackling-climate-change/saving-energy-co2/6921-what-works-in-changing-energyusing-behaviours-in-.pdf

[106] Possible footnote to Local Authority Competition process evaluation

[107] Community Energy Efficiency Outreach Programme, DECC 2014: https://www.gov.uk/government/publications/learnings-from-the-decc-community-energy-efficiency-outreach-programme

[108] http://www.goingcarbonneutral.co.uk

[109] http://www.goingcarbonneutral.co.uk/storage/Earth%20Hour%201.pdf

English residents live in villages and dispersed households[110], and so if the success of Ashton Hayes was repeated in all villages in England, household emissions in England would fall by 2.2%.

Case study 17: British Gas Green Streets

British Gas Green Streets was a £2m project launched in 2009 to help diverse communities across England, Scotland and Wales save and generate energy. Almost 100 groups entered the competition, with 14 finalists selected to receive further funding and the chance to compete for a further £100,000 investment. Communities were encouraged to design their own projects, and energy efficiency was a key focus alongside use of renewable technologies. Projects included a scheme to increase the energy performance of an open-air community swimming pool (Beccles Lido, Suffolk); a project to improve the energy efficiency of vulnerable residents' homes (Casterton Village, Cumbria); and a project to engage residents of a multicultural Birmingham suburb in reducing energy use and carbon emissions (SusMo).

An evaluation of the scheme by IPPR (Institute for Public Policy Research) found that significant carbon savings were achieved – 6.3% carbon savings per household on average, with total annual carbon savings estimated at 215tCO_2 per year across all 14 projects. A significant proportion of savings were from energy efficiency and heating measures in homes and community buildings, including insulation (cavity wall, and loft), replacement boilers, heat pumps, and solar thermal, as well as renewable electricity generation.

The evaluation also found evidence of changes in attitudes within the wider community towards installing energy efficiency measures and microgeneration technologies. A survey of 1,300 people living within an average distance of 1.25km from community buildings that participated in the projects found that 41% were aware of the Green Streets project in their neighbourhood. Of those who were aware, 30% said it had changed their attitudes towards energy efficiency and renewable energy, and 46% said they had been inspired to take action on energy efficiency and renewable energy (with half of those inspired to take action on insulation). A further 61% said they would be more likely to take action on energy in the future.

The IPPR report on the project can be found here:
http://www.ippr.org/publications/55/7703/green-streets-strong-communities

[110] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69493/pb13642-rural-digest-2012.pdf

263 This chapter focusses on:

- **Helping communities save energy and money through energy advice;**
- **Involving communities in energy saving policy;**
- **Helping communities access funding for energy saving projects.**

8.2 Supporting communities to save energy and money through energy advice

264 How much energy households use depends on their everyday habits and the energy efficiency of their homes – such as insulation or the efficiency of appliances. When whole communities work together to share advice on saving energy and cutting waste, the impact can be greater than when households try to tackle this alone.

265 Research by the University of Keele[111] explored the role of community energy advice in a community. Top-down' energy advice from government or large companies prompted a high degree of confusion and scepticism with participants in the research finding it difficult to relate such information to their own lives.[112]

266 Through community discussions on energy use participants were able to develop their understanding. Because participants had opportunities to ask questions and learn from their own and others' experiences, the information and advice they received had a greater impact on their knowledge of energy use and on their energy behaviour. [113]

267 People are influenced by social norms within their community, and can be motivated to make changes to their energy use when provided with information about the energy use of their neighbours. Evaluations of the Home Energy Reporting Program run by US company Opower, which provides comparative consumption information showing how people's energy use compares with that of their neighbours, have demonstrated average energy savings of around 2-3%.[114]

268 Better information about energy use can have an impact on energy use. In the Keele study, energy display monitors helped change energy use by providing people with information about their own energy use a focal point to start a 'conversation' about energy at community level.[115] Case study 18 gives an example of how a community in Kingston used energy monitors as a tool for engaging local people in energy. Once smart meters are deployed in Great Britain, they will be able to support community energy reduction projects by facilitating discussions about energy use or measuring the impacts of projects.[116]

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[111] The Reducing Energy Consumption through Community Knowledge Networks (RECCKN) project looked at the role of communities in spreading knowledge about and changing energy use.
[112] Briefing Paper 1: Introducing RECCKN – summary of Key Findings, Keele University.
[113] Briefing Paper 1: Introducing RECCKN – summary of Key Findings, Keele University.
[114] Allcott, H. (2011). Social norms and energy conservation. *Journal of Public Economics*, in press; Ayers, I., Raseman, S. and Shih, A. (2009). *Evidence from two large field experiments that peer comparison feedback can reduce residential energy usage.* NBER Working Paper Series, Working Paper 15386; Cooney, K. (2011). *Evaluation Report: Opower SMUD Pilot, Year 2*. Navigant Consulting. All cited in Cabinet Office Behavioural Insights Team, DECC and DCLG (2011): *Behaviour Change and Energy Use.*

[115] Briefing Paper 1: Introducing RECCKN – summary of Key Findings, Keele University.
[116] See Section 5 for more information on monitoring and evaluation and Section 9 for more detail on the use of smart meters as facilitators of community energy demand management projects.

269 Coming together to share advice on changing behaviour and reducing energy use is something that all communities can potentially benefit from. To help all communities benefit, we need to gather and disseminate the best available evidence on behaviour change and energy use. DECC has launched several initiatives to explore how different types of energy advice can help people use less energy and save money on their bills. These all aim to identify the most effective approaches to energy advice, and helping households to use their energy more efficiently and where possible, save money on their bills. (See below– A blueprint for ‘what works’ in community energy advice.)

270 Taken together, this package of schemes forms a far-reaching evidence-gathering programme to improve our understanding of the impact of energy advice on energy use and spending. This will give communities looking to take action on energy use a blueprint for what works, so that they can learn from the successes and failures of other communities and draw on the best available evidence.

271 In addition to the community energy advice schemes set out here, the government has established the BESN which will work through community networks to engage vulnerable and hard-to-reach consumers in saving money on their energy bills, including through encouraging take-up of energy efficiency measures and switching supplier (BESN is covered in more detail in Section 10).

Case study 18: Smart Communities – local people sharing advice on how to use less energy

Smart Communities was a two-year project (May 2011 to May 2013) based in north Kingston upon Thames, southwest London. The project was run by the Behaviour and Practice Research Group at Kingston University, and was funded by the ESRC Energy and Communities programme. The project used community action and social marketing approaches to help families and households reduce the amount of energy they use in the home. The project team is currently working with local groups to continue and develop some of the project activities. Among the many project findings, here are three key points.

Smart Communities was run as a 'membership' project that people joined. This proved invaluable, as it meant the project organisers were able to communicate with members by email on a weekly basis, as well as by telephone as needed, and this gave the project a strong local and supportive identity that many people found motivating. The project found that members identified with the idea of a 'local' project rather than the idea of a 'community' project. People were recruited to the project through direct leaflet drops and – more successfully – via local intermediaries, such as the local primary school and library, and other local groups. Around 400 out of 2000 households joined the project.

New members were offered a free Owl energy monitor, and many reported that this incentive was a key motivation for them joining the project initially. Energy monitoring and feedback was central to the project. Although other research identifies long term engagement with feedback as difficult, the project found that its community action and social marketing approaches supported considerable long-term engagement with the energy consumption feedback. As a result, the Owl users learned a lot about their energy consumption, and made a lot of changes around their homes (for example, with respect to lighting, use of the kettle, showering and use of the heating). However, the project also showed that energy consumption is complex and that feedback alone does not produce significant change, with people finding it easier to change some behaviours than others and regarding certain ways of doing things as fixed ('the washing is the washing!', as one project participant put it).

