THE CALL FOR A LEVEL PLAYING FIELD

A Right to Local Supply for UK's Community Energy Schemes

ABOUT THE POVERTY AND ENVIRONMENT TRUST

We are a UK charity working to relieve poverty and protect the environment. We research the ways in which poverty and environmental degradation are linked and bring these issues to the attention of policymakers through national projects calling for transformational changes. Since our founding in 2001, we have been involved with numerous successful projects for social and environmental change, including encouraging a rapid transition to 100% clean energy and for this to benefit local communities.

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EXECUTIVE SUMMARY

Community energy refers to the delivery of community-led renewable energy schemes, which are either wholly owned and/or controlled by communities or run in partnership with commercial or public sector partners. Community energy has huge potential to tackle the climate crisis and build local economic resilience in the process. A government report, published in 2014, stated that the community energy sector could deliver 3,000 megawatts of generating capacity by 2020 and that the potential for further growth beyond this was even more substantial. However, the sector currently delivers less than a tenth of this and accounts for less than 0.5% of the UK's electricity generating capacity. Given the right support, community energy could grow by 12-20 times by 2030. This would allow the sector to power 2.2 million homes and save 2.5 million tonnes of CO_2 emissions every year.

If more communities owned and operated renewable energy generation, they could invest the profits into a range of projects that benefit local people. In 2020 alone, community energy organisations spent a total of £893,000 on energy efficiency upgrades, helping 45,795 people reduce their energy bills and stay warm. If the sector is allowed to thrive, investment in energy efficiency could grow to an estimated £14.8 million, benefitting over 2 million people. Meanwhile, 58,249 skilled jobs could be created, both directly – as the number and size of local suppliers grow – and indirectly – through a ripple effect across the renewable energy sector.

A surge in community energy would also make the UK energy system more efficient because the sector predominantly utilises non-thermal renewables – wind, hydro and solar – which do not incur conversion losses. An estimated 2,585 megawatts of conversion losses would be avoided each year by 2030 under a high generating capacity scenario, which is the equivalent of powering 1.1 million homes. With more clean electricity being generated near the sources of demand, losses from transmission and distribution to local households, schools and businesses could also be reduced.

However, community energy's enormous potential is being blocked by the UK's outdated energy market system, which was designed around centralised and polluting forms of energy generation, such as coal-fired power stations. The current financial, technical and operational challenges involved in supplying energy put initial supply costs at over £1 million – an insurmountable amount for the majority of community energy groups.

In order for the great potential for more community energy generation to be realised across the UK, the recommendation of this report is that the overly burdensome and disproportionate costs involved in becoming a licensed supplier of electricity need to be made proportionate to the scale of the operation. This would create a market environment in which community energy organisations could thrive, and would directly encourage greater market competition, for the benefit of all.

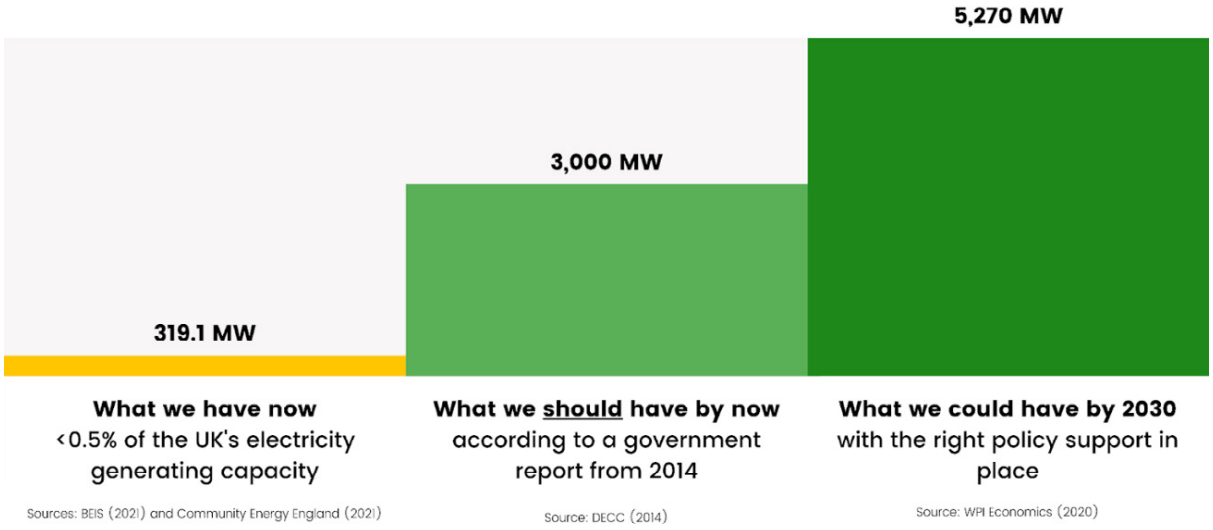
THE POTENTIAL FOR MORE COMMUNITY ENERGY

Community energy refers to the delivery of community-led renewable energy schemes, which are either wholly owned and/or controlled by communities or run in partnership with commercial or public sector partners.[1] There is huge potential for more of this type of renewable energy generation infrastructure to be built across the country, and for this growth to bring substantial benefits to local economies and help achieve the UK's objective of net zero emissions.

A government report, published in 2014, stated that the community energy sector could deliver 3,000 megawatts of generating capacity by 2020 and that the potential for further growth beyond this was even more substantial.[2] This target date has been exceeded, and the 3,000 megawatts has not materialised – far from it, community energy currently delivers around a tenth of that projected value (Figure 1). It would be hard to imagine a greater failure of potential.

It is not too late to turn things around. In their analysis of community energy's untapped potential, WPI Economics predicted that with sufficient policy support, the community energy sector could grow by 12-20 times by 2030, powering 2.2 million homes and saving 2.5 million tonnes of CO_2 emissions every year.[7]

Figure 1. Current and potential community energy generating capacity in the UK. Sources: Department for Business, Energy and Industrial Strategy (2021)[3], Community Energy England (2021)[4], Department of Energy & Climate Change (2014)[5] and WPI Economics (2020)[6].



1 Community Energy England, 2021. What is Community Energy?

2 Department of Energy and Climate Change, 2014. Community Renewable Electricity Generation: Potential Sector Growth to 2020

3 Department for Business, Energy and Industrial Strategy, 2021. Digest of UK Energy Statistics 2021. Chapter 5: Electricity

4 Community Energy England, 2021. Community Energy State of the Sector 2021

5 Department of Energy and Climate Change, 2014. Community Renewable Electricity Generation: Potential Sector Growth to 2020

6 WPI Economics, 2020. The Future of Community Energy

7 WPI Economics, 2020. The Future of Community Energy

Regional potential for community energy

Table 1. Present and potential community energy generating capacity split by UK region. Present figures were retrieved from Community Energy England (2021)[8] and projections were calculated using scenarios from WPI Economics (2020),[9] assuming that each region's share of generating capacity will remain unchanged.

UK Region	Community energy capacity at present (MW)	2030 projection for community energy capacity (MW) - moderate scenario	2030 projection for community energy capacity (MW) - high scenario
England	185 (58%)	1,739.3	3,055
Scotland	110 (34.5%)	1,034.1	1,817
Wales	22.6 (7%)	212.5	373
Northern Ireland	1.5 (0.5%)	14.1	25
Total	**319.1 (100%)**	**3,000**	**5,270**

Table 1 outlines the present and potential community energy generating capacity of each UK region. The projections are made under the assumption that each region's share of generating capacity will remain unchanged, although various factors may alter their trajectories between now and 2030. Scotland has consistent policy support for community energy and the Welsh government has set a 2030 target for 1 gigawatt of energy to be locally owned.[10] By contrast, the community energy sector in Northern Ireland is still in the early stages of development and it may take time for supportive policies to emerge.[11] Nonetheless, these projections give some indication as to how community energy generation could be distributed across the UK.

