

Catalysing People-powered Energy in Yorkshire and the Humber

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Published version

EADSON, William, DOBSON, Julian, SHEPHERD, Joshua, BRIDGE, Emma and HALL, Jon (2019). Catalysing People-powered Energy in Yorkshire and the Humber. Project Report. Centre for Regional Economic and Social Research, Sheffield Hallam University.

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Catalysing People-powered Energy in Yorkshire and the Humber

2019

**Sheffield
Hallam
University** | Centre for
Regional Economic
and Social Research



Catalysing People-powered Energy in Yorkshire and the Humber

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November 2019



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Acknowledgements

Many thanks are due to all those who contributed to this report in one way or another. This includes all the staff at Community Energy England who supported the research by providing their time for free, and Northern Powergrid for providing financial support to hold a policy options workshop. Thanks also to Sarah Ward at CRESR for designing and creating the final report, and to Melissa McGregor and Emma Smith for helping to arrange policy workshops.

Most importantly, thank you to all the community energy groups and policy stakeholders across the region who took part in the research, either through being interviewed or taking part in research workshops. Your input at all stages of the project was invaluable.

Executive Summary

About this report

This report summarises a research project undertaken by CRESR and Community Energy England to gauge the opportunities and challenges for the community energy sector in Yorkshire and the Humber, and the value of improved regional coordination. The research was conducted in 2018.

What we researched

Through policy analysis, interviews with practitioners and stakeholders and focused case studies we aimed to:

- ▶ Map community energy activity in Yorkshire and the Humber
- ▶ Analyse policy at the local level to gauge levels of support
- ▶ Identify gaps, barriers and challenges
- ▶ Produce policy recommendations to catalyse supportive action

Our key findings

There have been some significant achievements by nine community energy projects across the region, and pockets of technical expertise have been developed over a number of years. Community share offers have become a proven and reliable way of raising money. Some local authorities have shown consistent support for community energy projects.

However, there are significant barriers to progress. These include:

- ▶ Changes to feed-in tariffs and regulatory regimes

- ▶ Limited capacity of volunteers and specialist staff
- ▶ Difficulty in achieving economies of scale
- ▶ Lack of access to influential politicians or funders
- ▶ Difficulties in accessing suitable sites
- ▶ Limited support for innovation
- ▶ Localised difficulties in grid connection

These barriers are exacerbated by institutional challenges, including:

- ▶ Less voluntary sector activity per capita than other regions
- ▶ Stretched public services and funding cuts
- ▶ Economic disadvantage
- ▶ Lack of policy support
- ▶ Focus on more challenging technologies (e.g. hydro power)

We recommend a series of policy actions to address these barriers and challenges.

First, community energy should be integrated into the planning system and supported by Local Plans. Local authorities should map opportunities for renewable energy development and community-based renewable energy should be encouraged in new housing developments and community buildings. Procurement rules should be examined to remove barriers to community energy schemes.

Second, there should be business rate relief for community energy investment. National guidelines on business rate relief should be amended to

encourage investment in community renewable energy schemes. Businesses that invest in community energy generation on their premises should qualify for business rate relief to match their investment for up to five years.

Third, a recyclable loan fund should be established to invest in community energy projects in Yorkshire and the Humber. Repayments should be used to fund new projects. The fund should be administered by an established social finance organisation and encourage partnerships with community 'anchor' organisations with appropriate assets that can be used for energy generation and distribute community benefits where they are most needed.

Fourth, we recommend a regional fund to support grid connection in areas where the cost has proved prohibitive. Promising projects have stumbled because of the cost of network connection and this barrier could be overcome via a fund administered through the regional Energy Hub and capitalised with contributions from BEIS and Local Enterprise Partnerships.



1. Introduction

This report outlines the findings from research conducted by the Centre for Regional Economic and Social Research (CRESR), Sheffield Hallam University, in partnership with Community Energy England.

We look at the drivers and barriers for community energy in Yorkshire and the Humber, focusing on how best to support growth of the sector in the region. This includes a set of policy recommendations for action by local, city-regional and regional policy-makers and stakeholder institutions.

The research was funded by Sheffield Hallam University and Community Energy England. Northern Powergrid also provided funding to hold a policy recommendations workshop.

1.1. Research Aims

Yorkshire and the Humber has one of the lowest levels of activity on local and community energy, and unlike some regions such as the North West, South East and South West support infrastructure is underdeveloped. There is a need to both better understand the underlying reasons for this, to understand how barriers can be addressed and to implement some initial support mechanisms to take any insights forward.

This research project aimed to produce an evidence base to better understand the barriers and opportunities for community energy in the Yorkshire and Humber region, with a focus on how local and regional stakeholders can support community energy in the region to thrive.

The project sought to:

- ▶ Map existing local and community energy activity across the region.
- ▶ Analyse existing policy across the region to understand where and how local and city-regional policy is (or is not) seeking to support local and community energy.
- ▶ Understand the barriers to local and community energy action in Yorkshire and Humber.
- ▶ Produce policy recommendations to catalyse action in Yorkshire and Humber as part of a Y&H Energy Vision.
- ▶ Engage with development of Yorkshire and Humber Energy forum.





These objectives led into the research activities outlined below.

Project partners Community Energy England supported the project through provision of staff resource and facilities. Key stakeholders Zero Carbon Yorkshire, Northern Powergrid, Friends of the Earth and LEP and LA representatives provided support through a project advisory group.

1.2. Methodology

The project employed a mixed methods approach, drawing together in-depth qualitative methods with secondary quantitative data analysis and documentary review.