The project's home visit work emphasised bespoke practical demonstration and guidance as opposed to lists of generic tips and advice or simply auditing. Importantly, this work was led by local people and not connected to any commercial or governmental institution. This work prompted a lot of action on draught-proofing and other heating issues, although the project organisers emphasise that it can be time-consuming and is not necessarily easy to scale-up.

For further information, please see the project website: www.smartcommunities.org.uk

Realising our vision: A blueprint for 'what works' in community energy advice and behaviour change

246. The government has launched a range of pilots aimed at building up evidence about which approaches to energy advice are most effective at helping households cut waste and spend less on energy. In summer 2014, specific resources aimed at communities and other organisations such as local authorities and housing associations will be developed. These resources will be included as part of the One Stop Shop resource for community energy.

247. Pilot schemes included in this programme of community energy advice are:

- In November government launched a £500,000 scheme to trial and scale up peer-to-peer approaches to energy saving advice in housing associations. The scheme, jointly launched by Cabinet Office and DECC with funding from the Centre for Social Action, will trial three different approaches to energy saving advice in six different housing associations. Following evaluation by the Cabinet Office's Behavioural Insights Team, the most successful approach will be scaled up across other housing associations across the country.
- In October 2013 DECC launched a Heating Controls Trial to study the impact of trusted advice on managing heating controls in homes. This trial is an innovative randomised controlled trial with social housing tenants in Newcastle, working with several partners and drawing on behavioural insights to compare the impact of different types of advice. The results of the trial, which will cover 3,400 tenants, are expected in June 2014.
- As part of a study commissioned by DECC as part of the Smart Metering Implementation Programme (SMIP), environmental regeneration charity Groundwork is testing whether energy advice professionals ('Green Doctors') or community peers with basic energy efficiency training deliver the greater impact in target communities, focusing on consumers with long term chronic health conditions and the fuel poor.
- Also as part of the SMIP, environmental behaviour change charity Global Action Plan are testing with pre-payment customers (some of whom will be fuel poor) whether making a commitment to undertake an energy efficiency action increases the likelihood of households implementing or sticking to actions. Different trial groups will be compared to determine the most effective intervention.

8.3 Involving communities in energy-saving programmes and policies

272 The government has a range of policies and programmes to help households save energy:

- The **Green Deal** lets homes and businesses pay for energy efficiency improvements such as insulation through savings on their energy bills, with repayments limited to no more than the typical household saves in energy costs.
- The **ECO,** working alongside the Green Deal, requires the larger energy suppliers to provide energy efficiency measures for those most in need and for properties that are harder to treat.
- **Smart meters** will help consumers save energy (and manage it better) by putting them in control of their energy use. Most householders will have smart meters installed by their energy company between 2015 and 2020, although some energy companies are starting to install smart meters now.

273 There are several potential opportunities for communities to engage in government energy saving policies such as Green Deal, ECO and smart meter roll-out. Community groups can act as trusted voices in their communities and may be more effective at engaging vulnerable communities than either energy companies or government. Many community groups and local partners have already begun exploring options for getting involved in these programmes. More information on communities and smart meter roll out is given in Section 9.

274 On the Green Deal and ECO, the role for communities is likely to focus on raising awareness, offering advice and promoting uptake of measures. For communities to want to promote government energy saving programmes, they will need to understand and have confidence in the benefits of these programmes. Some respondents to the *Call for Evidence* noted difficulties in promoting the Green Deal at a relatively early stage in its roll-out, with some groups having raised enthusiasm in their communities only to find that the supply chain was not yet in place to deliver. Lack of understanding of government programmes also seemed to be a barrier to giving good advice to communities: some groups, for example, believed that ECO was a government grant scheme.

275 Some groups also have concerns about the legal implications of involvement in delivering energy efficiency policies. Some groups were put off from engaging with Green Deal and ECO due to concerns about the consumer credit licensing requirements – either because of uncertainty about legal requirements or due to the cost of obtaining a licence.

276 For community energy groups looking for ways to generate an income from ECO or Green Deal, there may be opportunities to get involved more formally in these programmes. The *Call for Evidence* asked for views on whether there was a role for community groups in participating in ECO brokerage, which allows Green Deal Providers (GDPs) to 'auction' carbon savings which can be bought by energy companies to count towards their ECO obligations. While some respondents expressed interest, most felt that meeting the stringent ECO brokerage requirements would be too complex and too risky for most community groups.

277 In contrast, formal partnerships with energy companies or GDPs are an easier potential route for community groups to generate income from their energy-saving activities, and could be beneficial for community groups, consumers and energy companies. This could

have the advantage of enabling community groups to access referral fees, giving them a potential source of income. Alternatively, communities could explore partnerships with local authorities or community energy intermediaries. More detail on partnerships is given in Section 3.

Realising our vision: new opportunities for communities in the Green Deal

278 In July 2013 we launched a £20m Green Deal Communities scheme to drive local uptake of the Green Deal. Following a larger number of applications from local authorities, this was extended to £80m in December 2013. This aims to encourage local authorities, working with community partners, to develop ambitious and innovative area-based proposals to deliver Green Deal plans to as many households as possible. Case study 19 shows an example of local authorities and communities working together to deliver energy efficiency under DECC's Pioneer Places scheme, which offered £10m of funding to local authorities to help kick start the Green Deal.

279 DECC, working with the Office of Fair Trading, has produced new guidance for Green Deal participants on licensing requirements under the Consumer Credit Act (1974), to help give community energy groups confidence about engaging with Green Deal. This is available at the following link: https://www.gov.uk/government/publications/guidance-on-cca-licence-requirements-for-green-deal-participants

280 To help support communities who want to promote the benefits of energy efficiency to others in their area, DECC has committed £430,000 funding to a new Green Open Homes national network being developed by the CSE with Bristol Green Doors. The network offers resources, advice and a new online hub at www.greenopenhomes.net to help local groups and organisations prepare, run and publicise events that show off home energy saving improvements in their communities. In contrast to 'show homes', in open homes residents are usually present during the visits and so can talk directly about the difference the improvements have made to their enjoyment of their homes. As part of this work, in September 2013 CSE launched a competition for groups anywhere in England who want to run a Green Open Homes event in their neighbourhood. Groups can win funding worth £500 to £20,000 along with expert advice and support.

Case study 19: Working with communities to delivery energy efficiency – Warming Barton 'Pioneer Places' scheme

Warming Barton was a project to improve the energy efficiency of homes in Barton. Oxford City Council worked with local partner the Low Carbon Hub to deliver the project, which was funded by DECC's Pioneer Places programme. Barton, in the north east of Oxford, is among the most deprived 10% of neighbourhoods in the UK, measured in terms of the extent to which they experience multiple aspects of deprivation (including low skills, low incomes and high levels of crime). A high proportion of Barton's homes are steel-frame prefabricated buildings which are poorly insulated and 'hard to treat' (meaning they do not have a mains gas heating system or have solid walls, which are more complex to insulate).

The project started with the 'Barton Bash' in November 2012 – a highlight in the local events calendar, organised by the local community association. Alongside the barbecue, party games and face painting, volunteers got chatting to local people about the potential to improve the energy efficiency of their homes and lower their energy bills. This was followed up with an information leaflet sent to every household in Barton with well-briefed local volunteers going door to door. Householders were offered free energy assessments which could lead to fully- or partly-funded energy-saving measures, which would potentially increase the comfort as well as the value of their homes.

The Warming Barton project had a very positive reception from householders and within just two weeks 108 households had signed up for the free energy assessments. A total of 119 assessments were delivered throughout the project and, as local domestic energy assessors were skilled up as Green Deal Assessors following the launch of the Green Deal, 61 of these include full Green Deal Advice Reports (an Energy Performance Certificate (EPC) and Occupancy Assessment). The result was a total of 579 recommended actions, 206 tCO_2 potential annual savings and the potential for each household to save an average of £450 on their bills.