8 Community Energy England, 2021. Community Energy State of the Sector 2021

9 WPI Economics, 2020. The Future of Community Energy

10 WPI Economics, 2020. The Future of Community Energy

11 Community Energy England, 2021. Community Energy State of the Sector 2021

THE ECONOMIC BENEFITS OF MORE COMMUNITY ENERGY

Local renewable energy generation has huge potential to accelerate the low-carbon transition and benefit local economies at the same time. Community energy projects offer 12-13 times more community value than commercial models[12] and in 2020 alone, community energy groups generated £3.13 million in community benefit expenditure.[13] These revenues can be reinvested in a range of local benefit projects, from energy efficiency upgrades and electric vehicle charging stations, to local grant giving, improving rural connectivity and helping vulnerable people such as the elderly. Examples of such projects can be found throughout the Case Studies section of this report. The sector also creates a range of skilled jobs associated with renewable energy installation, project management and community outreach. The potential energy bills savings and number of skilled jobs created by the sector are explored below.

Energy Bills Savings

The profits from local renewable energy generation are often used to reduce people's energy bills and can play a significant role in relieving fuel poverty. Initiatives range from home retrofits, such as insulation and efficiency lighting, to tariff switching advice and direct support in the form of discounted or free renewable energy. In 2020, community energy organisations spent a total of £893,000 on energy efficiency upgrades, helping 45,795 people reduce their energy bills and stay warm.[14] Table 2 shows the projections to 2030 for efficiency savings and the number of people helped by such measures, using the moderate and high scenarios for community energy generating capacity from the WPI Economics report.[15]

The combined efforts of UK community energy groups saved £2.9 million on consumer energy bills in 2020.[16] If the community energy sector is allowed to thrive, there would be much more local renewable generation and communities would have significant additional funding to invest in energy efficiency upgrades and energy bill savings. Such initiatives are essential in order to reduce energy consumption and to protect the most vulnerable from cold winters and fuel price shocks.

Table 2. Potential number of people helped by energy efficiency measures funded by the community energy sector and the potential savings on such measures per year. Source: WPI Economics (2020)[17].

UK Region	Moderate scenario (3,000 MW)	High scenario (5,270 MW)
Annual hot water and efficiency savings by 2030	£90 million	£150 million
Total number of people helped by energy efficiency measures by 2030	830,000	1,400,000

12 Department of Energy & Climate Change, 2014. Community Renewable Electricity Generation: Potential Sector Growth to 2020

13 Community Energy England, 2021. Community Energy State of the Sector 2021

14 Community Energy England, 2021. Community Energy State of the Sector 2021

15 WPI Economics, 2020. The Future of Community Energy

16 Community Energy England, 2021. Community Energy State of the Sector 2021

17 WPI Economics, 2020. The Future of Community Energy

Skilled Job Creation

In 2020, there were 431 full-time staff working on community energy generation and community energy efficiency schemes.[18] Given the right support, this number could increase to 8,720 by 2030.[19] Table 3 shows the potential skilled jobs created by community energy generation under the moderate and high scenarios of generating capacity. However, there are two key reasons why the actual number of skilled jobs created would be considerably higher than these estimates.

It should be noted that the community energy sector is currently predominantly run by volunteers. According to Community Energy England, there are 3,096 volunteers working for community energy groups across the UK, which equates to seven volunteers for every paid staff member.[20] If these groups were to scale up and supply local customers, the sector would need to professionalise, which would involve the majority of staff being in paid roles. As outlined in section 4, setting up and running a local energy company is complex and requires a range of specialists. Additional jobs associated with project management, engineering, customer service, community outreach, legal administration and IT support would inevitably be created.

The expansion of small-scale generation would lead to a surge in demand for renewables manufacturing, installation and other associated services. The Feed-in Tariff, a government scheme which promoted the uptake of small-scale renewables, is testament to this. In the first 18 months of the scheme, employment in the UK solar industry grew 8-fold.[21] A government review of the Feed-In Tariff stated: "its value to the UK economy should not be underestimated ... renewable energy in general is more labour intensive than fossil-fuel generation. This labour intensity has particularly favourable job market effects in times of economic recovery."[22]

Table 3. Present and potential full-time staff working in community energy, split by UK region. Present figures were retrieved from Community Energy England (2021)[23] and projections were retrieved from WPI Economics (2020)[24], and broken down by region assuming that each region's share of staff remains the same.

UK Country	Full-time staff working in community energy at present	Estimated FTE Generation and Energy Efficiency jobs by 2030 – moderate scenario (3,000 MW)	Estimated FTE Generation and Energy Efficiency jobs by 2030 – high scenario (5,270 MW)
England	207	1,825 – 2,387	3,203 – 4,188
Scotland	144	1,270 – 1,660	2,228 – 2,914
Wales	79	696 – 911	1,223 – 1,598
Northern Ireland	1	9 – 12	16 – 20
Total	**431**	**3,800 – 4,970**	**6,670 – 8,720**

18 Community Energy England, 2021. Community Energy State of the Sector 2021

19 WPI Economics, 2020. The Future of Community Energy

20 Community Energy England, 2021. Community Energy State of the Sector 2021

21 Renewable Energy Association, 2011. Solar Power Lights Up Economic Gloom. Accessed via the Wayback Machine.

22 Department of Energy and Climate Change, 2015. Performance and Impact of the Feed-in Tariff Scheme: Review of Evidence

23 Community Energy England, 2021. Community Energy State of the Sector 2021

24 WPI Economics, 2020. The Future of Community Energy

Table 4. Present and potential full-time community energy jobs, split by UK region. Present figures for staff and volunteers were retrieved from Community Energy England (2021)[25]. Projections were made by combining staff and volunteer numbers and by scaling up the figures proportionate to the level of generation based on moderate and high scenarios for generating capacity from WPI Economics (2020)[26].

UK Country	Full-time staff and volunteers working in community energy at present (319.1 MW)	Potential jobs by 2030, moderate scenario (3,000 MW)	Potential jobs by 2030, high scenario (5,270 MW)
England	1,728	16,246	28,538
Scotland	833	7,831	13,757
Wales	959	9,016	15,838
Northern Ireland	7	66	116
Total	**3,527**	**33,159**	**58,249**

While Table 3 outlines the jobs which could be created in energy generation and energy efficiency schemes, Table 4 shows how many new jobs could be created across the sector if volunteer positions became paid positions. This provides a more accurate representation of the likely outcome of the moderate and high scenarios for sector growth by 2030.

25 WPI Economics, 2020. The Future of Community Energy.

26 Community Energy England, 2021. Community Energy State of the Sector 2021.

HOW COMMUNITY ENERGY COULD ENHANCE THE ENERGY SYSTEM

According to the UK Government's Digest of UK Energy Statistics (DUKES), conversion, transmission and distribution losses from the UK's electricity system in 2019 amount to 370 terawatt-hours, i.e. 52.7% of the total electricity flow (Table 5).[27] This is a significant loss – just 5% of this wasted electricity is enough to power over 6 million homes.[28] Community energy offers huge potential to reduce losses across the electricity system, enhancing its efficiency and reducing consumer energy bills as a result.

Conversion loss

Conversion loss refers to the energy which is lost when converting from one form of energy into another, such as from heat to electricity. Non-thermal renewables such as wind, solar and hydro do not incur conversion losses[29] and community energy groups in the UK generate clean electricity predominantly through these non-thermal renewables. There has never been a community energy scheme that has sold energy generated by fossil fuels, such as diesel. It is therefore safe to assume that a surge in community energy generation would lead to a significant reduction in conversion losses, which make up the vast majority of losses across the electricity system (Table 5).