Research activities were as follows:

- ▶ Desk-based review of existing local and community energy activity in Y&H.
- ▶ Secondary data analysis of CEE state of the sector survey and other CEE datasets.
- ▶ Analysis of existing local, city-regional and regional policy documents.
- ▶ In-depth scoping interviews with:
 - All existing community energy projects/ groups in Yorkshire and the Humber.
 - Failed or stalled energy projects.
 - Other stakeholders including, Local Enterprise Partnerships / Combined Authorities and Northern Powergrid (the Distribution Network Operator for the region).
- ▶ Three locality case studies to map out local latent demand, support infrastructure and drivers/barriers in specific contexts. These were:
 - Sheffield: a large urban area with some activity on local/community energy and recent policy interest.
 - Grimsby/ North East Lincolnshire: an area with specific economic and energy generation potential opportunities around onshore and offshore wind.
 - Barnsley: an urban area with strong municipal support for large-scale renewable energy initiatives with a local housing provider.
- ▶ Comparator interviews with stakeholders in the North West.
- ▶ Workshop/focus group with key respondents from interviews to test and refine emerging findings and recommendations.



2. Context

There are urgent pressures to radically and rapidly reconfigure energy systems. Foremost in terms of planetary ecosystem survival is the need to rapidly decarbonise through deployment of renewable energy and energy efficiency measures. The UK is committed to reducing greenhouse gas emissions by 57% by 2030 and to net zero by 2050.

Emissions from electricity production have reduced substantially since 2008 (almost 60%; CCC, 2018) but clean energy production remains a central means for achieving decarbonisation, including through supporting decarbonisation of other high emitting sectors such as heat and transport.

In some places access to a secure supply (and choice over different forms of energy supply) remains uncertain. Growing pressure on energy networks such as increased demand for electricity from heat and vehicle electrification and changing distribution of energy generation create supply challenges in other areas.

Meanwhile over 10 per cent of English households are considered to be living in fuel poverty, with investment in household retrofit stalling in recent years. The UK energy system is dominated by a small number of large multi-national energy companies which are not trusted by energy users and which create a democratic deficit at the heart of the energy system. For many people, community and locally owned energy generation and supply offers a means of democratising the energy supply while providing positive outcomes for communities, such as investment in fuel poverty schemes or wider community development work.

2.1. National policy context

The policy landscape has changed significantly over the last few years, with much of the support

for onshore renewables being removed. The announcement to end the Feed-In Tariff in Spring 2019 hit the community energy sector especially hard. Prior to this, tax incentives, including the Enterprise Investment Scheme and Social Investment Tax Relief, became ineligible for renewable energy schemes in late 2015, significantly increasing the difficulty for groups attempting to raise capital for higher risk, innovative and larger scale projects. Other changes to VAT, planning and proposed changes to the charging regime for the grid – to name a few – are also increasing the challenges facing the sector.

There are, however, some opportunities arising from the move towards a smarter and more decentralised energy system. The UK Government has begun the process of establishing Local Energy Hubs across five regions of England. These Hubs will offer local capacity support to all larger scale community energy projects, including feasibility studies, business planning and other development work to help make the projects investment ready and will manage the deployment of a relaunched Rural Community Energy Fund.

Partnerships and support at a local and regional level will become increasingly important. There will be opportunities for community energy organisations in engaging with local authorities looking to deliver on their climate emergency declarations and in helping energy network operators to respond to the opportunities, and challenges, being created through the need for a more flexible energy system.

2.2. Yorkshire and Humber context

Yorkshire and the Humber has a rich energy history, at the centre of the great energy transition of the 19th and early 20th Century. South and West Yorkshire in particular fuelled the industrial

revolution through exploitation of its extensive coal reserves, also providing thousands of jobs to residents across the region. The region has also been home to some of the UK's larger coal and gas power stations: most notably Drax, which was the UK's largest power station when it was opened in 1962. The Humber estuary has been an important hub for the UK's offshore oil and gas industries. In recent years the estuary has also become important for deployment of offshore wind turbines: technology critical to the transition towards low carbon energy production and consumption. Meanwhile Drax has become the UK's largest biomass-powered electricity generator.

As the low carbon energy transition takes hold it brings potential opportunities to democratise and decentralise energy provision through low carbon sources. In other parts of the UK community-led energy has been an important means of catalysing action on low carbon transitions, creating opportunities for local communities to take control of energy production and deliver social and economic benefits to places. But Yorkshire and Humber has one of the lowest areas of activity on community energy, and unlike some regions such as the

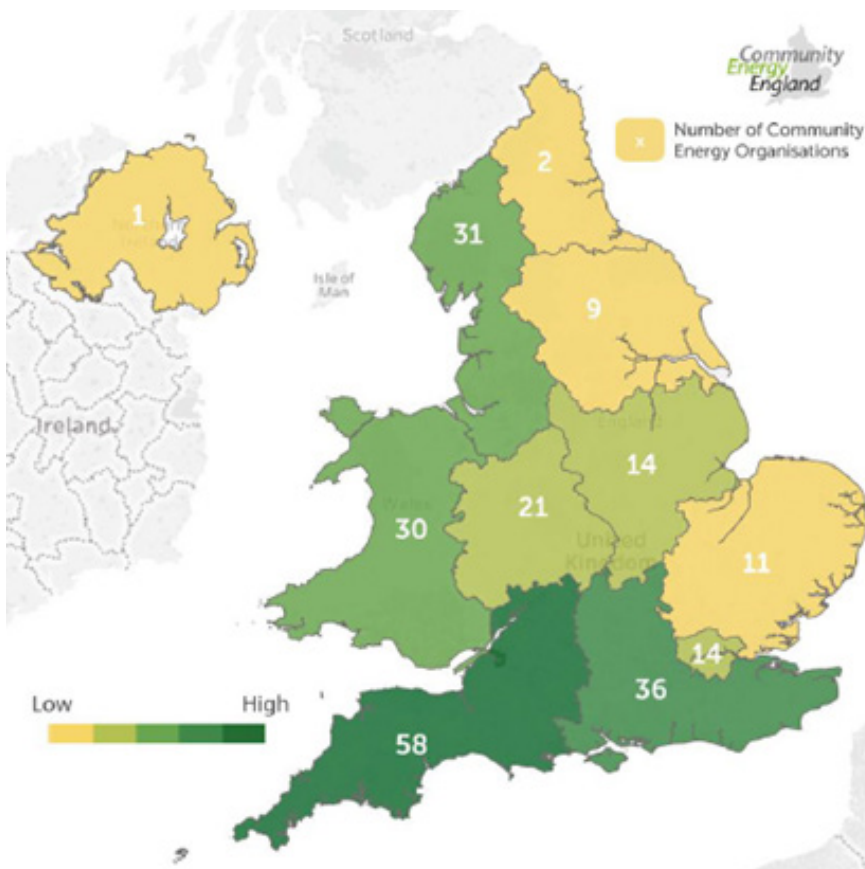
North West, South East and South West support infrastructure is underdeveloped.