Making connections with existing local groups, including the newly formed Low Carbon Barton environmental group, has been a key part of the successful campaign. The connection with the Council also made a big difference. As a result of this pilot, the Low Carbon Hub have developed a partnership with an ECO provider, Insulation NE, to access ECO funding and install external wall insulation on 27 local homes. As part of the Oxfordshire-wide OxFutures initiative to deliver 2020 emissions targets, the extended 'Warming Oxford' programme will be available to the neighbouring deprived parts of the city: Cowley, Littlemore, Iffley and Headington.

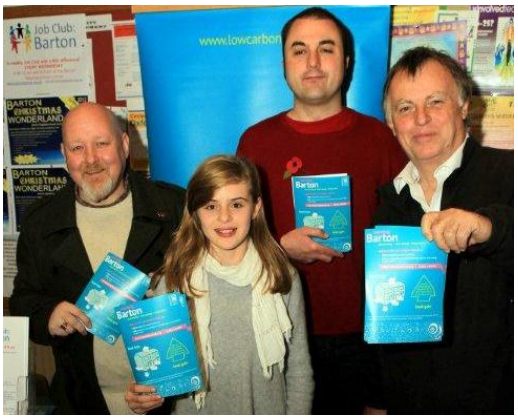

Photo: Oxford City Council

Realising our vision: ECO delivery and community groups

281 ECO is delivered through energy companies, and it is for them to decide how best to meet their obligations. However, we are taking some actions to support this delivery, including measures which can support community involvement.

282 We have launched a programme of stakeholder engagement to increase understanding of ECO. This included a successful programme of regional workshops in the first half of 2013, in co-operation with Energy UK, to help build understanding of ECO and to promote delivery partnerships. These were well attended by a range of stakeholders and particularly by local authorities.

283 We intend to hold a further set of workshops in 2014, again in co-operation with EnergyUK and to be held across the country. These will be particularly focused on addressing barriers to delivery and setting up successful partnerships, including looking at technical issues around delivery.

284 We have provided funding to National Energy Action (NEA) to run a programme of workshops to support delivery of ECO to vulnerable customers. This is part of a wider set of communications activities to build understanding and knowledge of ECO.

285 We are also working to engage local authorities in ECO. Local authorities are a potentially important bridge between communities and energy companies, and could be an important engagement route for those groups who are reluctant to partner with energy companies, or find it hard to do so.

286 To support new ECO partnerships between energy companies and local authorities, we have published the Home Energy Conservation Act (HECA) reports, setting out local authorities' energy conservation plans for their area. This includes a comprehensive tool which enables information from the report to be integrated using various criteria.

287 We are working closely with the Local Government Association (LGA) to identify barriers to ECO delivery perceived by local authorities and to identify what can be done to overcome these and how best practice can be shared.

8.4 Helping communities access new funding sources

288 Communities which want to take action on reducing energy use may need funding for a range of activities. This will vary depending on the type of activity, but some uses cited by *Call for Evidence* respondents included: small amounts of funding to support community engagement, such as venue hire and production and distribution of communication materials; training costs; paying for expert advice; paying members of staff; and hiring meeting places. Depending on the focus of the project, communities will also need to identify a funding source for purchasing and installation of energy efficiency measures such as insulation, although this is likely to be funded through an existing scheme such as the Green Deal or ECO.

289 This financial challenge differs from that faced by energy generation projects, which often have a guaranteed income stream once projects are up and running. For projects or activities focused on reducing energy use, the financial benefits are usually in the form of energy saved and reductions in energy bills. There is no obvious income stream to parallel FITs and RHI. The challenge for these projects is to identify sustainable sources of funding for their activities.

290 Grant funding from various sources has been an important source of income for many community energy projects. Many groups cited central government grants as a source of funding, such as LEAF and the LCCC. Some respondents pointed to funding from their local authority, including energy-specific funds (such as the SHIRE Community Climate Grant in Leicestershire for energy efficient improvements to community buildings), as well as funding for general community activity (such as 'Big Society funds', which were mentioned by projects in Buckinghamshire and Leicestershire). Grants from local voluntary sector organisations were also mentioned by some organisations.

291 Community energy projects face several challenges in accessing and making effective use of grant funding. Community groups pointed out that applying for grants can be resource intensive and require lots of volunteer time, particularly if groups have to apply for many different grant programmes with different criteria. Particular issues included: short timescales to apply for and spend funding; high competition for funding with success seen by some as 'random'; and the 'stop-start' nature of grant funding making it hard to plan activities. Some groups were concerned that reliance on short-term grant funding could lead to volunteer 'burnout' followed by enthusiasm tailing off. This highlights the need for groups to identify more sustainable long term sources of funding for community energy saving activity rather than relying only on grant funding.

292 Some communities are also developing more innovative ways of generating income, ranging from one-off fundraising events to more developed business models. Funding sources include:

- Income from delivering low carbon retrofit schemes (e.g. referral fees or management costs);
- Charging for home visits, energy audits of buildings, or pre-Green Deal assessments;
- Provision of consultancy services;
- Commission from energy efficiency bulk-buying schemes;
- Participation fees, for example charging exhibitors for pitches at events;
- Sponsorship from local businesses;
- More formal partnerships with commercial organisations.

293 Case study 20 shows an example of an innovative business model on community energy saving. Clearly there is no 'one size fits all' model for funding community energy-saving activity. Communities will need to think about what model is right for them, depending on their ambitions and values. The support on capability and capacity set out in Section 4 will help communities to identify funding sources and develop new business models.

Case study 20: An innovative business model for community energy saving: the Carbon Co-op

Carbon Co-op is a community benefit society based in Greater Manchester, currently made up of 81 members working to make radical reductions in household carbon emissions through whole house retrofit. We pool resources to acquire technical skills, access to finance, peer support and to bulk purchase materials at discount.

Early work on bulk purchasing saw Carbon Co-op negotiate discounts with suppliers of LEDs, energy monitors and triple glazed windows. Discounts ranged from 5-25% off retail prices. These smaller offers proved effective engagement and recruitment tools though the update was limited.

Carbon Co-op has now progressed to delivering whole house retrofit projects in the range of £20,000-£60,000 per property. With much increased purchasing power it has been possible to tender retrofit works via a housing association framework, enabling Carbon Co-op members to access volume contractors and a discount prices otherwise only available to housing providers.

In order to do this the co-op has had to engage URBED, an urban design practice with architecture and retrofit experience. Purchasing through the framework has reduced prices and enabled us to source innovative materials. It has also increased the trust members have in the quality of the works.

294 In the future new sources of funding may open up for community energy saving groups. For example, the Community Benefits Register, outlined in Section 3, will support communities to negotiate with developers, potentially opening up new sources of funding for all types of community energy activity in the form of community benefits payments. Allowable Solutions may be an option for community energy groups from 2016 (see below).

295 Support can also be in the form of 'in kind' assistance from local authorities, businesses or voluntary sector organisations, such as free use of office space, exhibition space or meeting places. This can be a way for local organisations to offer support to community energy groups even where funding is not necessarily available.

Realising our vision: Helping communities identify new funding sources

296 A community energy saving competition will offer £100,000 to incentivise communities to develop innovative approaches to saving energy and money. Around six of the best communities will be given access to mentoring support to help them develop their business plans in more detail, with a cash prize going to the community that demonstrates the biggest impact on helping consumers save energy.

297 For many communities interested in taking action to reduce energy use, income from energy generation projects (FITs and RHI) is an important source of funding, as set out in Sections 6 and 7. Responses to the *Call for Evidence* suggested that many communities are already successfully exploring this route. Not every community interested in saving energy can be expected to set up a generation project as a first step, but this can be a useful route into energy saving for some communities.