Provided the high scenario for community energy generating capacity is achieved, conversion losses of 2,585 MW could be avoided each year by 2030. This is an energy saving equivalent to the powering of around 1.1 million homes.[30]

Transmission and distribution losses

As outlined by Good Energy, "energy that is produced by large, remote power stations must be transported through the transmission and distribution network which is costly to maintain and has losses along the way and

Table 5. Efficiency losses across the UK's electricity system. The transmission and distribution losses (retrieved from UK Power Network, 2019)[31] have been subtracted from the total losses (retrieved from Department for Business, Energy and Industrial Strategy, 2020)[32] to extrapolate the conversion losses. Note that the latest figures for transmission and distribution losses are based on the electricity system in 2017 and the latest figure for total losses is based on the electricity system in 2019.

Type of electricity loss	Electricity lost (TWh)
Conversion	344.4 (49.05%)
Transmission	6.5 (0.93%)
Distribution	19.1 (2.72%)
Total	**370 (52.7%)**

27 Department for Business, Energy and Industrial Strategy, 2020. Digest of UK Energy Statistics 2020

28 OVO Energy, 2021. Average electricity usage in the UK: how many kWh does your home use?

29 Department for Business, Energy and Industrial Strategy, 2021. Digest of UK Energy Statistics 2021. Chapter 5: Electricity

30 The ratio of MW generated to homes powered is taken from WPI Economics, 2020. The Future of Community Energy

31 UK Power Network, 2019. Distribution Losses Strategy

32 Department for Business, Energy and Industrial Strategy, 2020. Digest of UK Energy Statistics 2020

these costs are reflected in our energy bill."[33] Table 5 shows that these losses currently account for around 3.65% of total electricity loss. Energy that is produced by communities, however, is decentralised by nature – solar panels occupy roofs of community buildings and local businesses, wind turbines generate clean electricity on community-owned land and hydropower turbines harness the energy of local rivers. If the high scenario for community energy generating capacity is achieved (see Table 1), many more consumers would live at, or near to, sites of electricity generation.

It stands to reason that if communities across the country were empowered to generate their own electricity and sell it to local customers, there would be a significant reduction in transmission and distribution losses. The Council of European Energy Regulators agrees: "if all electricity generated by DG [distributed generation] (for example, solar panels) were located directly at the point of consumption and if consumption occurred at the same time as generation, losses would be reduced significantly because less energy would need to be transported through the grid."[34]

The transformation of the UK's electricity system from one that is centralised and polluting to one that is local and clean could achieve significant efficiency gains by reducing conversion, transmission and distribution losses. As summarised by the Energy and Climate Change Committee "Greater use of local energy would also enhance the security and efficiency of the energy system as a whole by increasing the diversity of generating capacity available and reducing the energy lost in transmission or wasted as unused heat."[35]

33 Good Energy, 2016. Community Energy.

34 Council of European Energy Regulators, 2017. CEER Report on Power Losses.

35 House of Commons, 2013. Energy and Climate Change Committee. Local Energy.

HOW COMMUNITY ENERGY IS BEING BLOCKED

The current energy market rules require that any supplier must offer electricity to customers nationally. This creates huge barriers for small-scale suppliers looking to enter the market. Enormous costs arise because new supply companies face a range of bureaucratic requirements, for example they must employ technical specialists in order to deal with thousands of pages of grid balancing codes and agreements that were originally written for a centralised system with a handful of large suppliers.

Table 6. The key steps involved in becoming an energy supplier. Sources: '*Codes and Compliance*' Section is from Ofgem (2016),[36] all other sections are from Local Partnerships and Cornwall Energy (2016)[37]

Step	Description
Acquire a licence and accede to industry codes	"The first step in becoming a supplier is to apply for an electricity and/or gas supply licence from Ofgem. Licences cost £450 and applications ask for details of directors, the business' registered address and any parent companies. Once the licence is granted it is necessary to sign-up to the electricity industry codes."
Codes and compliance	"As part of the licence conditions for the supply of electricity and/or gas to consumers, the licensee must comply with industry codes. Codes are technical documents which describe the processes for accessing industry infrastructure and services…" "Some codes require those who join up to pay a subscription. Parties must 'qualify' before going live as a supplier for both the Balancing and Settlement Code (BSC) and the Master Registration Agreement…"
Hire staff	"At an early stage, a small number of staff will be needed to help set up the required IT systems and processes, develop the operational processes and create customer-facing documentation. Later on, as the venture enters controlled market entry, staffing requirements will increase to include marketing staff, billing managers and traders, depending on the supply model chosen".
Legal services	"Legal advice will be an essential part of establishing a commercial entity … They will need to ensure that the governance and company structure of the supply venture...meet competition rules and other relevant legislation. Legal advice is also an integral part of developing the terms and conditions of a business and the tariff contracts that will be given to customers".
Set up IT system	**"**Electricity code accession requires the supplier to configure IT systems that comply with the master registration agreement (MRA) and balancing and settlement code (BSC). IT is needed to deal with trading on the wholesale market whereby purchasing data flows from suppliers to the system operator National Grid and settlement bodies such as Elexon. Testing of these systems takes 6-9 months. Suppliers must also have a customer relationship management system for billing and communications".
Secure trading agreements	"Trading agreements will need to be put in place for the purchase of wholesale energy to meet forecast customer demand. This can include power purchase agreements (PPAs) contracts to buy locally-generated electricity..."
Contract for services	**"**Additional services to be contracted include meter operator, meter data collector and a data aggregator in electricity".
Controlled market entry	"Once everything is in place the electricity supplier will undergo CME where a small number of customers are registered, and systems are tested. This process takes around 12 weeks and involves filling in a number of spreadsheets to show data flows are working".
Marketing and competing for customers	"A website is then set up. A supplier may wish to advertise and sell energy through third party intermediaries such as price comparison websites. Online account management facilities are established and maintained going forwards".

36 Ofgem, 2016. Entering the retail energy market: a guide.

37 Local Partnerships and Cornwall Energy, 2016. Local Energy Options – A Guidance Document for Local Government

A report by the Institute for Public Policy Research states that the financial, technical and operational challenges involved in setting up a licensed energy supply company mean that **initial costs exceed £1 million**.[38] These challenges are outlined in Table 6.

The costs associated with these requirements are the same no matter how big or small the size of a supply company's operation. This is blocking the huge potential for community renewable energy supply companies to spring up across the UK. According to Local Partnerships and Cornwall Energy, the only way a licensed supplier can afford these huge costs is if they have an initial customer base in the region of 10,000 to 25,000 customers: "The UK energy market is predicated on having a large consumer base and it is through this that the necessary economies of scale can be achieved by locally focused suppliers."[39]

While Ofgem has created mechanisms to ease potential barriers faced by aspiring suppliers, these have not achieved the desired outcome. One example is Licence Lite, which lets a new supplier partner with an existing supplier, yet only three such licences have been granted since the mechanism was established in 2009.[40]

Other examples include the Smart Export Guarantee, a replacement for the Feed-in-Tariff, and the Local Energy Programme, a local government programme to encourage renewable generation. These are welcome initiatives and may work on their own terms. They do not, however, address the fundamental, structural problem that disproportionate costs and unfair regulations block community-scale generators from becoming local suppliers.

RECOMMENDATION

It is the recommendation of this report that a Right to Local Supply should be established. This would entail a new licencing arrangement, whereby community-led renewable energy schemes would be able to apply for licenses to sell their clean generated electricity locally, and face proportionate costs and complexities to do so.

The current regulatory and financial burdens that are involved in setting up as a licenced energy supplier act as a barrier for entry to the market. This is stopping the community energy sector from achieving its large potential for growth.

Empowering community energy organisations to be able to supply their electricity directly to local customers would create a supportive market environment in which to thrive, regardless of the scale of generation. It would give them access to additional streams of revenue and provide financial stability, which in turn would encourage investment.[40]

This is echoed many times over by the voices of those in the community energy sector themselves, as outlined below in the series of case studies featuring community energy groups and schemes across the UK.