In Yorkshire and the Humber there was relatively strong uptake of feed-in-tariffs: comparable to the North West and East Midlands, and higher than in Scotland, Wales, Northern Ireland, West Midlands and North East. However this has not translated to high levels of community energy generation. As figure 2.2 shows, Community Energy England data suggests only nine community energy projects overall in the region, placing it 9th out of 11 regions across England, Wales and Northern Ireland.

2.3. Yorkshire and Humber policy context

From a policy perspective the region as whole has not been proactively supportive of community energy. For instance a review of local plans found that plans made only passing mention to community energy if at all in most cases; and Local Enterprise Partnership strategies made no mention of community energy. This is changing and there is increasing interest in community energy locally and by city-regions, which coincides with increasing prominence of energy as a strategic issue for city-regions and – to a lesser degree – local authorities. For instance all LEPs are now expected to develop their own energy strategies, which are currently being worked up in the region's four city-regions. There are other opportunities through the creation of the BEIS energy hub for the North East (including Yorkshire and Humber).

Despite growth in low carbon energy across the region, community energy in Yorkshire and Humber is lagging behind other regions. However, there have also been notable successes and there are pockets of expertise across the region (albeit unevenly spread). In the following sections we look at those successes and strengths first, noting the potential for future growth across the region, before looking at some of the challenges faced by community energy practitioners in order to unpick how community energy in Yorkshire and Humber might be catalysed.



3. What is being achieved (and how has that happened)?

Despite the negative headline figures community groups are contributing towards a fairer low carbon energy system in Yorkshire and the Humber. Community Energy England data suggests the nine community-led energy projects across the region contribute a total of 400 kws of renewable energy to the energy grid. Action on community energy seems particularly strong in the region's urban centres. In addition a wide range of specialist and non-specialist voluntary and community sector organisations operating locally provide energy advice and support to local communities. There are pockets of specialist expertise among community energy practitioners and groups; groups have successfully raised money for projects; and there are notable success stories of implementing new projects. In addition some local authorities and other local stakeholders have been very supportive of community energy leading to promising developments in those places.

3.1. High-level expertise among existing groups

Community energy practitioners in Yorkshire and Humber have specialist expertise that is being tapped into within the region and across England. For instance, a small number of existing and abandoned projects involved hydroelectricity, one of the more complicated technologies for small-scale electricity generation. Negotiating the complex technical and legal challenges relating to hydroelectricity led to development of knowledge and skills within community groups which have been shared with other groups and aspiring projects across England (although reportedly often with the caution, 'don't do it!' – see Section 4, below).

3.2. Ability to raise funds

Almost all the groups we spoke to for this research had raised relatively significant sums of money, usually through various forms of share offer. In most cases they expressed surprise at how quickly sums had been raised through these offers. This shows that there has been appetite to invest in community energy in Yorkshire and the Humber.



3.3. Support from some local authorities

Community energy has been supported in various ways by some local authorities. Notable examples include Calderdale, where the local council set up Calderdale Community Energy to identify opportunities for community energy projects (see Box 4.3), and Energise Barnsley, a community benefit society in which Barnsley Council is a key partner (see Box 3.1). Other local authorities have expressed support for community energy in principle too. Support from local institutions – in particular local authorities – was seen as important by all respondents.

3.4. Networking between existing groups in and beyond the region

Interviews with existing groups showed that those who had successfully developed community energy schemes had strong connections with other groups in the region but also across the UK and internationally. Community energy groups made use of resources from organisations like Community Energy England and often attended sector events and conferences. Some networks were more focused on particular types of generation technology (e.g. hydro) rather than geographically focused,

although most respondents valued contact with other groups across the region.

Community energy groups also drew on more formal support from a number of national organisations including:

- ▶ [Community Energy England](#).
- ▶ [Cooperatives UK](#).
- ▶ [Pure Leapfrog \(for legal support\)](#).
- ▶ [National Lottery funding bodies](#).



Box 3.1: Energise Barnsley: local partnership for community benefit

Hundreds of householders in Barnsley are saving money and cutting their carbon emissions through a local renewable energy scheme - but it should have been thousands. On the day Energise Barnsley was launched, the government cut the feed-in tariff for solar power, turning a £20 million project for 5,000 installations into a £2 million scheme benefiting 321 homes and 16 corporate buildings (including schools and leisure centres).

This stark contrast between ambition and actuality illustrates the hurdles local energy projects have had to overcome. Nevertheless Energise Barnsley is evidence that progress can be made. In the three years since its launch, the 321 domestic installations - some of them combining solar panels, air source heat pumps and battery storage - has saved residents an estimated £150,000 in total (as of October 2019) and reduced carbon emissions by 1,200 tonnes.

Energise Barnsley operates at a larger scale than many community projects. While it has the legal form of a community benefit society and channels surpluses back into community initiatives, it is a partnership between public, social and private sector interests. The initial partners were Barnsley Metropolitan Borough Council; arm's-length housing management organisation Berneslai Homes; Gen Community Ventures, a social enterprise; British Gas; and Social Finance, which provides loans for social projects.

Money for the project comes from a combination of a £1.2 million loan from Charity Bank and the £800,000 Energise Barnsley Solar Bond. More than two-fifths of bond investments were made by local residents. The project was underwritten to the tune of £2 million by Ignite Social Enterprise, which was set up by British Gas owner Centrica to fund innovative community projects.

As well as installing solar panels on domestic properties, Energise Barnsley also has 16 larger installations on properties including local schools that operate on a commercial basis. Initially 90 potential sites were identified, but the 16 where installations could be completed generated just under 400,000 kW hours of electricity in the year to July 2018, raising more than £45,000 of revenue.