298 In the longer term, a potential source of funding may be the Allowable Solutions framework, which allows developers to meet their Zero Carbon Homes obligations through funding carbon reductions off-site. This may provide a source of funding for community energy projects, through community energy projects 'selling' their carbon reduction capacity to developers. The government consulted last year on a framework for 'Allowable Solutions' – ways for house builders to offset carbon emissions from new homes which cannot be mitigated by measures like fabric insulation of building integrated renewables like solar panels. The consultation, which closed in October 2013, asked for ideas on the sorts of measures which Allowable Solutions could support, which could include local projects which are cost effective, and the criteria to be used. The Government is considering the responses to the consultation and will announce its conclusions in due course.

9. Managing energy demand

9.1 Reducing carbon emissions and save money through demand management

299 In addition to reducing energy use, by shifting energy demand away from peak times of the day, we are able to reduce the need to invest in costly energy infrastructure. We can also reduce our carbon emissions as we become less reliant on fossil-fuelled power plants.[117] The deployment of smart grids will be central to achieving this.

300 With a progressively smarter grid, consumers are offered much more information about their energy use and are incentivised to shift their demand e.g. through electricity tariffs which are cheaper at off-peak times of the day. At the same time, network operators with more detailed information about supply and demand are able to improve their ability to manage the system locally. This includes accommodating renewable electricity generation, electrification of heating (e.g. heat pumps) and transport (e.g. electric cars) and making greater use of energy storage technologies such as batteries.

301 Smart grids are still at a relatively early stage in deployment and more piloting is needed to test new smart technologies and business models. Communities can help provide the momentum and numbers needed to test these new ways of working, bringing benefits for the communities themselves and for the local network operator.

302 Some community groups have already undertaken energy management projects using smart technologies. However, the number of such projects is small compared to the number of groups involved in renewable electricity generation or energy efficiency.[118] These projects have generally been carried out alongside energy generation and energy saving initiatives, allowing a holistic approach to managing energy needs in the community.

303 This chapter focuses on the two key barriers that have prevented greater numbers of community groups from getting involved in energy demand management:

- Much of the **technology required to facilitate smart energy management is still at a relatively early stage**, with limited communication between some parts of the energy system. Deploying new smart technology can be complex, expensive and will generally require **technical expertise**.

- **Better information about energy usage is needed** for successful energy management projects.

9.2 Need for technology development and piloting

304 Much of the technology required to facilitate smart energy management is still at a relatively early stage. Deploying new smart technology can be complex, expensive and will generally require technical expertise. Despite this, here are a few examples of smart grid approaches in the UK which demonstrate how communities can play an important role in shaping the early deployment of smart grids.

[117] https://www.gov.uk/government/publications/electricity-system-assessment-of-future-challenges
[118] Community Energy in the UK: Part 2, DECC, 2014: https://www.gov.uk/government/publications/community-energy-in-the-uk-part-2.

Case study 21: Energy management in Ashton Hayes

Ashton Hayes is a village of around 1000 people near Chester, in Cheshire. In 2006, it launched 'Ashton Hayes Going Carbon Neutral (AHGCN)', aiming to make the village of just over 400 homes carbon neutral. Since then, domestic energy consumption has fallen by 20.9%, and carbon emissions overall (including homes and transport) by 23%.[119] AHGCN initially focused on energy efficiency measures and behavior change, saving households up to £300 a year through measures such as replacing incandescent lighting with energy efficient bulbs and turning off lights. AHGCN has also installed community owned solar PV arrays on public buildings.

In partnership with the DNO SP Energy Networks Ashton Hayes has received Ofgem Low Carbon Networks (LCN) Funding for the Ashton Hayes Smart Village project. The project has enabled SP Energy Networks to better understand the local network, and how low carbon technologies can be connected without jeopardising the quality of supply. They have learnt more about how they can engage with a community to assist in the reduction of the community's carbon footprint by providing better electricity consumption information and also about how secondary substation monitoring can be automated.

Through monitoring of consumer electricity use in four quadrants of the village, the project gives the community information on electricity consumption and the contribution of community renewable generation. With its relatively small scale, the project has been quick to establish and deliver findings to the DNO, and to provide the University of Chester with real life network data for academic research. More information about the project is available in a short video: http://www.youtube.com/watch?v=wTG9M5_tnDU

Photo: Ashton Hayes Going Carbon Neutral

305 In Orkney, in Scotland, 51MW of additional renewable wind generation capacity has been added to the Grid without costly reinforcement due to the use of an approach known as Active Network Management (see case study in the *Call for Evidence*[120]), demonstrating the potential for smart technologies to assist in connection of renewable technologies.

306 The technical expertise to run a community energy demand management project successfully may be most readily obtained by collaborating with an appropriate partner, and will generally need to be taken forward in partnership with the local DNO. There are several ways that community energy groups can do this, and these are outlined below.

[119] http://www.goingcarbonneutral.co.uk/storage/Earth%20Hour%201.pdf
[120] https://www.gov.uk/government/consultations/community-energy-call-for-evidence

Realising our vision: increasing community energy management through technology development and funding for innovative pilots

307 Through the Smart Grid Forum, the government is working with Ofgem, network operators and wider industry and consumer groups to unlock the potential of - and help deliver - smarter grids. This includes work to overcome commercial, regulatory and technical barriers, aspects of which will benefit community energy projects. The Forum will shortly be publishing its vision for smart grids, which includes: an outline of the benefits smart grids can bring (e.g. a more efficient use of electricity network assets); the progress that has been made to date; and an outline of what further action is needed to maintain momentum. This will provide a useful overview for communities on the role of smart grids, helping them to understand what role they can play in helping to drive deployment.

308 Ofgem's LCN Fund[121] is helping to drive early deployment of smart grids. The LCN Fund is designed to help DNOs as local electricity network operators, to understand how they can provide security of supply while ensuring value for money as we move to a low carbon economy. It provides up to £500m of funding to enable DNOs to test new technologies, operating and commercial arrangements in partnership with suppliers, generators, technology providers and other parties. Community groups, working in partnership with their local DNO may be able to participate in LCN Fund pilots. An example of such participation is Ashton Hayes (case study 21). A coordination portal available on the internet[122] allows ideas to be submitted to DNOs for LCN Fund projects, and can be used by community groups. The scheme runs until March 2015.

309 Ofgem's new RIIO-ED1 Price Control process will allow DNOs to use learning from the LCN Fund trials to put the case forward for investment in smart technologies or commercial arrangements where they provide a more efficient way of managing their network. Where justified, DNOs can start to embed innovative technologies and operational and commercial arrangements into their business as usual practices. The price control also includes strong incentives to encourage continued innovation by DNOs. The LCN Fund will be replaced by the Network Innovation Stimulus, which will provide funding for innovation projects. As with the LCN Fund, communities will be able to explore opportunities to work in partnership with network operators to pilot new energy management approaches.