38 Institute for Public Policy Research, 2016. Community and Local Energy: Challenges and Opportunities

39 Local Partnerships and Cornwall Energy, 2016. Local Energy Options – A Guidance Document for Local Government

40 Ofgem, 2021. Master Publications Library. Accessed 5th October 2021.

41 Department of Energy and Climate Change, 2014. Community Renewable Electricity Generation: Potential Sector Growth to 2020

COMMUNITY ENERGY CASE STUDIES

Introduction

This section contains a series of case studies conducted across the UK to gain insight into the difficulties that community energy organisations face within the current local generation market setup.

In these case studies it is apparent that the overarching purpose of community energy organisations is to provide community benefits and generating electricity is a way in which they are able to provide those benefits. These organisations carry out a remarkable array of work within their local communities, such as supporting local charities, funding community projects, providing care and expertise to local people, giving talks in schools about renewable energy and electricity usage and using electric cars to help those in need of transport to hospital appointments, food banks and local events.

Despite their wide-reaching impact, there is common ground throughout – community energy organisations all over the UK, both prospective and operational, do not have sufficient streams of revenue to be able to undertake all the projects they would like to, both in terms of generating renewable energy and in giving back to the community.

The perspective of the sector is clear – finding a pathway to selling the electricity they generate directly to local customers is vital to both the growth and continued operation of such organisations.

The majority of case studies listed below were produced through a series of interviews with representatives from each community energy group. These were conducted over the phone, video call or via email correspondence. The case studies listed as 'Community Energy Heroes', were produced using information provided by each community energy group following a public call to participate in our 'Community Energy Heroes' online series. These shorter case studies contain a brief description of each organisation's energy generation and particularly noteworthy community projects.

MAP


Uist Wind
Aberdeen Community Energy
Holborn Renewable Energy Network
Burneside Community Energy
Egni Mynydd Cyf
Sheffield Renewables
Amber and Derwent Valley Community Energy
Sustainable Hockerton
Cyd Ynni
Shropshire and Telford Community Energy
Nottinghamshire Community Energy
MOZES (Meadows Ozone Energy Services)
Harborough Energy
Community Energy Birmingham
Harbury Energy Initiative
Gwent Energy CIC
Southill Community Energy
Reading Hydro CBS
Hertford Energy Now
Brent Pure Energy
Orchard Community Energy
Bath and West Community Energy
CREW Energy
Sustainable Energy for South London (SE24)
Tamar Energy Community
Repower Balcombe
Communities for Renewables
Totnes Renewable Energy Society
BHESCo
Cuckmere Community Solar Company

SOUTH EAST

CUCKMERE COMMUNITY SOLAR COMPANY

Type of organisation: Community Energy Company

Location: Cuckmere Valley, Sussex

Generation: 4 MW Planned Solar

Did you consider becoming licensed to sell energy to local customers?

Since the beginning we have run a lot of public meetings in local village halls and a lot of people instinctively want this. We would love to sell our energy locally but at the moment the market is not set up to make that easy. The priority is to build a sustainable financial model, and we hope that the changes in the market can come. We want to set up a model for community energy that can be replicated by other communities.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

Yes. We would also consider different technologies as well. We have a 4 MW solar farm at the moment, and we would like to build wind turbines as well. It makes total sense to have complementary technologies, as well as battery storage. We would like to work on not just more generation but also grid balancing technology.

Are there any activities that you do locally in the community?

We are waiting until we have a clear directive; without coming up with a sustainable financial model, everything is impossible. We have done consultations, tree planting events, and put up nesting boxes for birds and bats.

If you were able to do more in the community, what would you do?

Core to our vision has always been having a community benefit fund. The vision for that fund is to support the community to go zero carbon. Help people get off heating oil and convert to an air-source heat pump, insulate homes, and put solar panels on their rooves. We would get air source heat pumps installed, and subsidise it all, as well as give them the right advice to apply for initiatives such as the Renewable Heat Incentive etc. We would consider electric charging points, and cycle tracks to the railway.

> "We would love to sell our energy locally but at the moment the market is not set up to make that easy. The priority is to build a sustainable financial model, and we hope that the changes in the market can come."

ORCHARD COMMUNITY ENERGY

Type of organisation: Community Benefit Society

Location: Swale and Medway, Kent

Generation: 5 MW Solar

Did you consider becoming licensed to sell energy to local customers?

You need much deeper pockets to do retail. As a Community Energy Society there is no way you can supply to local customers at the moment, as the regulatory framework stops it. In principle, selling energy directly to the communities nearest to our site would be great but the devil is in the detail.

Ultimately, we would need to feel that there were enough people in the community who wanted to buy our energy over a long time period, that there would be sufficient community benefit from us supplying them, and that we could meet our financial commitments. We exist to stay in business and benefit our local community.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

We are keen to build more generation anyway and so the ability to sell energy directly would only influence that if it made generation more financially viable. At present, the financials don't stack up for most new community-owned generation. The issue is whether the introduction of retail would change the numbers in the business model sufficiently to make it financially viable. We would look at it if it came along, and some of our investors would be keen.

So to sum up, in principle yes, but it's about returns, risk, administrative effort and community benefit.

Are there any activities that you do locally in the community?

In the future we will look into more things but at the moment our focus is community grant making. We like situations where there are both environmental and social benefits, such as the work we have done to fund retro fits with low energy lightbulbs for community-based organisations, which has reduced their running costs.

Last year we co-funded the Luton's Urban Trees Project, which was tree planting in a socially and environmentally disadvantaged area. We have funded environmental volunteering for people with mental health problems.

If you were able to do more in the community, what would you do?

That would be decided at the time. We believe in good corporate governance, and healthy turnover; by the time we are able to do more, there will be new people on the board and it should be up to them.

Penny Shepherd, Chair of Orchard CE, Gordon Henderson MP and two local councillors at solar installation site, 2018

"As a Community Energy Society there is no way you can supply to local customers at the moment, as the regulatory framework stops it."

REPOWER BALCOMBE

Type of organisation: Co-operative

Location: Balcombe, West Sussex

Generation: 160 kW Solar

"At the outset there was interest in trying to sell the energy to local people and the climate change charity 10:10 gave assistance with this. However the cost involved in doing so was ridiculous and it became obvious that the whole system is set up to prevent community groups like us from setting up to sell our energy to local people. There was absolutely no possibility that we could do it – only at huge scale do the financials work.

It's certainly a possibility that we could build more renewable capacity, if we could sell the energy to local people. Also, had selling to local people been a realistic option then that would have had the potential to change the economics of the project. Then we could have built the solar farm ourselves as we could have made the financials stack up and raised the funds."

Repower Balcombe's solar installation and community fridge, set up to reduce local food waste

SOUTHILL COMMUNITY ENERGY

Type of organisation: Community Benefit Society
Location: Chipping Norton, Oxfordshire
Generation: 4.5 MW Solar

Did you consider becoming a licensed supplier?

We initially thought it was something we would like to do, we have a healthy combination of skills as a community energy organisation. What we did know was that our envisaged 5 megawatt scheme would match the electricity needs of the three local parishes that it would be sat in the middle of. So we thought: wouldn't it be great if we sold the electricity we generate locally. The DNO initially offered us a 33kV wire connection to the 11kV substation which serves the local network. This was novated to a direct connection to the 11kV substation and this allows us to possibly provide local supply at a later date. Becoming a supplier is a potential ambition but not a defined objective at the moment.

There are people locally who ask if they can buy electricity from the solar farm. We can see that there is already interest for this from the community because they have been very supportive of the project.

If you could be a licensed local supplier, if the financials stacked up, would you try to build more generation? If yes, how much?