More than £20,000 has already been allocated to Energise Barnsley's community fund to support practical local initiatives.

One project director commented: 'The applications to the community fund so far have been brilliant - we've got Age UK and Citizens Advice, working together on targeting excess winter deaths in one particular area, there's a really good scheme in Goldthorpe to clean up blighted areas, where we paid for a skip to be put on the road and gave two weeks' notice to residents, they can chuck all their junk in and clear up the area, small stuff like that - you can measure it. This summer we had healthy cooking classes for people on low incomes and had two people present at our AGM, they hadn't done a presentation before. I can do this project all day long for that type of thing.'

Over the next two years Energise Barnsley will increase the number of properties using battery storage to 50 homes in order to investigate the potential for domestic demand side response - that is, reducing pressure on the grid by relying on locally generated power at peak times, especially in winter. If successful, this could provide a model for community groups to generate revenue as part of a distributed energy supply network.

4. What is stopping more from happening?

Although there have been notable successes in the region, this research has uncovered a wide range of barriers to development and growth of community energy in Yorkshire and Humber. Some of these are common across England (for instance recent changes to regulations and subsidies for community energy), although even these have particular local impacts; others are specific to the region or individual local areas.

Community energy practitioners and policy stakeholders identified a range of barriers, which can be grouped into seven broad categories, as shown in Table 4.1 below. These issues will be familiar to many people engaged with the sector across England. It is nonetheless worth exploring these a little further to understand how these issues specifically affect groups in Yorkshire and the Humber.

Table 4.1: Barriers to community energy in Yorkshire and Humber

Issue	Challenge
Feed-in Tariffs and regulatory changes	Need for new business/funding models
Capacity (volunteers/staff)	Need to work more with others
Scale	Need to develop larger projects to make finances work
Social capital	Need better connections to influential champions and/or money
Sites	Need for partnerships with landowners (with the right sort of sites)
Support for risk-taking / innovation	Need support for innovation
Grid access	Need lower costs (rural), improved grid capacity (some areas) and direct supply options (all)
Low priority for local and regional bodies	Need specific high-level policy and action plans for local authorities, LEPs, energy hub and DNO

4.1. Feed-in tariffs and regulatory changes

National policy fluctuations have created uncertainty for community energy projects and undermined investor confidence.

Community energy groups and policy stakeholders were agreed that recent changes to feed-in tariffs and related regulatory changes (see Section 2, above) had adversely affected the potential to develop new schemes, in particular more capital-intensive technologies.

Respondents felt that there were very few new projects in development and that the policy changes meant that new business models were required in order for projects to be financially feasible.

One approach was to ensure that new projects generated electricity that was directly used by adjacent buildings rather than going into the grid. Solar PV was the technology most suited to this, as panels can be mounted straight onto buildings and there are relatively low upfront capital costs compared to other technologies.

Alternative approaches have been trialled in other parts of the country: these are discussed in more detail later in this section.

4.2. Volunteer / staff capacity

Recruiting and retaining volunteers is challenging and varies widely between locations. Community energy is particularly difficult because of the technical skills required.



“there was a big rush when everyone was going towards getting stuff on their roofs but now I don’t hear of people starting up projects.”
(Community energy practitioner)

“For a long time we worked on some hydro projects together but it turns out when the government changed the feed-in tariff for hydro all the various projects came to a dead end, they were no longer financially viable, so many months of hard work has been wasted.”

(Community energy practitioner)

“We’ve seen a sharp decline in the numbers installed from 2016 to numbers in 2017 and 2018.”

(Regional stakeholder)

A common challenge across the voluntary and community sector is building and maintaining sufficient capacity to act through volunteers and (in some cases) paid staff. This is not unique to community energy and is well understood as an on-going challenge but worth noting nonetheless.

Some respondents thought that difficulties recruiting volunteers were more acute in some areas than others. There was a feeling that there was a stronger base for volunteers in West Yorkshire than elsewhere, for example. This perception partly related to the fact that there seemed to be more community energy focused action in West Yorkshire than other areas.

As commonly reported across the voluntary sector, the time and effort required to get community energy projects off the ground meant that in practice (although by no means always) that volunteers tended towards people who were retired or who were already active in climate change and energy issues. One respondent also referred to the

“We struggled here a little bit, I suppose the success of community energy as we’ve looked across the country, it’s the old boy networks really, where people have had strong networks and I suppose that’s why they’ve found it easier.”

(Community energy practitioner)

“A friend of ours is involved in another scheme [outside the region] and they’ve built two turbines on a river and their board was very high powered, they’d got people who were writers for a national newspaper and solicitors...”

(Community energy practitioner)

“If you look at the really successful community organisations, they are privileged groups of individuals who have got together, if you look at someone like [group in southern England], they’ve got directors who when they struggle with cash flow they throw in £100,000 every now and then just to keep them going ... and they’ve also [used their contacts] to do deals with big businesses to use their warehouses to host solar panels.”

(Community energy practitioner)

challenge of replacing older volunteers who decided to ‘retire’ from volunteering. There was a geographic element to this within different places too, with a perception that projects and volunteers were more likely to come from wealthier areas within towns and cities.

Community energy projects require technical expertise and an ability to negotiate a range of legal

and financial mechanisms. Recruiting volunteers with sufficient skillsets to deal with these issues was challenging. Hydro projects were particularly difficult in that they require more ongoing maintenance over the potentially 40 year lifespan of generators. But solar PV and wind had their own challenges, including ability to develop financial models and business cases and deal with energy market operators. All of these required volunteers to develop fairly high-level skills if they did not already possess them. These problems were becoming more acute as public funding to pay for specialist consultancy support was increasingly limited. One alternative was to work with organisations like Energy4All, who are contracted to deal with many aspects of project delivery and administration on behalf of local groups. In some other cases projects were looking to use funds raised for projects to employ a member of staff to assist with project delivery.

4.3. Scale

There is a need to develop economies of scale in order to get new projects off the ground.