310 DECC is managing two schemes, with a combined budget of up to £20m, to provide support for innovation in energy storage – a large-scale Energy Storage Technology Demonstration Competition and a Component Research and Feasibility Study Scheme. The competitions are intended to support innovation in storage technologies to secure cost reduction, enable wider deployment of energy storage and bring the technologies closer to market. Some of the projects supported by these competitions are particularly suited to storing surplus energy generated at local level - for example, from domestic or community renewable generation systems - for use at times of higher demand either locally or more widely in the electricity network. For example, under the Technology Demonstration Competition, DECC has awarded a contract to Moixa Technology Ltd to install and demonstrate their small battery-based storage system.[123]

311 The Technology Strategy Board[124] (TSB) energy programme has committed up to £25m per annum specifically to help UK industry profit from the changes the world will

[121] https://www.ofgem.gov.uk/electricity/distribution-networks/network-innovation/low-carbon-networks-fund
[122] http://www.ena-eng.org/lcn/
[123] https://www.gov.uk/government/news/5-million-boost-for-energy-storage-innovation
[124] https://www.innovateuk.org/energy

have to make to address the 'trilemma' of energy security, affordability and sustainability. One area of focus for the TSB is the innovation opportunity arising from better integration of future demand and supply into a flexible, secure and resilient energy system. This has included funding some early stage feasibility studies on community energy demand management approaches through its smart power and buildings better connected competitions in 2012 and 2013. The TSB, with co-funding from the Engineering and Physical Sciences Research Council (EPSRC) launched a new £11m competition which will fund business-led projects seeking to address the innovation challenges of localised energy systems, which may include community partners. This opened for applications on 20 January 2014.[125] The main focus of this cross-sector competition will be to look at innovative approaches across the energy, built environment, digital and transport sectors for integration of the wide variety of technologies required to deliver localised energy systems in terms of both supply and demand.

312 At the European level, the Horizon 2020 programme will provide support for projects covering smart grids and smart cities[126], which can include involvement from community energy groups.

313 It is not clear that community groups are fully aware of the range of sources of funding and technical expertise that is available for them to undertake energy demand management initiatives. DECC will therefore look to work with Ofgem and other relevant organisations to communicate and promote the range of funding options available to support DNOs in their work with communities on the development and deployment of smart grids.

[125] https://www.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/localised-energy-systems-a-cross-sector-approach

[126] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/246019/bis-13-1209-smart-cities-background-paper-digital.pdf

9.3 Need for better consumption data

314 Smart meters are the next generation of gas and electricity meters, and they can offer a range of intelligent functions. They will provide consumers with near real-time information on their energy consumption to help them control and manage their energy use, save money and reduce carbon emissions. Smart metering will also create a platform to support smart grids (see above), helping to manage the generation and distribution of energy more cost-effectively.

315 Smart meters will be able to support community energy projects. They can facilitate projects focused on energy demand management or discussion by community groups about energy use. In the government response to the Consultation on the Consumer Engagement Strategy for Smart Metering[127], we highlighted the important role that community organisations will play in delivering effective consumer engagement with smart meters.

316 Smart meters will also help groups to measure the impacts of their projects. Research has begun to test what advice, guidance and encouragement can be delivered alongside a smart meter installation to help communities and their members reduce (or better manage) their energy consumption.

317 For many types of community projects, it may be helpful to also obtain community-wide consumption data. Data of different granularities may be used for different purposes, for example to facilitate energy demand management approaches, to enable collective switching schemes, or to provide energy efficiency advice. The government is keen for worthwhile projects to be able to benefit from smart meter data, but at the same time it is important to recognise the need for consumers to have choice about who can see their consumption data.

Realising our vision: helping communities benefit from smart meters

318 Most households will have smart meters installed by their energy company between 2015 and 2020, although some energy companies are starting to install smart meters now. Smart meters will provide a technology platform which supports many new smart innovations including smarter appliances.

319 Energy suppliers are required to set up and fund a new ‘centralised delivery body’ (CDB) to deliver a centralised programme of consumer engagement for smart meter roll-out. We expect the CDB to work with trusted third parties such as community groups, charities and local authorities to engage consumers. Such engagement at local or community level will help consumers – including those who are on lower incomes or otherwise vulnerable – to understand their smart meters and bring about the behaviour change that will deliver reduced consumption.

320 Once the procedures for third party access to smart meter data are finalised, DECC will provide guidance on the processes for community groups.

[127] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43042/7224-gov-resp-sm-consumer-engagement.pdf

10. Purchasing energy

10.1 Saving people money and helping vulnerable consumers

321 Community energy purchasing and switching can help consumers secure better deals on energy tariffs, fuels, products and services through discounts or referral fees. Communities and local authorities are well placed to act as trusted brokers between energy suppliers, installers and consumers, and can increase community trust, and therefore engagement in energy schemes such as collective switching.[128]

322 Projects include collective purchasing, or bulk buying, of heating oil for off-gas grid consumers (see case study 22 - Allen Valleys Oil Group), low carbon materials such as insulation, and renewable technologies such as heat pumps or solar PV panels. It also includes collective switching, whereby groups of consumers come together to negotiate a cheaper tariff with electricity or gas suppliers. DECC has been instrumental in developing collective switching and purchasing through the Cheaper Energy Together funding scheme which awarded £5m of funds to 31 different projects.

Case study 22: Allen Valleys Oil Group

The Allen Valleys Oil Buying Co-operative is a fuel oil buying group located in the south of Northumberland. It was set up in 2011 due to escalating fuel prices, local fuel poverty concerns, and a lack of competition and transparency from suppliers. Working in partnership with Fawside, a community charity that provided administrative support, the group began registering members in the summer, and their first bulk order for oil was placed in September 2011. To date the group has approximately 211 members, which include local residents, businesses and organisations in the local community.

The more oil that can be bought per order, the more the cost comes down per litre, so buying oil collaboratively means cheaper oil for all those buying through the group. Average savings are approximately £50 per 1000 litres of heating oil. The ability to buy in bulk through the group also means members can buy oil at the same discounted price regardless of how much fuel they personally order. This is particularly beneficial for the fuel poor who are not in a financial position to order in large quantities. Another benefit of the scheme is that fewer trips by large oil tankers to the area are needed, which means deliveries cost less and have lower carbon emissions overall.

The collective action engendered through the buying group has helped build community spirit around a common purpose. The group is now looking to expand its membership base across the County, and widen the scope of its activities to include the bulk purchase of energy efficiency measures and renewable energy technologies.

See http://www.allenvalleys.co.uk/oil for more information.

323 Energy purchasing projects have only recently been tried at scale, but there has already been significant interest. The Citizen's Advice Bureau currently has 71 oil buying groups registered in England and Wales and over 100 local authorities have run collective switching programmes, often working closely with community groups and organisations in the local area to increase uptake.

[128] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation

324 However, *Community Energy in the UK: A review of the evidence* provided limited coverage of community energy purchasing projects - less than 5% of submissions included any reference to collective switching or purchasing. We do not therefore have a complete picture of the current or potential scale of community energy purchasing projects, nor a full understanding of all the barriers and benefits. DECC has been undertaking its own evaluation of the RHPP 2 Communities and Cheaper Energy Together schemes, contributing to our understanding of community energy purchasing projects.

325 The objective of the RHPP 2 Community Scheme was to install renewable heat systems into privately-owned homes, through additional government funding and by encouraging community group action such as community purchasing. The scheme delivered 364 installations through grant payments totaling over £910,000. The eligible technologies were solar thermal, biomass boilers and ground- and air-source heat pumps. It has yielded a number of successful examples (see case study 23 - Transition Town Totnes) and the ongoing evaluation is producing a great deal of learning around factors for success and constraints to these types of projects. The full evaluation will be published later in 2014.

Case study 23: Transition Town Totnes

Transition Town Totnes (TTT) in Devon is a dynamic, community-led charity that exists to strengthen the local economy, reduce the cost of living and build resilience for a future with less cheap energy and a changing climate. The group delivers a broad range of projects, mainly through volunteer input, focusing on food, housing, sharing skills and creating livelihoods.

Community energy projects are an important part of this mix. The Transition Streets project involved over 550 households, working together to reduce their energy use through behaviour change and energy efficiency measures. On average each household saved £570 per annum off their household bills (food, transport and water as well as energy) and 1.2 tonnes of carbon. Through their Streets-wise package of training and support, TTT are also enabling other communities to deliver Transition Streets projects in their area.

In 2009 TTT were awarded a DECC grant of £625,000 through the LCCC, which was spent on installing 141 domestic solar PV systems (44% in homes of low income households) as well as a 14kW PV array on the Totnes Civic hall.