Yes, maybe. However, whilst we could add more generation, it would be unlikely for us to add a lot more because we are in an AONB. We have looked at a sleeving arrangement as a way of supplying locally as this could solve the problem of the work burden of becoming a licensed supplier ourselves. The nirvana situation is bringing storage onsite – that is likely to be more cost-effective than additional generation but will depend on evolving government regulation.

COMMUNITY ENERGY HEROES

BHESCo – winner of the 2019 Regen Community Energy Initiative Award. In the last ten years they have raised £3m and built 62 different community owned energy projects in and around the Brighton area. Their installations save hundreds of tonnes of CO_2 per year, and they're still introducing new projects.

BHESCo's members, in front of roof solar array

Reading Hydro CBS – raised £700,000 to build a community-owned hydro scheme on the Thames in Reading, which will generate enough renewable electricity for 90 homes.

Members of Reading Hydro CBS

SOUTH WEST

COMMUNITY ENERGY HEROES

Bath and West Community Energy – have installed over 20 MW of Solar PV projects (equivalent to 6,500 homes' worth of electricity) and powered eleven schools, four community buildings and many other community sites. They have also donated £155,000 in grants to support local carbon reduction and fuel poverty projects. They are currently working on a Solar Streets project to reduce peak electricity demand across the community, and they are looking to install more solar panels on local buildings to cut energy costs and generate funding for community projects.

Members of Bath and West Community Energy and solar array

Communities for Renewables – a collective of local energy enterprises including Burnham and Weston Energy CIC, Ferry Farm Community Solar, Gawcott Solar CIC and Wiltshire Wildlife Community Energy. They mobilised roughly £100,000 of Corona Crisis Funds to support people facing hardship in their local communities. These funds were secured from surpluses generated by community-owned solar and have already been put to good use across a range of projects, from mutual aid networks and food banks to an online library subscription for students stuck at home.

Burnham and Weston Energy CIC, with solar array

Tamar Energy Community – a non-profit that installs 'Solar Roofs' to benefit Valley and the surrounding area in West Devon and East Cornwall. In 2016 and 2017, TEC installed six arrays of solar panels on the roofs of local schools and businesses. These Solar Roofs generate over 250,000 kWh of electricity per year – enough to power 70 average UK homes! Any excess income is transferred to their community benefit fund which is used to tackle fuel poverty in the area.

Tamar Energy Community members, with solar array

The team at Totnes Renewable Energy Society (TRESOC)

Totnes Renewable Energy Society – have installed 27 kW at a busy NHS surgery, 7 kW at a community centre and 17.5 kW at a residential care home, all of which receive all the solar energy they can use on site for free. Another success has been their award-winning Shine Project with South Devon Rural Housing Association, whereby residents at risk of fuel poverty receive free solar energy throughout the day. In total, they have produced an estimated 1 million kWh of renewable energy and saved 480 tonnes of CO_2.

LONDON

BRENT PURE ENERGY

Type of organisation: Community Benefit Society

Location: Brent, London

Generation: 101 kWp Solar PV

If you could sell your energy directly to local customers, would you try to build more generation?

Most definitely. For example, a new project could host up to 500 kWp on a local school, but because export is insufficiently rewarded, we need to scale back to around 200 kWp.

It's all to do with the way the system is organised – the regulations by OFGEM and an access charge to the national grid. At the moment the best you can get is 5.5p per unit, and that is not enough on its own.

We would love to put solar panels everywhere, but the economics are not great. The best sites for Solar PV installation for us at the moment are large flat roofs, whereas we would love to install solar panels on smaller buildings, but it's suboptimal. Our real targets are community buildings, such as a large block of flats, but at the moment supplying them is a little difficult as we can't put a metre in each flat and the best you can do is supply electricity to common parts, such as lighting and lifts. We can encourage residents to take our shares in projects so that we can pay them, but we can't supply them directly which is a pity.

Are there any activities that you do locally in the community?

We support a local charity involved in helping renters with legal and fuel poverty issues, which is a big local issue.

If you were able to do more in the community, what would you do?

We would like to be able to expand our generation on community sites such as schools, social, medical and sporats centres, local government buildings.

It's a pity we have to stay with installing on large buildings to make price per kilowatt favourable as we're in it for local community and don't want to be competing with 'the big boys.' With a fair tariff, we could install on almost any roof and not worry about how much the building is exporting to the grid because you'd be getting a decent rate for

"If there was a local energy law that said that we could register with OFGEM and receive market rate, or at least proportional cost for electricity, we expect that that would make a lot of difference."

Brent Pure Energy's solar array at Malorees Infant School

both (consumption and exporting) which would make the world of difference.

If there was a local energy law that said that we could register with OFGEM and receive market rate, or at least proportional cost for electricity, we expect that that would make a lot of difference. It would make smaller site installations much more viable and so better help with fuel poverty.

CREW ENERGY

Type of organisation: Community Benefit Society

Location: Wandsworth, Merton and Lambeth, London

Generation: 5.2 kW Solar PV

If you could sell energy directly to local customers through your projects, would you try to build more generation?

Yes, we would. The economics of our latest Heat Pump project relies upon payments from the Renewable Heat Incentive (RHI) scheme,

Crew Energy Motion-Sensor led project launch in 2018

but if we could sell energy directly to people it would definitely help with starting more projects. But what is also holding us back from building more generation is our organisation capacity.

Did you consider becoming licensed to sell energy to local customers?

We did not consider this when we first formed because we were too small. We have not since considered this because it is not really feasible for us. If it was easier to become a licenced supplier then it would definitely be something we would look into.

Are there any activities that you do locally in the community?

We run an Energy Café where we provide advice to people living in fuel poverty, including giving advice on how to pay less on energy bills, advise on energy debt, help people switch to a cheaper tariff and identify discounts and grants and explain how people can make their homes more energy efficient. Since lockdown we have replaced our physical Energy Cafés with a phone line. Our team know the local community well, enabling us to reach out to language-speaking communities in our area.

We also run sustainability-themed games workshops at different youth clubs (EcoAction Games) where we help to educate local children about the environment and energy-saving. This year, we organised a 'Watch Party' – a public viewing of an environmental film – and we invited lots of schools and people in the community to this.

We are interested in share offers, which are a great way of connecting with the local

> "If it was easier to becoming a licenced supplier then it would definitely be something we would look into."

community, however up until now all our projects have been grant-funded so we have built less of a relationship with local people. We are looking forward to building these ties with the community through our latest share funded projects.

SUSTAINABLE ENERGY FOR SOUTH LONDON (SE24)

Type of organisation: Private Limited Company

Location: Herne Hill, South London

Generation: 220 kW Solar PV

If you could sell your energy directly to local customers, would you try to build more generation?

We were incorporated in 2015 and like many community energy groups our focus has been on installing Solar PV. Our connection to this generation capacity is predominantly now in terms of maintenance.

An agreement to sell energy directly to community organisations definitely has its attractions. At the moment, we don't know how much external grant support there is going to be in the future so it would be good to develop grid parity projects which wouldn't be dependent on grant funding.

Did you consider becoming licensed to sell energy to local customers?

No, we have not considered becoming a licenced supplier because of the sheer cost and complexity of it. Solar PV projects really must be supplying a site with a big energy user who can absorb and pay for most of the generation (typically 9-12p per kWh). This is because if they're not consuming the power, it goes to the grid as exports, for which electrical licensees pay only a low rate (typically around 3-5p per kWh). This can make the project financially inviable. A lot of community sites, like schools and churches, don't have particularly high levels of peak consumption,

SE24 stall at Ruskin Park Fete

so a lot must go into export which just isn't economically attractive.

Are there any activities that you do locally in the community?

From surplus revenues, we put money through our Community Fund into relieving fuel poverty.