Community energy practitioners and policy stakeholders largely agreed that changes to subsidies and regulations meant that larger scale projects than previously were needed in order to be financially feasible. Some policy makers felt that the small-scale nature of most community energy ventures meant that they should not be a priority for local and city-regional investment in energy, although others saw the wider benefits of community energy for local areas as an important reason to support the sector nonetheless. Some practitioners also pointed to emerging innovations such as new ways of trading energy and the growing potential of energy storage technologies to reduce the need for scale – but such innovations are inevitably more complex and riskier (see support for innovation, below)

4.4. Networks and influence

Community energy projects have been successful in raising local funds through share issues, but lack access to significant philanthropic and institutional resources.

One less well reported finding from our research was the perception among a majority of respondents that although groups were able to successfully raise funding through share issues (and as such, reasonably able to connect to people with some spare money to invest), they were less well connected to people able to influence local decisions, or wealthy benefactors. There was a perception that this was different to other areas in England, in particular the South East, where respondents pointed to examples of wealthy individuals making significant financial contributions to community energy projects.



Box 4.1: Community energy for regeneration in Grimsby

Grimsby Community Energy began life through the enrolled Freeman of Grimsby, an organisation dating back to the 11th Century. Founded in 2015, Grimsby Community Energy was seen as an important part of regeneration and renewal for the town of Grimsby. Energy has become a big story in Grimsby, home to one of the largest servicing ports for offshore wind in Europe due to its proximity to the large windfarms in the North Sea. Yet it was felt that Grimsby received few of the benefits of this large renewable energy source on its doorstep. Grimsby Community Energy therefore aimed to show how renewable energy can bring benefits to people and places through more direct engagement with energy generation. The project initially raised money through a community share offer, which was matched by funding from Power to Change. This gave Grimsby Community Energy a pot of almost £100,000 to develop schemes locally, focusing initially on rooftop solar PV. By 2017 around 100kW of PV had been deployed across five sites, ranging from a single shop to large manufacturing spaces on the outskirts of the town. Grimsby Community Energy had more ambitious and innovative ideas to grow its reach and impact. This included solar-powered electric vehicle charging points. But plans for greater deployment of PV were hampered by inability to use the electricity grid to supply buildings directly. Regulations on access to the grid mean that they could not use the electricity grid to supply a building directly opposite a building with PV panels, and the cost of installing a 'private wire' link was prohibitive.

4.5. Access to sites

The complexities of site ownership, planning and engagement with multiple stakeholders can create additional difficulties for prospective projects.

A common challenge was finding suitable sites for renewable energy deployment. Some of the challenges varied between rural and urban projects but in both cases ownership of community assets was a critical barrier. In urban areas projects

struggled to find roofspace for solar PV; in rural areas the issues related more to ownership/control of land.

For solar PV, the changed policy context meant that new projects usually only stacked up financially if the electricity generated was mostly paid for and used on site. This meant finding sites where organisations would be using electricity during the day year-round. However most organisations do not own their own buildings and getting landlords to consent to PV on their roofs could be difficult:

landlords did not necessarily see the benefits of this as it would be the tenants who directly gained via cheaper energy bills.

An alternative to working with private sector or voluntary sector organisations was using public sector estates. While in principle local authorities tended to be supportive of community energy it was very difficult to gain agreement to deploy renewable energy on their sites. This was in part owing to procurement challenges and local authority beliefs that they needed to go through a competitive procurement process for any renewable energy sited on their estates (although not all local authorities thought that this was an issue). A second issue in many places was that local authorities were often unsure about future ownership of their estate and so felt unable to commit to the long-term agreements required for new energy projects.

In rural areas, land ownership could be complicated in other ways. For instance, developing new hydro projects often involved complex negotiation over river/land rights between a number of bodies, including local authorities, environment agency, owners of adjacent land (e.g. farmers) and – in some cases – angling communities.



“The council PV has proved difficult cos of procurement rules that the council’s got to work with so that’s not really gone anywhere.”

(Community energy practitioner)

“[Building owners] might not be familiar with this form of community enterprise, so they might not understand what we’re getting at. They may also sometimes think what we’re offering them is too good to be true or think what we’re offering them is too complicated to organise. I think another side of things is that some organisations are too bureaucratically top heavy to work with us effectively.”

(Community energy practitioner)

“We wanted to work with people with similar ethos really so we put a message out asking for people, community organisations that would be interested and we got I guess 100 emails back. We looked at a number of criteria about what was suitable and By the time we’d put all the buildings through that, that had really shrunk down to half a dozen, it’s really about the fragility of the voluntary sector and the fragility of funding streams for organisations, most community organisations are in crap buildings ... very few own their own buildings so there was an issue of ownership as well. In the end it became a very difficult process ... when we started we thought raising the money would be the difficult bit and actually that’s been the easy bit, all the challenge is really in terms of bureaucracy and ownership.”

(Community energy practitioner)

Box 4.2: Finding sites in Sheffield

Formed in 2007, Sheffield Renewables has now been operating for over a decade. Initially aiming to install hydroelectricity generator in the River Don, the organisation has since moved on to focus on solar projects. In 2018 Sheffield Renewables had four operational projects, with a combined capacity of 180kW.

Project partners consisted of a wholefoods wholesales cooperative, a school, a community development trust and a local police force, each hosting solar panels on their buildings. Money was raised for projects through community share offers alongside small grants from Sheffield City Council and central government (through the Urban Renewable Energy Fund). Sheffield Renewables gave the majority surplus income to local community development organisation, South Yorkshire Energy Centre which was then used to fund energy support for fuel poor residents in the city. A small donation was also made to Solar Aid, an international development charity.

Sheffield Renewables has ambitions to develop further, and would have liked to have developed at a faster rate than they have. After a difficult period when it proved impossible to get plans for a hydroelectricity plant off the ground, an important constraint has been finding suitable sites for solar installations, either through access to the public estate or other voluntary sector organisations.

4.6. Support for risk-taking / innovation

Local projects need financial and technical support for innovative and 'risky' projects, but such assistance is difficult to access.