In December 2012 TTT were awarded funding under DECC's RHPP 2 Communities scheme. They achieved discounts of 5% on the full range of renewable heat technologies through a partnership with a local installer. They also managed to secure an additional referral fee of 1.5-2% for each installation. The take-up of 19 installations was less than expected (factors contributing to this included households struggling to find the initial capital outlay despite the grant they were able to offer, and some uncertainty around RHI), but it did allow them to promote renewable heat more widely through initiatives such as eco-homes events (which involved several renewable heat installations) and they plan to continue this activity. Indeed, following another tender involving local installers, TTT are now offering a solar PV referral scheme in partnership with a Totnes based PV installer. Households can secure PV at a discounted price and cashback of 20 Totnes pounds, the local currency, and TTT receives a referral fee of 5% for each installation.

326 The aim of the Cheaper Energy Together scheme was to support local councils and third sector organisations, including community groups, to deliver and raise awareness of collective switching and purchasing schemes across the UK. All schemes supported were required to have a focus on engaging with vulnerable consumers and were asked to try different approaches in order to establish which were the most successful at engaging with consumers, particularly vulnerable consumers. Money was awarded to 31 projects, which together covered 94 local councils and eight third sector organisations, many of whom worked in collaboration with local community groups.

327 Research commissioned by DECC suggests that collective switching schemes and oil buying groups have the potential for improving competition in the market and providing assistance for the least well off to secure a better deal on their energy. These schemes can offer people greater support and advice than if they switch supplier themselves, for example through raising awareness, explaining the processes involved and helping customers access their energy details.[129]

328 Many schemes are also using funds raised through referral fees to support fuel poverty projects in their local areas and are using the opportunity to speak to households about other help they can access to reduce their energy bills such as support to install energy efficiency measures and eligibility for other schemes such as Warm Home Discount.

329 The evidence from Cheaper Energy Together has shown that many of the households supported through the scheme were vulnerable or previously unengaged with energy, showing that collective switching can help the most in need, including those who may be in fuel poverty. DECC's evaluation shows that the schemes were successful in engaging with consumers, encouraging them to find out whether they could get a cheaper deal on their energy bill and saving customers money. So far they have delivered savings of over £2.7m to consumers, a result of over 21,000 households switching energy supplier and making an average saving of £131. The collective switching schemes helped significant numbers of people to sign up, many of whom may be considered vulnerable, and 49% of whom had not switched energy companies for at least 3 years. Our findings show that the involvement of local trusted organisations prompted people to sign up who haven't switched before and that consumers liked the support that was offered to them throughout the process. There remain barriers and difficulties to switching to the best deal, including complexity, and collective switching schemes did not fully overcome these as the conversion rate of sign up to switching for several schemes was lower than initial expectations.[130]

330 The funding has left a legacy of infrastructure for delivering future schemes, as well as experience of how community approaches can be effectively deployed to increase success. For example, Community Energy Direct are now working on a behaviour change initiative with their local Energy Smart Champions they trained for Cheaper Energy Together (see case study 24 - Community Energy Direct).

331 DECC has continued to engage with organisers of schemes including community organisations to gather best practice and guidance for future collective switching scheme. On 30 October 2013, DECC hosted a seminar – 'Helping consumers with their energy bills: Collective Switching and Beyond' – to discuss the impact of collective switching and explore new ways to help consumers reduce their energy bills. Many of the issues discussed were related to wider developments in the retail market. For example issues were raised around

[129] DECC (2014) Local Authority Competitions 2012/13 Process Evaluation
[130] https://www.gov.uk/government/publications/helping-customers-switch-collective-switching-and-beyond

the work of third party intermediaries (TPIs), many of which Ofgem are considering as part of their programme of work looking into the regulatory framework concerning third party intermediaries.

10.2 Community energy purchasing projects need guidance and coordination

332 Collective switching is a relatively new development in the energy retail market and there are currently gaps in understanding and awareness on what community groups can achieve. DECC has previously issued guidance intended for organisers of collective switching organisations[131], and we have learned much from our own evaluation of Cheaper Energy Together and that of individual schemes. This has informed revised guidance for collective switching organisers, published alongside this Strategy. We will continue our engagement with stakeholders involved in energy purchasing schemes and further our understanding.

333 The potential role of oil buying groups in providing economies of scale and environmental benefits through fewer and better coordinated deliveries is clear. DECC is also working with stakeholders in taking action to promote and support oil buying groups.

Realising our vision: helping communities network to increase purchasing power

334 One Stop Shop information resource (see Section 4) will provide a range of services that will help community groups set up and run their own energy purchasing projects. We envisage this including best practice case studies, 'how to' guides and shared templates and protocols.

335 Cheaper Energy Together, a scheme which supported the development of 31 innovative collective switching and purchasing schemes for energy during 2012/13. Already collective switching has delivered substantial savings to consumers, with over 21,000 households switching energy supplier through the Cheaper Energy Together scheme and making an average saving of £131[132]. We now want to build on the valuable experience and infrastructure developed through these schemes to enable even more consumers to benefit.

336 Revised and updated guidance and best practise for organisers of collective switching schemes has been published today at https://www.gov.uk/collective-switching-and-purchasing. The revised guidance reflects the learning we have gathered from our own evaluation of Cheaper Energy Together and that of individual schemes.

337 A Ministerial round table on heating oil and LPG (liquid petroleum gas), which for the first time brings together government, industry, consumer representatives and oil buying groups. ACRE, Citizens Advice, and the FPS (Federation of Petroleum Suppliers) have produced guidance on best practice. DECC have also backed the Buy Oil Early campaign which aims to encourage heating oil users to stock up early before the winter.

[131] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/36700/5367-collective-purchasing--guidance-for-providers.pdf

[132] Helping Customers Switch: Collective Switching and Beyond, DECC, 2013: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253862/Helping_Customers_Switch_Collective_Switching_and_Beyond_final__2_.pdf

Case study 24: Community Energy Direct

Community Energy Direct (CED) is a co-operative which works to support energy champions – local people who want to set up and run energy clubs in their local communities. Working with CED, these Energy Smart Champions run behaviour change programmes to help people in their local community to:

- Get a better energy deal;
- Reduce their energy demand; and
- Engage in dialogue about energy issues.

In December 2012 CED was awarded £233,000 through DECC's Cheaper Energy Together grant scheme, which enabled the kick-start of the Energy Smart Club model.

In February 2013 CED and Which? launched a collective switching programme across large parts of Yorkshire and the North West of England. Working in partnership with local authorities, housing associations and community groups in Bradford, Kirklees, Leeds, Rochdale, Wakefield and York, CED was able to reach more than 70,000 households. The message was delivered through the Energy Smart Champions and trusted members of the community, such as councillors, schools, and local media sources.

Nearly 7,000 households, many of them low income or including an elderly resident, registered for the scheme, with around half of these receiving a better energy price offer through the scheme than their existing tariff. More than 600 households switched, with an average saving per household of £173. The City of York achieved one of the highest switch rates in the UK at 13.8%, which was in large part due to the enthusiasm and trust engendered by the five local Energy Smart Champions working with the community.

CED is currently working on energy behaviour change challenges with Energy Smart Champions in Bradford, Rochdale, Settle and York. More information is available at www.communityenergy.info.

Photo: Members of Community Energy Direct

10.3 We are focusing our support on helping vulnerable consumers

338 Energy purchasing projects can be resource intensive and community projects may lack the capacity and capability, both in terms of the outreach and engagement with the wider community and contractual negotiations with suppliers. Through the Cheaper Energy Together funding many schemes have developed infrastructure and resources that will assist them with running future schemes. We are also supporting schemes that engage consumers in the energy market outside collective switching, through the BESN.