For example, we previously funded a project which helped tenants in local housing estates to install energy saving equipment, such as draft proofing and insulation, helped tenants switch service providers to get a better tariff, and helped them to benefit from water conservation. This year we are also funding a project which will identify tenants who are in fuel poverty and help them with accessing fuel grants and vouchers, switching to lower cost suppliers, agreeing affordable repayment plans, advising on energy saving measures, etc.

If you were able to do more in the community, what would you do?

There are acres and acres of rooves with Solar PV potential in our community which are not being used, and which could be used. If we could use them, it would be a very effective way of utilising unused assets and effectively greening the planet, as the sites wouldn't take out land in the green belt.

These sites largely aren't being used for solar because currently there's just not enough site energy consumption and instead too much export with low market rates, making the projects economically unviable. If we could sell energy directly to local customers at the

Solar Installation at St Christopher's Hospice

"There are acres and acres of rooves with Solar PV potential in our community which are not being used, and which could be used."

rates we sell at to generation sites, and it was easy enough to do, it would allow for lower levels of consumption on the Solar PV site. This means we could fit Solar PV on many more community sites with good roofs with lower site consumption. Not only would the sites benefit from the installation, but neighbouring consumers could benefit too.

One of the attractions of supplying more schools with renewable energy is that it can be tied into the curriculum and make children aware of energy issues and climate change in a very practical way. They can then influence their parents, which is quite a powerful way to bring about behaviour change, as parents will listen to their children if they're enthusiastic about green initiatives.

WALES

EGNI MYNYDD CYF

Type of organisation: Community Benefit Society, part of Cyd Ynni

Location: Gwynedd, North Wales

Generation: 190 kW planned Hydro

Did you consider becoming a licensed supplier?

Yes, but we were warned off fairly soon. We were interested in looking to see if we could support employment and businesses in the local community, but we were advised that becoming a supplier would be very expensive and difficult to do. We are definitely still pursuing local sales and one of the local factories wants to partner with us. If we can guarantee supply, they are prepared to make a significant investment.

If you could be a licensed local supplier, if the financials stacked up and it was a straightforward process, would you try to build more generation? If yes, how much?

It is difficult to say. The other energy organisations in our area have all expanded in time by diversifying their types of generation, I could imagine that we would do the same thing. Our main concern on this is to optimise local benefits and to secure a business model for our hydro.

"We were interested in looking to see if we could support employment and businesses in the local community, but we were advised that becoming a supplier would be very expensive and difficult to do."

Top: Cyd Ynni Members, bottom: Hydro Installation

Do you have any projects geared towards community benefits? Would you look to expand your current community benefit projects?

We would like to use the revenue received from our hydro scheme to have meetings in the village, and do something on local environmental resilience. There is some common land in the village, and we want to re-examine how it can give more back to the community. If our energy organisation grew, so too would our offering to the community.

COMMUNITY ENERGY HEROES

Cyd Ynni – a network of community energy groups that build micro-hydro projects in North West Wales. They reinvest their profits in various local benefit schemes, from energy efficiency advice to solar panels on community buildings. Any surplus is then donated to community-led charities.

Gwent Energy CIC – support local projects to fight climate change and save money for community benefit. A few years ago, Gwent Energy installed an electric vehicle charge point next to the community hub in Chepstow. Funds raised from its use have since been invested in various local projects, including the purchase and installation of a defibrillator.

Gwent Energy CIC's local installed defibrillator

WEST MIDLANDS

COMMUNITY ENERGY BIRMINGHAM

Type of organisation: Community Renewables Co-operative

Location: Birmingham

Generation: 146 kW Solar

Did you consider becoming licensed to sell energy to local customers?

No. We deliberately chose buildings that would use a high proportion of the electricity in the building. The business model was built on not exporting electricity, but about buildings meeting their needs on site.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

It would change the economics favourably. If we could export units it would improve the economics of any renewable energy. Being able to sell electricity locally would lead to a new flow of income, meaning we could consider new projects.

Are there any activities that you do locally in the community?

There are several local organisations which were forced to close the community buildings they own due to Covid-19, which has resulted in them losing a portion of their income; we are not charging them for their electricity usage. It's something that they get that supports them and that they don't have to apply for. In this way we have done what we intended to do, which is to make community organisations more economically resilient to shocks such as Covid-19.

If you were able to do more in the community, what would you do?

We have been looking at advising homeowners on improving energy efficiency,

The team at Community Energy Birmingham

"Being able to sell electricity locally would lead to a new flow of income, meaning we could consider new projects."

as well as including renewable heat for buildings that would qualify for renewable heat incentive payments, battery storage and electric vehicle charging. There will always be thousands of times more possibilities than our capacity to do them.

HARBURY ENERGY INITIATIVE

Type of organisation: Village Low Carbon Group

Location: Warwick

Generation: Solar, 19 kW in development

Did you consider becoming licensed to sell energy to local customers?

We did look at it for the school, as it was going to generate so much when nobody was there over holidays, so we thought that maybe there was a commercial opportunity to sell locally. We were advised that it was simply not doable, so we didn't take it any further.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

We are always keen to build more generation. It is something that has been an aspiration for a long time, and it's an obvious next step once we've done our charging station. We are becoming very interested in Hydrogen.

Are there any activities that you do locally in the community?

We provide transport with electric cars for those in need, delivering food to local food banks, and driving people to surgeries, hospital appointments and local events. We insulated the village library and cafe, as well as the local rugby club. We are working on a low carbon Warwickshire network, which involves connecting up local parishes and towns to share ideas and stimulate new ones.

If you were able to do more in the community, what would you do?

It would definitely be a community energy generation project, probably some kind of solar setup.

HEI School Solar Project

"We thought that maybe there was a commercial opportunity to sell locally. We were advised that it was simply not doable, so we didn't take it any further."

SHROPSHIRE AND TELFORD COMMUNITY ENERGY

Type of organisation: Community Benefit Society

Location: Shropshire

Generation: 10 MW Solar

Members of Shropshire and Telford Community Energy

Did you consider becoming licensed to sell energy to local customers?

The asset that we're taking on is a 10 MW solar farm, built as part of a farm diversifying its land use. We are part of a consortium which has 10 assets across the country, using Sharenergy, who are based in Shrewsbury, to help manage that process.

As the asset we took over is already producing, the supply arrangement is already in place; it's a FiT project. In principle we are all behind selling energy to local customers, as the concept of keeping it local and supplying it local makes sense, even if we couldn't do it at the moment as we are under contract.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

If the demand was there and the financials stacked up so that we could still do community work, then it's just an issue of will – so yes, we would be interested.

Are there any activities that you do locally in the community?

We fund a rural communities charity in Shropshire and they spend a lot of money on affordable warmth schemes, as well as supporting wider community projects in rural communities. We are planning to continue to work with them, and make grants through Whitchurch town council. The other main beneficiary has been an event called the Blackberry Fair, a fair that uses art to celebrate sustainability, which we help fund every year.

If you were able to do more in the community, what would you do?

We are looking at feasibility studies to propagate more renewable development in the region. We want to use funds generated from our existing assets to trickle into supporting more assets. We believe that we can be the driving force to propagate more renewable energy projects across Shropshire such as [Solar] PV across rooftops, ground-mounted [Solar] PV, or even ground source heat pumps. We are pretty open to anything that is furthering the net zero agenda.

"We fund a rural communities charity in Shropshire and they spend a lot of money on affordable warmth schemes, as well as supporting wider community projects in rural communities."

EAST MIDLANDS

AMBER AND DERWENT VALLEY COMMUNITY ENERGY

Type of organisation: Community Energy Organisation

Location: Amber Valley, Derbyshire

Generation: Planned Hydro

If you could sell your energy directly to local customers, would you try to build more generation?

When Transition Belper looked to set up a Hydropower project at the former wireworks

site in Ambergate, Derbyshire, in 2011, we discovered many issues with effectively delivering hydropower. The project is currently dormant.