Organisations in the region had explored a wide range of innovative possibilities for projects, from community energy storage to local energy grids and projects utilising waste heat for agriculture. However riskier or innovative projects had additional challenges: barriers to site access, funding/payback times, grid capabilities and so on could only be overcome if local and regional institutions provided support. Community energy practitioners also required new skills to deal with increasingly complex arrangements required for these kinds of projects and there was some concern that further increases in project complexity also made it harder to connect with communities more generally. National level innovation-focused energy programmes exist, such as the BEIS innovative smart energy systems fund. However, projects found it hard to engage with these programme with little local/regional support.



4.7. Grid access

There are particular local problems of grid access. Where connections do not currently exist, community projects face an additional burden of paying for infrastructure.

There are points of grid pressure across the Yorkshire and Humber region, which the Distribution Network Operator, Northern Powergrid, is currently trying to address in various ways, including through grid flexibility measures. Grid accessibility and grid capacity has caused challenges for many projects in the region, particularly in rural areas. Rural projects have often struggled because suitable electricity connections did not exist or capacity needed to be significantly increased where proposed developments were sited. Respondents talked of prohibitively high costs to pay for grid connections in rural areas. This had been less of an issue in urban areas although projects were aware of long-term constraints on grid capacity in some areas.



“Just cos we’re in a very rural area, the grid isn’t capable of supporting small to medium scale input from generation.”

(Community energy practitioner)

“The work we were particularly interested in in terms of upgrading, top grade would cost an awful lot and therefore it just wouldn’t be feasible given the geography of our area.”

(Community energy practitioner)

“The same with some PV projects we were working on, some large PV schemes, but when we got a quote from the national grid or the local network operator about grid connection it was so expensive it killed the projects.”

(Community energy practitioner)

“They had to give pure commercial costings for grid connection and we sometimes get the impression that the cost of operating a line is put solely on the applicants.”

(Community energy practitioner)

Box 4.3: Pennine Community Power: success, but also frustration

Seven years ago, Calderdale Council published a strategy showing how it would reduce carbon emissions by 40% by 2020. The vision of Calderdale's Energy Future was ambitious but achievable - 'a low carbon economy which supports the local landscape and its communities'. Economic resilience, energy efficiency, improved transport, jobs, and skills, were the watchwords.

There was also an aspiration to develop 'locally owned renewable energy systems which directly fund community enhancements'. With one year to go to 2020, one active project meets this aspiration - Pennine Community Power (PCP), a community benefit society owned by 65 local members.

PCP has its origins in Blackshaw Environmental Action Team, which formed to establish a community-owned wind turbine at the top of the Calder Valley. The 10kW turbine was connected to the grid in October 2012 and has not only generated renewable electricity for the community, but by 2016 had also raised more than £2,800 for community projects as well as providing repayments to investors. PCP also developed a rooftop solar project for Colden Junior and Infant School: a 10kW array provides the school with clean energy and an educational resource for children.

Like many small-scale organisations, PCP has struggled to develop further projects. Changes in feed-in tariff payments for solar and hydro power, planning restrictions on wind power and the cost of grid connection in remote areas have all prevented schemes getting off the drawing board.

For the directors and volunteers who remain involved, there are other benefits, however - not only the financial return on their initial investment, but new ideas for community activities. One director explained: 'People have different reasons for investing and supporting these type of projects, so for us it was also that if something brings the community together and it becomes a success then there's a tendency that it gives people confidence to go on and do other things ... some members set up a community owned shop and in the valley they now have a community owned pub. So this thing about, "we can work cooperatively and achieve more", that's also a very strong element of why we're doing this.'

On the energy front, however, the story is one of frustration and slow progress. This is mirrored across the borough. Calderdale Community Energy, a community benefit society supported by Calderdale Council, has struggled to identify viable projects. Planning restrictions, reductions in FIT payments and procurement principles that exclude any favours for community-based suppliers have all stymied progress.

The perceived complexity of energy projects can also be off-putting for community groups. A council officer observed: 'How do the groups who have no prior experience and no technical specialists run a project? You're essentially looking for volunteers to come in and do that and it's a difficult skill to find.'

With 2020 now in sight, the aspirations have become more modest. The 2018 draft Local Plan for Calderdale stresses the importance of renewable energy, but its focus is as much on mitigating the visual impact of wind turbines as advocating for renewable energy infrastructure. Community ownership of new or existing energy generation does not feature in the draft Local Plan at all.

5. What is different about Yorkshire and Humber?

Many of the issues outlined above will be familiar to those connected to the community energy sector across the country. However, projects in the region do face distinctive challenges, which include:

- ▶ A smaller voluntary sector overall.
- ▶ Relative economic disadvantage.
- ▶ More severely hit by government cuts.
- ▶ Lower levels of local, city-regional and regional policy support.
- ▶ An early focus on difficult technologies (i.e. hydroelectricity).
- ▶ Fewer and less influential support networks.

5.1. A smaller voluntary sector

Compared to other regions, the voluntary sector as a whole in Yorkshire and the Humber is small. There are only 1.9 voluntary sector organisations per 1,000 people in the region, compared to 3.2 in the South West, which is also the region with most community energy projects. This suggests wider structural factors limiting community energy action.

5.2. Relative economic disadvantage

Potentially related to the above, Yorkshire and Humber has the second smallest economy (per capita) of all the English regions. This is probably a partial explanation for the smaller voluntary sector overall, but also has implications for individual capacity to engage with volunteering, relates to availability high-level skills (some of which are necessary to develop community projects) and wider levels of resource from the public and private sectors to invest in community energy. Of course

the region is varied and some areas are relatively wealthy (e.g. in parts of North Yorkshire) but overall the point stands that there is less money to go around in Yorkshire and Humber than all other regions except for the North East.

5.3. Public sector capacity

The public sector in Yorkshire and Humber has been disproportionately hit by government constraints on expenditure. Over the period 2009-18 the North of England as a whole saw a reduction in expenditure of £6.3 billion (with Yorkshire and Humber worse hit than the North West), while the south east and south west together received a £3.2 billion increase over the same period. Local authorities in the region have been particularly badly hit, especially urban local authorities: Barnsley, Doncaster, Hull, Kirklees, Sheffield, Wakefield and York are among the worst hit councils in England. In the past local authorities have been important sources of support, including providing grant funding to community energy groups. Public sector cuts have meant local authorities no longer providing these funds.