Realising our vision: Big Energy Saving Network

339 The BESN is a £900,000 fund to support eligible third sector organisations and community groups to deliver an extensive programme of outreach to vulnerable consumers, focussed on helping them reduce their energy costs through assisted action on tariffs, switching and take-up of energy efficiency offers. Additional funding of £1m will allow us to continue supporting BESN in 2014/15.

340 And recently DECC announced that it will work with the Post Office to signpost elderly and vulnerable people to the 500 volunteers being trained by the BESN to help people find ways to cut their bills. The Post Office and DECC are also working on further options to help vulnerable consumers with information to help them save money on their energy bills, including linking the work the Post Office network does in communities and the BESN.

10.4 We are reforming the retail energy market

341 There remain barriers and difficulties to understanding the retail energy market both for consumers and scheme organisers due to the complexity of tariffs. Ofgem's Retail Market Review (RMR) is addressing these by introducing measures to simplify and standardise tariff structures and require suppliers to provide consumers with clearer and better quality information so that it will be easier for consumers to compare tariffs.

342 Ofgem are also considering whether there is a need for future oversight specifically for domestic collective switching schemes, for example through expansion of the Confidence Code to cover collective switching service providers in order to ensure consumer trust and protection in these schemes.

343 We expect that this framework will provide greater clarity for all participants including organisers of schemes in this new and developing concept and could facilitate engagement by all parties.

Realising our vision: helping the retail energy market work better

344 Ofgem's RMR, designed to make the market simpler, clearer and fairer, has recognised the potential role that collective switching can play in engaging consumers and allowed for its development through creation of bespoke tariffs. [133]

345 Ofgem are currently considering regulatory issues around collective switching as part of their wider programme of work on TPI's in order to ensure consumer trust and protection in these schemes. For example, through expansion of the Confidence Code to cover collective switching service providers in order to ensure consumer trust and protection in these schemes. They are due to consult on their proposals in early 2014.

[133] https://www.ofgem.gov.uk/sites/default/files/docs/decisions/the_retail_market_review_-_implementation_of_simpler_tariff_choices_and_clearer_information.pdf

11. Next Steps

346 This Strategy lays the foundation for future growth of community energy in the UK. We have explained how we are supporting community energy across the four strands of generation, reduction, management and purchasing. Both DECC and many other government departments are removing the barriers faced by communities that want to take action on energy and creating opportunities for more people to get involved. Our vision is that every community that wants to form an energy group or take forward an energy project should be able to do so.

347 Government can support community-led action on energy, but to realise the full potential of community energy will require concerted support from many different organisations. There are many examples of partnerships and collaborations showcased in the case studies in this Strategy, but there is considerable scope to go further in providing wide-ranging support to community energy.

The organisations that can realise a step-change in community energy

348 The **regulators** whose processes community energy groups need to interact with, for example Ofgem and the Environment Agency. They need to ensure that processes are as simple as possible for community energy. Regulators will be working through the new groups set up through this Strategy to streamline processes and produce guidance to achieve this.

349 **Local Authorities** must back community energy projects in their areas. Their support can make a big difference to the success of community energy projects by providing them with support at key stages in their development. There are several examples of supportive Local Authorities in this Strategy, and we want this to be the norm, which is why the Secretary of State for Energy and Climate Change has written to all Local Authorities in England.

350 **Developers of energy infrastructure** need to involve communities more. This can involve offering a share of ownership of wind turbines or a solar array. A starting point for this is the commitment from the renewables industry to facilitate a substantial increase in the shared ownership of new, commercial onshore renewables developments, but we want to see this become a reality between now and 2020.

351 Community Energy requires investment, which can come from a number of sources. There have been many successful community share offers, and we support this model of drawing in **investment from members of communities** keen to share in the benefits of energy activities. We also recognise that other sources of investment are needed, and encourage **finance providers** to consider the benefits of supporting community energy.

352 New partnerships can expand the horizons of community energy. For example LEPs or local businesses can increase the opportunities available for community energy in their areas. We challenge community energy groups to think about how they can work best with new partners to make the most of these opportunities.

353 Community energy has vast potential. Installed capacity to generate renewable energy might grow to as much as 3GW by 2020 if all of the organisations that can support community energy do so. The wider benefits to communities if this revolution is realised may

be huge, including increased social cohesion, local economic benefits and increased awareness of energy and climate change issues.

354 Most of all, community energy is about the dedicated individuals in communities across the country who give their time to energy projects in their communities. These people have driven community energy from the grassroots, pioneering new ways to engage communities across the country in a wide variety of energy initiatives. They have paved the way for many more communities to follow.

355 We need the early pioneers to take up the challenge of sharing their expertise with other communities and to continue to make the voice of the growing sector heard. We encourage the sector to come together to do both of these. We are aware of regional clusters of community energy groups collaborating, learning from other groups experiences and forming bodies with a more effective representative voice.

356 It is important that government does not unwittingly place barriers in the way of community energy. We will ensure that future energy policy recognises the contribution of community energy. To this end, the Community Energy Contact Group (CECG) will continue to advise DECC Ministers, representing the diversity of community energy initiatives across the UK. This will ensure that the policy framework adapts as new technologies become available and communities trial new energy initiatives. We will also strengthen the Community Energy Contact Group, with new terms of reference designed to ensure that the group remains representative of the growing sector and is able to effectively challenge and contribute to policy design.

357 DECC recognises the importance of building community energy into future policy. We are therefore establishing a dedicated Community Energy Unit to act as the Department's policy lead on community energy and to take forward implementation of this Strategy.

358 We recognise that we need to build the evidence base for community energy and understand the impact of this Strategy on the sector. We will evaluate the measures that we put into place to support community energy, including the £80m Green Deal Communities scheme, RCEF and UCEF.

359 We will survey the community energy sector in two years' time, working with relevant intermediary organisations to reach as many groups as possible. This will enable us to get a better understanding of the nature of the community energy activities being undertaken, their geographical locations and the barriers that they face.

12. Annex 1: Action Plan

360 This Action Plan gives an overview of key actions to support community energy which are referenced in this Strategy. A more detailed implementation plan, including key dates and milestones, will be developed as part of the process of implementing the Strategy.

361 Parts of the energy system are devolved to different extents in Wales, Scotland and Northern Ireland, hence each policy measure within this Strategy applies differently in each territory. All the Devolved Administrations have been fully engaged in developing this Strategy, but retain the right to develop policies for devolved areas.

362 This DECC Strategy and its actions primarily focus on Great Britain. In Northern Ireland both energy and planning policy are devolved matters and appropriate actions are being taken forward across a number of areas. In particular, a separate study into communities and renewable energy was published in October 2013 by the Department of Enterprise, Trade and Investment along with the Departments of the Environment and Agriculture and Rural Development. One of the recommendations of that study was that the Departments should await the publication of this Strategy and consider its proposals before preparing and consulting on an Action Plan reflecting the Northern Ireland position.