From day one, the landowner of the wireworks site wanted to sell the electricity to businesses on his site and to local people to make the project profitable. If we could only export to the national grid it wouldn't be as profitable. Absolutely every local person we consulted said that they would buy the electricity directly if they could.

OVO Energy was developing schemes to buy it off of us at a medium price and sell it to the local people, and there was a lot of interest in that. But it would be best if we could sell directly to local people as we would get a higher price for it.

> "For the hundreds of local community energy groups, becoming licensed to sell energy to local customers is never going to happen in the current circumstances."

Did you consider becoming licensed to sell energy to local customers?

I was convinced that that wasn't an option. For a big community energy group with a big start-up investment to pay staff, perhaps this would be possible. But for the hundreds of local community energy groups, becoming licensed to sell energy to local customers is never going to happen in the current circumstances.

Are there any activities that you do locally in the community?

At the onset of the project, we had an endless list of things we wanted to do in the community, funded by the hydropower project.

One of the biggest issues locally is that there's lots of old housing that is energy inefficient, resulting in fuel poverty. We would have liked to provide home insulation to help these people. We would have also liked to develop more sustainable modes of transport in the local area, such as a car sharing scheme and electric car changing.

HARBOROUGH ENERGY

Type of organisation: Not for profit Cooperative and Community Benefit Society

Location: Market Harborough, East Midlands

Generation: 170 kWp Roof and Ground Solar PV

Did you consider becoming licensed to sell energy to local customers?

In the early days of our cooperative we had many conversations about how we might sell electricity to local consumers but found entry costs to the supply market to be in the £3–4 million region.

One of our Directors fully investigated the balancing and settlement rules to fully understand the restrictions. We took great efforts to establish what the market could offer but the market is stacked against the small players at the moment. We are keen to explore options to sell unused energy locally – either from current sites or as part of new projects.

If you could sell your energy directly to local customers, would you try to build more generation?

With the addition of a retail margin I am sure that we would like to deploy larger grid connected projects. We could not say how much without knowing the financials behind the business model.

We are pleased to have roughly doubled our cumulative output year on year to a total of 393,000 kWh by 31st July 2020 and are keen to expand capacity further to achieve economies of scale and to increase community benefit.

"We took great efforts to establish what the market could offer but the market is stacked against the small players at the moment."

Are there any activities that you do locally in the community?

As well as promoting energy efficiency and carbon reduction and developing our Community Benefit Society, Harborough Energy work with several local councils to enable access to Warm Homes ECO grants. These deliver improved home energy efficiency for eligible local residents that are at risk of fuel poverty.

If you were able to do more in the community, what would you do?

We are working with our members to agree the use of the Community Benefit Fund that is being created this year from the retained profit generated by Harborough Solar One – now that both projects have met initial costs and income has stabilised. We have proposed to our members a number of possible options, such as fuel vouchers for those in fuel poverty; advice or energy efficiency measures for those in fuel poverty; training or a bursary for energy related work for someone locally (e.g., Whole house retrofit); energy saving measures for a community or school partner; an open grant for organisations to apply to for energy related work.

Solar Installation by Harborough Energy

MOZES, MEADOWS OZONE ENERGY SERVICES

Type of organisation: Not for Profit Company Limited by Guarantee

Location: Meadows and Greater Meadows, Nottingham

Generation: 37.5 kW

Can you tell me a bit about your work involving renewable energy?

MOZES was formed by a group of people who live in the Meadows, Nottingham. We decided early on that we didn't want to finance projects through an investment model, where people invest and get shares. This is because we believed this wouldn't be fair for people who don't have the money to invest. Instead, we had to research for grants.

In 2009, we successfully bid for £650,000 from the Department of Energy and Climate Change (DECC) to install sixty-five Solar PV panels on houses, three schools and a community building in the Meadows on the promise that we could get benefit from the FIT scheme and in turn support the local community. This did not happen, and so we've spent the last ten years having to find the money to secure tariffs for these sites ourselves. We have been able to do this through borrowing money, grant funding and putting more Solar PV on peoples' roofs.

Last year, we received a £1.5 million grant from The National Lottery Community Fund in partnership with the Nottingham Energy Partnership (NEP) and the Meadows Partnership Trust (MPT) to work with the community to build local capability and capacity to find solutions to climate change, including leading Nottingham's transformation to a Net Zero Carbon City by 2028.

Did you ever consider becoming licensed to sell energy to local customers?

Yes, our Mems and Arts are set up to allow us to do this. We are currently working with Siemens and Nottingham Energy Partnership to explore setting up a Microgrid in the Meadows.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation? If yes, how much?

If we find the money, then yes. We would be interested in giving it a go, but we would need significant grant funding to do it seriously and get significant help.

If you were able to do more in the community, what would you do?

We will see how our current Lottery funded project develops, but the ambition is to help the community move in step with the Nottingham CN2028 target and share the knowledge gained more widely.

COMMUNITY ENERGY HEROES

Nottinghamshire Community Energy – set up a 5 MW solar farm which powers 1,150 local homes with clean energy. The profits are invested in a range of projects, from wildlife conservation to community gardens.

Nottinghamshire Community Energy's Solar farm

Sustainable Hockerton – have typically produced over 260,000 kWh a year since 2010 from their wind turbine. They have invested their profits in numerous community projects including solar panels on local businesses, energy and water saving measures and a heart start kit with related training.

EAST OF ENGLAND

HERTFORD ENERGY NOW

Type of organisation: Community Benefit Society

Location: Hertford

Generation: 58 kW Solar

Did you consider becoming licensed to sell energy to local customers?

At the early stages, we hadn't thought much beyond helping the school that was our installation site; they get our energy for free. If we had realised the FiT was going to be withdrawn, we would have considered it.

When it came to the second round of installations we wanted to do 24 schools, then it dropped to 12, then finally just two. We have thought a fair bit about how we sell more widely but we don't see how. It is a very big challenge for a small company. For us it would be an incredibly difficult thing to try and sell.

If you could sell your energy directly to local customers, would you try to build more generation?

Absolutely. What holds us back and has prevented us from continuing, is that our finances don't stack up. If we had another source of income such as selling our energy, we might be able to return to our initial plans to put panels on 24 schools. We had agreements from all the schools and it all fell

Hertford Energy Now's members

Hertford Energy Now's solar panels at Hunsdon JMI school

apart. It has been incredibly frustrating since then not to be able to find reliable sources of income because it wouldn't take a lot more money to be able to set up more schemes.

We are often presented with opportunities to put more solar panels on our schools and at the moment we have to say no, because we can only currently afford to maintain our existing installations. With a small new source of income, we would be able to take on these new panels. A little bit more money would make a massive difference to what we are able to do.

Are there any activities that you do locally in the community?

We give the schools free electricity. We encourage the schools we are involved with to use the information we can supply about our panels, electricity usage, savings and generation in the curricula at the schools. We have held many talks with school heads, governors, conferences and councils.

If you were able to do more in the community, what would you do?

Our original aim was to provide as many schools as possible with free and reduced electricity and help schools reduce carbon. If we could do more schools then we would do them in a heartbeat. We would like to help schools change their lighting to LEDs. We would also like to build community owned electric car charging points, and combine one of the school installations with an electric car charge point. We would use these projects to cross-fund each other.

> "We have thought a fair bit about how we sell more widely but we don't see how. It is a very big challenge for a small company."

NORTH WEST

BURNESIDE COMMUNITY ENERGY

Type of organisation: Community Benefit Society

Location: Burneside, Kendal

Generation: 750 kW Solar PV

Did you consider becoming a licensed supplier?

No, quite aside from the financial and bureaucratic hurdles to registering as one, we secured local business as a committed buyer of all the electricity we will deliver through phases 1, 2 and 3 (still under development).

If you could be a licensed local supplier, would you try to build more generation?