5.4. Lower levels of policy support

Reduced public sector capacity combines with an overall sense that support for community energy from local authorities and other public bodies in the region has always been more variable and at a lower level than in some other regions, including the North West – who might be seen as a comparator region in other ways (e.g. similar geography and economic profile). Practitioners in the region raised a range of challenges in gaining support from local authorities and other public bodies (see above). Local Enterprise Partnerships and other important organisations such as Northern Powergrid (the Distribution Network Operator) were seen as less

proactive than some other regions. Again the North West was seen as leading the way in this regard within the North, and projects also looked to the South West where local authorities such as Plymouth and Bristol had been very proactive in supporting and catalysing community energy.

5.5. Weaker support networks

As well as formal policy support, there was also a feeling among practitioners and stakeholders that Yorkshire and Humber had less well developed support networks than in other regions. For instance, Community Energy England – although valued for their work – felt that they had less of a presence in Yorkshire and Humber compared to some other regions, despite having their headquarters in Sheffield. Other regions were also better served by organisations such as Regen (originating in the South West) and Cooperatives UK (based in the North West) and networks that were a legacy of previous regional governance structures. In Yorkshire and Humber the important work of the Regional Assembly (dissolved in 2010) in bringing together forums of different interest groups was entirely lost and some practitioners and stakeholders felt that a new regional energy forum or community energy forum would help to catalyse more action in the region.

5.6. Focus on the ‘wrong’ technology

A number of the earliest community energy projects in the last decade focused on hydroelectricity, aiming to make use of the abundant watercourses across rural and urban Yorkshire and linking to the region’s industrial past: water power was the catalyst of industrial development in many of the region’s former industrial centres. But hydroelectricity projects have a number of drawbacks:

- ▶ They require a relatively large capital outlay.
- ▶ They are complex engineering projects.
- ▶ They require negotiation with a wide range of interest groups, including land owners, Environment Agency, water companies, other important interest groups (like the Anglers Association or wildlife focused organisations) and planning authorities.

As a result many projects stalled or took a long time to complete. In many cases this meant that projects missed the window of opportunity when FITs were at their highest levels. Later projects focused more heavily on solar PV, but at a time when subsidies were being drastically reduced making even this technology difficult to deploy.



6. Conclusions and recommendations: towards a culture change in Yorkshire and the Humber

A culture change is required to catalyse community energy action in Yorkshire and Humber, with emphasis on policy organisations and key stakeholders in the region to proactively work with communities and community groups to grow the sector.

‘Culture change’ is an easy ask to make and a difficult one to achieve. When we conclude that a culture change is required, we reflect the aggregated frustrations of different participants in our research: community energy activists, local authorities, and technical experts. We see culture change as an outcome of putting the right people in the right places with the right resources, and as a process of putting community energy on the agenda of local and national government and network operators as an essential aspect of addressing climate crisis and moving towards a zero-carbon society.

Our research highlighted the need for coordination between community energy projects, government, and network operators to facilitate new projects and bring greater certainty into the market. This points to a role for local government in mapping, coordinating and amplifying the value of community energy projects within local authority areas. But local government needs to recognise the potential of community energy to meet local carbon reduction plans and provide consistent support, both through the planning system and through senior officer and elected member support.

We are aware of the high dependence of many projects on time-pressed volunteers. Community energy projects are more likely to thrive if this volunteer resource is supported by on-tap technical assistance, funding for feasibility studies where required, and local authority expertise. At the same time the scale of the decarbonisation challenge may require local projects to sacrifice some of their

autonomy in order to gain economies of scale by coordinating with other projects within their area.

We also note the lack of sustained leadership at government level and the effects of political uncertainty on policymaking. There is an urgent need for local institutions to step into this gap. We call on LEPs and city-regional combined authorities to take the opportunity to set an agenda that will support an upsurge in local energy projects across the Yorkshire and Humber region, bringing together community, municipal and private providers to adopt a serious agenda for a clean energy future.

6.1. Specific policy proposals

Working with stakeholders in the region we developed a longlist of policy proposals which we tested at a stakeholder workshop in November 2018. This produced a shortlist of policy ideas that were seen as worth pursuing by the workshop attendees, with a small number of ideas seen as worth given particular priority. From our work with stakeholders we have developed four practical policy recommendations that will help to galvanise the community energy sector in Yorkshire and the Humber.



6.2. Recommendation 1: Plan for community energy

The 2018 revised National Planning Policy Framework is unequivocal in stating (para. 148) that planning should ‘shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure’. Plans should provide ‘a positive strategy’ for energy supply from renewable and low carbon sources, and local planning authorities should ‘support community-led initiatives for renewable and low carbon energy’ (para. 152).

Further, planning practice guidance on renewable energy schemes includes guidance on how local plans can make provision for and indeed encourage community energy schemes. It states that ‘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.’ (para 17). Community energy schemes have been shown to have benefits beyond the mere fact of their ownership: there is no reason why LPAs cannot design policies to give positive weight to such schemes and indeed go further and require them in some clearly defined cases.