Section of Strategy	What we've already done to support Community Energy	What we're doing through this Strategy	Further actions we hope to take in the future
Partnerships		• Secretary of State has written to all Local Authority Leaders in England • Communities Conference in early 2014	• Renewable industry taskforce on community ownership (2014)
Capacity and capability	• £80m Community First programme • Training 5,000 Community Organisers by 2015 • Community Shares Unit set up	• Joint Cabinet Office/DECC £500,000 Community Energy Peer Mentoring Fund	
Measuring impact	• Evaluations of previous DECC-funded community energy schemes • Research commissioned alongside Strategy • Funding for academic	• Tools for measuring impact as part of new information resource • Evaluation of government-funded community energy activities.	• Measuring outcomes of £80m Green Deal Communities scheme, DECC/DEFRA-funded RCEF and the UCEF

Section of Strategy	What we've already done to support Community Energy	What we're doing through this Strategy	Further actions we hope to take in the future
	research into community energy from Research Councils and the Higher Education Innovation Fund	• Survey of community energy sector in two years to understand the effects of this Strategy on the types and locations of community energy projects	• Smart meters will enable easier access to energy consumption data
Electricity generation	• FITs, Renewable Obligation Certificates and PPAs to provide income for community energy • £15m RCEF • Enterprise Investment Scheme (EIS) tax relief for investors in community electricity generation groups receiving FITs • DECC has convened round table discussions to identify ways to address barriers around finance • 'Licence Lite' being explored by the Greater London Authority (GLA) • Big Society Capital funding for community renewable energy projects • £10m Social Incubator Fund to support social start-ups. • The Cabinet Office's Investment and Contract Readiness Fund (ICRF)	• £10m UCEF providing early stage finance for CE groups in England • Consulting on an increase in the FITs capacity ceiling for community projects from 5 to 10MW in spring 2014 • Three new working groups to address barriers to Planning & Permitting, Hydro and Grid Connections (reporting back with recommendations in 2014) • Working with Ofgem to monitor progress on Licence Lite	• Opened informal discussions with the European Commission about the possibility of including the small-scale onshore wind energy and small-scale hydro energy sectors within GIB's approved scope of operation. • 'Offtaker of Last Resort' mechanism to help CE groups access PPAs • Meeting between Ofgem and community groups on Licence Lite in 2014
Heat generation	• The non-domestic RHI was introduced in 2011 • The £15m RCEF fund provides grants and	• The £10m UCEF (See Electricity Generation)	• The domestic RHI will launch in 2014 • New RHI

Section of Strategy	What we've already done to support Community Energy	What we're doing through this Strategy	Further actions we hope to take in the future
	unsecured loans to community energy generation projects, including heat projects • DECC has previously developed a 'heat map' for England • New Heat Network Delivery Unit (HNDU)		information resource for communities hosted online • Augment the National Heat Map with a new water source heat map
Reducing energy use	• LEAF and the LCCC provided funding for community energy efficiency projects • £80m Green Deal Communities scheme • New guidance for Green Deal participants on licensing requirements under the Consumer Credit Act (1974) • Green Open Homes network • Engaging vulnerable consumers in energy efficiency through BESN	• Joint Cabinet Office/DECC £500,000 Social Action Energy Advice Pilots and Playbook (SAEAPP) fund • Community Energy Saving Competition • Programme of engagement with communities and LAs in ECO	• Sharing learning from SAEAPP scheme • The Zero Carbon Home 'Allowable Solutions' framework (funding from 2016)
Managing energy demand	• Working with Ofgem, DNOs, industry and consumers through Smart Grid Forum • Support for smart technology trials and local energy management from Ofgem (through the Low Carbon Networks Fund) DECC, and the Technology Strategy Board • Support for smart grids and cities projects through Horizon 2020 programme	• DECC will work with Ofgem and other relevant organisations to communicate and promote the range of funding options available to support DNOs in their work with communities on the development and deployment of smart grids • Once the procedures for third party access to smart meter data are finalised, DECC will provide guidance on the processes for	• Smart meters will be rolled out as standard across GB households between 2015 and 2020

Section of Strategy	What we've already done to support Community Energy	What we're doing through this Strategy	Further actions we hope to take in the future
		community groups	
Purchasing energy	• Cheaper Energy Together, a £5m grant funding offer, which supported 31 collective switching schemes across Great Britain • £900,000 BESN to deliver community outreach to vulnerable consumers • Established a working group with representatives from industry, consumer groups, and Ofgem • Produced new guidance on collective switching (with Consumer Focus) • DECC's Secretary of State wrote to all domestic gas and electricity suppliers encouraging their participation in collective purchasing/switching schemes • Ofgem's Retail Market Review to make retail market simpler • DECC is supporting oil buying groups and has backed the Buy Oil Early campaign • RHPP 2 Communities scheme	• Revised and updated guidance for organisers of collective switching schemes • Further £1m additional funding to continue supporting BESN in 2014/15	• Engaging with Ofgem in their work on regulatory issues around collective switching • We will engage with energy suppliers, including independent suppliers, and scheme organisers about how auctions can be designed to secure the best possible deals for consumers

13. Annex 2: Members of the Community Energy Contact Group (CECG)

- **Peter Capener** (Bath and West Community Energy, Community Energy Practitioners' Forum)
- **Garry Charnock** (Ashton Hayes, Cheshire)
- **Nigel Farren** (Energise Barnet)
- **Stephen Frankel** (Wadebridge Renewable Energy Network)
- **Nicholas Gubbins** (Community Energy Scotland)
- **Barbara Hammond** (Low Carbon West Oxford)
- Chair: **Peter Lipman** (Community and Climate Action Alliance, Chair Transition Network)
- **Dan McCallum** (Awel Aman Tawe)
- **Agamemnon Otero** (Brixton Energy)
- **Simon Sjenitzer** (Eden Valley, Cumbria)
- **Becky Willis** (Community Energy Coalition)

Further details of the CECG are available here: https://www.gov.uk/government/policy-advisory-groups/community-energy-contact-group

14. Annex 3: Glossary

AHGCN – Ashton Hayes Going Carbon Neutral

BSC – Big Society Capital

BESN – Big Energy Saving Network

BWCE – Bath & West Community Energy

CARES – Community and Renewable Energy Scheme

CDB – Centralised Delivery Body

CEC – Community Energy Coalition

CECG – Community Energy Contact Group

CED – Community Energy Direct

CfD – Contracts for Difference

CFDL – Carbon Free Developments Ltd

CHP – Combined Heat and Power

CSE – Centre for Sustainable Energy

DCLG – Department of Communities and Local Government

DECC – Department of Energy and Climate Change

Defra – Department for Environment, Food and Rural Affairs

DG – Distributed Generation

DNO – Distribution Network Operator

ECO – Energy Company Obligation

EIS – Enterprise Investment Scheme

EPC – Energy Performance Certificate

EPSRC – Engineering and Physical Sciences Research Council

ERDF – European Regional Development Fund

ESRC – Economic and Social Research Council

EVALOC – Evaluating Low Carbon Communities

FIT – Feed in Tariff

FPS – Federation of Petroleum Suppliers

GB – Great Britain

GDP – Green Deal Provider

GIB – Green Investment Bank

GLA – Greater London Authority

GPS – Government Procurement Service

HECA – Home Energy Conservation Act

HEIF – Higher Education Innovation Fund

HNDU – Heat Network Delivery Unit

ICRF – Investment and Contract Readiness Fund

ICE – Incentive on Connections Engagement

LEAF – Local Energy Assessment Fund

LED – Light Emitting Diode

LEP – Local Enterprise Partnership

LCCC – Low Carbon Communities Challenge

LCN – Low Carbon Networks

LGA – Local Government Association

LPG – Liquified Petroleum Gas

MCS – Microgeneration certification scheme

NCWF – Neilston Community Wind Farm

NDT – Neilston Development Trust

NEA – National Energy Action

NPPF – National Planning Policy Framework

PPA – Power Purchase Agreement

PV – Photovoltaic

RCEF – Rural Community Energy Fund

RHI – Renewable Heat Incentive

RHPP – Renewable Heat Premium Payment

RIIO-ED1 – Revenue = Incentives + Innovation + Outputs - Electricity Distribution 1

RMR – Retail Market Review

ROC – Renewable Obligation Certificate

SAEAPP – Social Action Energy Advice Pilots and Playbook

SMIP – Smart Metering Implementation Programme

TPI – Third Party Intermediary

TSB – Technology Strategy Board

TTT – Transition Town Totnes

UCEF – Urban Community Energy Fund

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