We're certainly building quite a bit more generation, some of which could potentially

be made more viable by our becoming a licensed local supplier. Phase 3 of Burneside Community Energy will add another 150 kW of solar generation, however again this will supply the same local business through the existing private wire. Phase 4 is our plan to build enough renewable generation to supply 180 new homes and business units to be built in Burneside. The plan is that it will be a combination of rooftop and ground-mounted Solar PV, heat pumps along with storage and potentially some surplus power from an existing hydroelectric scheme at the local mill.

Our ultimate aim is to build enough generation to supply the entire village of Burneside. Assuming phases 3 and 4 go to plan, achieving this will take us beyond the scope of Ofgem's Small Scheme Exemption, and so we will no longer be able to rely on private wires. At this point we will pursue the most viable, cost-effective route to connecting new generation to local homes. There are several potential options, including the Energy Local model, however setting up as a licensed local supplier would certainly be much more attractive if the financial and bureaucratic hurdles were removed or significantly lowered.

Everything that we do in community energy is a fight. In Burneside we want to maximise local use of local generation. Through doing so and therefore minimising the net import and export of energy on an overburdened grid we should therefore be able to reap the associated benefits of affordable, clean, local energy.

YORKSHIRE AND HUMBER

SHEFFIELD RENEWABLES LTD

Type of organisation: Co-operative & Community Benefit Society

Location: Sheffield, Yorkshire and Humber

Generation: 177 kW Solar PV

If you could sell your energy directly to local customers, would you try to build more generation?

It is currently not finically viable for projects to export excess generated energy, which makes the project itself not financially viable if the building cannot purchase all the electricity generated from the Solar PV. So, we'd like to do more, but we just need to find buildings that will use buy all the electricity from us directly.

Are there any activities that you do locally in the community?

We donate part of our Community Benefit Fund each year to a local organisation. For the past 3 years this has been to South Yorkshire Energy Centre to help local residents in fuel poverty. Fuel poverty in Sheffield is very bad in places, especially in a lot of rented properties. In our first year of giving to South Yorkshire Energy Centre, we gave around £3,000 and they were able to help 100 households. This included improving insulation, such as by fitting new front doors, fitting new boilers, and giving advice to people on how to get onto the lowest tariff. The money we gave was able to make quite a lot of difference.

If you were able to do more in the community, what would you do?

More of the above and also more education about renewable energy and energy saving. For example, we've always had an information

Sheffield Renewables' 50 kW solar array at Attercliffe Police Station

board by our projects for local people to read about the renewable energy. Most years we also have a stall at the local summer fair to educate people about renewable energy. One year we had a little Solar PV Model that powered a Bubble machine as a lot of people don't believe that you can get free energy from the sun! We'd like to do more of this work.

NORTH EAST

During the process of conducting our case studies we faced difficulty in identifying community energy projects in the North East of England. The Holborn Renewable Energy Network, set up by South Tyneside Council and aiming to be completed by 2025, represents one of very few small-scale electricity generation projects that we were able to confirm as currently active within the region.

A report by the North East Local Enterprise Partnership, titled *North East: Energy for Growth,* states that the "North East has historically had a low concentration of community energy projects, with a low number of schemes in implementation compared to other regions."[42] The report, published in 2019, goes on to say that notable barriers for entry in the North East are project scaling, a skills gap and access to finance. Whilst our research has found that these limitations exist across the UK, access to finance appears to be a particular issue in the region. Indeed, the North East is now the poorest part of the UK[43] with a lower GDP per head than any other region.[44]

The *North East: Energy for Growth* report states that there would be 'considerable benefits' to more community energy schemes in the North East, particularly due to the area's high rates of fuel poverty and some communities' lack of network connection, which more community energy can help relieve.[45] The scarcity of such projects in the North East highlights the distinct inequality within the community energy sector; due to the lack of financial viability, areas which most greatly need community energy organisations and their subsequent benefits are often the areas least able to get such projects off the ground.

HOLBORN RENEWABLE ENERGY NETWORK

Type of organisation: South Tyneside Council Project

Location: South Tyneside, Tyne and Wear

Generation: 5 MW Heat in development

Did you consider becoming licensed to sell energy to local customers?

That is in our plan to explore; as the network develops we will be looking into it. We would definitely be interested in selling energy locally, and to private and council housing as well. We are currently doing a feasibility study into what the network will look like.

42 North East Local Enterprise Partnership. 2019. North East Energy for Growth.

43 Resolution Foundation. 2019. Mapping Gaps: Geographic inequality in productivity and living standards.

44 Office for National Statistics. 2019. Regional economic activity by gross domestic product, UK: 1998 to 2018.

45 North East Local Enterprise Partnership. 2019. North East Energy for Growth.

If you could sell your energy directly to local customers, if the financials stacked up and it was a straightforward process, would you try to build more generation?

Yes we would. Our energy centre is primarily about heat at the moment, and we would use the energy that it generates to run the energy centre. It is small scale at the moment but we would be interested in developing a project around floating wind turbines, as well as a floating dock of Solar PV to generate heat and electricity. I had a conversation last week about offshore wind; it's still very early stages but we are definitely interested. Ultimately, the network has aspirations to develop to 12 MW.

What are the intended local benefits that will be felt in the community from this/ these schemes?

Decarbonisation is the primary motivation. The council has declared a climate emergency, and wants to be net zero by 2030.

If you were able to increase generation and create more revenue locally for doing so, what other potential benefits could be felt locally?

Currently we're engaging with South Tyneside College and they are keen to explore and develop opportunities for their students to be involved in the green economy, such as organising webinars and lectures to help with local employment and education.

In the future as our network becomes more developed, any leftover electricity that we generate would be able to go to adjacent properties such as social housing, residential properties and local venues such as the Customs House, a centre for music and the arts.

SCOTLAND

ABERDEEN COMMUNITY ENERGY

Type of organisation: Community Benefit Society

Location: Aberdeen, Scotland

Generation: 100 kW Hydro

The first desire of local community was for the project to provide energy directly to them under a tariff so that local households would benefit directly. However we got stuck because doing this meant we would need to become a licensed supplier and the regulations make that far too complex.

Without a shadow of a doubt we'd prefer to sell to customers directly. If we were able to retail like this we could receive a much higher rate than we're currently getting under our generation contract but we could supply to the community at a rate that is much better than what local people are paying.

If we received more money we have a range of community projects that we would like to deliver, e.g. social spaces, youth projects and wildlife improvement. If we could sell to local people directly then we would definitely want to build at least another Archimedes screw. The original scheme envisaged a 400 kWh project that would have supplied all of the local community. We only receive our current FiT rate if we stay under 100 kWh, otherwise it would roughly halve. So if we could receive the high per kWh rates from local people whilst generating more it should roughly even out.

We would like to be generating more clean, renewable energy, even if it doesn't change how much profit we're making, but we can't.

UIST WIND

Type of Organisation: Community Benefit Society

Location: North Uist, Outer Hebrides

Generation: 1.8 MW Wind

As you may be aware, North Uist Development Company are currently in the process of building two wind turbines for community benefit. Selling the electricity to the grid was selected to be the most suitable for a community organisation, due to the difficulties in selling directly to local consumers. However, this is extremely limiting due to grid constraints. NUDCT have been fortunate to secure one of the last FiT and has the last capacity on the islands connector. Future community and/or commercial projects are dependent on a new interconnector to sell to the grid. Should it become easier to sell locally, there could be less dependence on big companies and greater empowerment by smaller communities, such as on islands, some of whom are currently heavily reliant on fuel imports. Skills capacity to understand complicated energy systems and associated legal requirements, is still a limiting factor, but any opportunity to drive local renewable energy supplies is extremely welcome.

THE POVERTY & ENVIRONMENT TRUST

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The Poverty and Environment Trust are a UK charity working to relieve poverty and protect the environment.

The Call For A Level Playing Field:
A Right to Local Supply for UK's
Community Energy Schemes

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