To translate this aspiration into action, we recommend that Local Plans, and, where relevant, supplementary planning guidance and neighbourhood plans, should set specific targets to

significantly increase the proportion of community-owned and community-led renewable energy generation. They should also seek to make use of powers to allocate land for renewable energy development (Regen have previously carried out a detailed assessment of how this can be conducted). In addition:

- ▶ Councils and public sector partners should conduct estate mapping exercises to help community groups identify possibilities for renewable energy deployment.
- ▶ Private developments of 10 residential properties or more, or for groups of business premises, should specify how on-site locally-owned energy generation will form a part of a distributed energy supply system or how they may provide alternative support for community energy in the locality.
- ▶ Local plans should specify that public or community buildings include integrated renewable energy systems (e.g. rooftop solar or air source heat pumps). Local plans should state their support for ownership and management of such facilities by community-based organisations in order to maximise local economic resilience.
- ▶ Where public or community buildings (such as schools) are designed and managed by a third party or as part of a private finance initiative, community energy organisations should, as a condition of planning permission, have the right to install and manage renewable energy facilities for the duration of the management agreement - this could sit within wider procurement strategies based around social value (see e.g. the Preston Model).
- ▶ Large private renewable energy schemes should, as a condition of planning permission, include 20% community ownership or an equivalent community benefit arrangement, ensuring a sustained local payback for the life of the scheme – this aligns with national planning guidance on community benefit.
- ▶ Procurement policies should acknowledge and adhere to national and local planning guidance on community and renewable energy, ensuring that procurement rules do not prevent community energy organisations from fulfilling



the requirements of local plans (again, drawing on social value principles to justify such an approach). Similar approaches to wider procurement policies would also be beneficial.

We do however accept that planning policy is often based on case law and this might be a new aspect of the law for planners to investigate.

Who needs to do it?

- ▶ Planning authorities, including National Park authorities, and elected councillors.
- ▶ Neighbourhood Forums.
- ▶ Procurement officers.

Who else should take action?

- ▶ Private developers seeking permission for schemes.
- ▶ Buildings and facilities managers for public or community buildings.
- ▶ Private renewable energy generators.

Who should benefit?

- ▶ Community energy projects.
- ▶ Local communities and residents where new installations are created.

Who do they need to consult?

- ▶ Grid network operators.
- ▶ Neighbourhood Forums or resident groups.

6.3. Recommendation 2: Business rates relief for community energy investment

Business rate relief is an established and approved mechanism for incentivising economic activity. In Enterprise Zones, for example, businesses that locate in specified zones are eligible for rate relief

of up to 100% for five years, as well as 100% capital allowances for plant and machinery. BEIS has been looking for expressions of interest to trial business rate and council tax flexibility in relation to building energy efficiency, suggesting that national government is already beginning to move in the direction of flexibility on local taxes.

We recommend that national government extends the regulations on business rate relief to include investment in community-owned energy projects in order to help build a robust and resilient distributed energy system.

We propose that businesses that invest in community energy generation on their own premises should qualify for business rate relief to match their investment for up to five years. Businesses that invest in community energy generation off-site should qualify for business rate relief to match their investment for up to three years.

Who needs to do it?

- ▶ National government (MHCLG and BEIS).

Who else should take action?

- ▶ Local planning authorities and elected members.

Who should benefit?

- ▶ Businesses investing in community energy.
- ▶ Community energy projects and organisations.

Who do they need to consult?

- ▶ Local enterprise partnerships and business community.
- ▶ Neighbourhood Forums.
- ▶ Business Improvement District operators.

6.4. Recommendation 3: A revolving loan fund for community energy projects

There are already some examples of loan funds for community energy in 2018 - the charity Pure Leapfrog announced a £20 million finance facility from Big Society Capital. We recommend a specific low or zero interest fund to stimulate demand in the Yorkshire and Humber region. Repayments should be used to fund new loans to community energy groups. However, we recognise that there are risks involved with such lending and so recommend that such a loan fund should sit within an established social finance organisation.

We also recognise that demand for such finance needs to be stimulated and demonstration projects are required to encourage applicants. We therefore recommend partnerships between social investors, community ‘anchor’ organisations (such as development trusts or members of Locality) who can provide suitable community buildings, and community energy organisations in order to fast-track fundable projects.

As an indication of national and regional support for this fund, we recommend that the Energy Hub for the North East, Yorkshire and the Humber should be an investment partner, either in terms of helping to capitalise the fund or as an underwriter, and should be actively involved in its governance.

Who needs to do it?

- ▶ National government (BEIS) via Energy Hubs and LEPS.
- ▶ Social finance institutions.

Who else should take action?

- ▶ Community Energy England (information and promotion).
- ▶ Regional community energy networks.
- ▶ Community anchor organisations.

Who should benefit?

- ▶ Existing and prospective community energy projects.
- ▶ Local investors who may have additional investment opportunities.
- ▶ Owners and managers of community buildings.

Who do they need to consult?

- ▶ Community energy sector to establish scale of potential demand.
- ▶ Community anchor organisations.

6.5. Recommendation 4: A regional fund to support development costs

Our research has revealed that development costs are an important barrier to projects. In particular grid connection can be prohibitively costly in remote areas or where grid capacity is limited. The burden of such connections can make community energy projects unviable. Existing funding streams (such as the Rural Community Energy Fund) exclude grid connection costs (and exclude urban projects). Where capacity needs to be upgraded in order for community energy projects to progress, the regional Energy Hub should fund the difference between the average regional connection cost and the project-specific cost, having ascertained that the connection charges are appropriate. We argue that



a fund should be established at regional level for this purpose, capitalised through contributions from BEIS and regional Local Enterprise Partnerships. Alternatively, Northern Powergrid could explore ways to reduce costs for community grid connections. The regional Energy Hub should work with Northern Powergrid and the community energy sector to assess the scale of funding required.

During consultation with stakeholders about these recommendations, stakeholders pointed out that funding grid connection costs means using public money to directly fund a private institution. This is not an ideal solution and points to wider challenges relating to grid ownership and regulation: there is a job for national government to address these challenges. Focusing on regional action, however, it is important to make the case for action on the cost of grid connection as a major barrier to community energy deployment.

Who needs to do it?

- ▶ Regional Energy Hub for the North East, Yorkshire and Humber.

- ▶ BEIS and Local Enterprise Partnerships (funding sources).
- ▶ Potential for blended funding, for instance involving other charitable fund.

Who else should take action?

- ▶ Community energy networks (Community Energy England, Zero Carbon Yorkshire) to assess scale of likely demand and high-cost 'hotspots.'
- ▶ Northern Powergrid (technical and financial information and implementation of connections).

Who should benefit?

- ▶ Local community energy projects in high-cost connection areas.

Who do they need to consult?

- ▶ No additional consultation needed.



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