Pathway for Community Energy

May 2020
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Pathway for Community Energy
1. What is Community Energy?

• **Community driven** energy projects that are led by people, groups and organisations in the communities that the projects are based in.

• Projects that generate **renewable energy** in the community and/or improve **energy efficiency**.

• Projects that help people that are at risk of being in ‘**fuel poverty**’.

• Energy projects that are managed by **community energy companies** that are **not-for-profit organisations** such as Co-operatives or Community Benefit Societies.

• Renewable energy installations that may be **community owned** by the community with local people buying shares and earning interest.

• Energy projects that are **funded by grants** obtained by local community energy companies.
2. Why start a Community Energy Group?

You may want to start a Community Energy Group because:

• You want to take action to tackle climate change, improve local air quality and/or tackle fuel poverty.

• You want to see an economic benefit for your community, create local green jobs and ethical investment opportunities.

• You want to see your community benefit from local resilience and cohesion.

• You want to see energy produced local and make your community more energy self-sufficient.

• You have a specific project that you want to develop.
Essex County Council and Community Energy South are providing support to help establish new community energy groups and projects in Essex.

- We have engaged with groups and individuals to establish the level of interest in community led energy projects and to find out what plans, ideas and skills are already in place.

- We are identifying groups and individuals that want to take community energy projects forward that could benefit from business development support.

- We are developing resources that will help new groups get started. There are a range of resources linked from this presentation.

- Providing networking and training opportunities in Essex.
3. What is happening in Essex?  

In March 2020 we carried out a county-wide survey in Essex to find out what the current interest, involvement and plans are for community energy in Essex. We received 58 responses. The following slides show some of the key results.

Have you or anyone in your organisation already been involved in any local renewable energy projects such as projects to generate, own, manage or reduce consumption of energy or projects to reduce energy consumption?

The response to this questions shows that there are many projects already happening in Essex. These included projects such as:

- Solar PV installations
- Energy efficient lighting for community buildings
- Eco-build and Passivhaus homes
- Renewable energy support for community building installations
Have you or your organisation got any plans or ideas to develop renewable energy or energy efficiency projects in the near future?

Of the 58 respondents there were 27 groups or individuals with plans to develop projects in the near future. Project ideas included:

- Solar PV installations
- LED lighting
- An electric car club
- Development of eco-homes
- Village wide carbon reduction plans
- Energy efficiency projects and surveys for community buildings
- Renewable energy storage projects
Are you interested in receiving support to develop a renewable energy or energy efficiency group or project?

The response to this question indicates that there is demand in Essex for support to develop community energy projects.

This guide is the first step in providing that support. Essex County Council is working to provide support to individuals and groups in business development, training, networking and securing project funding.
4. Where to start?

Read

- You are already making your first step!
- **This guidance** will give you a good overarching knowledge on Community Energy.
- Follow as many of the links as you can to go into further depth.
- Look at what others are doing – case studies are at the end of the guidance.

Connect

- Look at the resources that on the **Community Energy website** to see what organisations are up to in Essex and what funds are available.
- Network in your local community to find **local groups and individuals** that want to join or support you.

Get Support

- Speak to your local **Parish Council** to find out what they are already doing and how they could support you.
- Register your interest in **training and networking** events offered by Community Energy South and Essex County Council.
- Register your interest for **business support** from Community Energy South.
Create a core group

Don’t go it alone!
Start by creating a small, core group and look to identify wider skills and support.

<table>
<thead>
<tr>
<th>Core Group</th>
<th>Wider group</th>
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</thead>
<tbody>
<tr>
<td>Group Chairperson</td>
<td>Group Facilitator</td>
</tr>
<tr>
<td>Project Manager,</td>
<td>Technical experts such as a local engineer,</td>
</tr>
<tr>
<td>ideally with energy or</td>
<td>consultant or trusted installers</td>
</tr>
<tr>
<td>environmental experience</td>
<td></td>
</tr>
<tr>
<td>Administrator/Secretary</td>
<td>Local councillor or officer with environmental &amp;</td>
</tr>
<tr>
<td></td>
<td>sustainability interests</td>
</tr>
<tr>
<td>Marketing and Communications</td>
<td>Accountant/bookkeeper</td>
</tr>
<tr>
<td>Solicitor or legal professional</td>
<td>Interested people with time to spare</td>
</tr>
</tbody>
</table>
Join Community Energy South

Community Energy South is a regional hub that is supporting its members to grow community energy projects and organisations. Membership benefits include:

• workshops and networking meetings
• priority access to our training sessions and events
• access to our advice and support services
• regular newsletter
• advertising space for your fundraising campaigns
• forum for sharing support services
• join together for grant funding
• discounted rates on energy consultancy services

Membership is free to new community groups. You can sign up here.
Our Community Energy Group Membership

There are over 30 Community Energy groups that have set up in the South East since 2007. These groups are Co-Operatives or Community Benefit Societies run by volunteer boards of directors recruited from their local community.

Visit www.communityenergysouth.org and find out more about community energy and the work of your local groups.
Join Community Energy England

Community Energy England (CEE) represents and supports those committed to the community energy sector in England. They are:

• creating a voice for the sector
• supporting sector development
• building cross-sector partnerships

Membership is open to any organisation that is committed to the development of the community energy sector and is free to organisations with a turnover less that £20,000.

You can find a range of resources and events on the [CEE website](#) and the [CEE Hub](#).
State of the Sector Reports

The national and regional state of the sector reports give an overview of the current progress, barriers and opportunities in the Community Energy Sector.

Read the latest national report

Read the latest regional report
Putting a Business Plan together is vital to achieve well planned action and long term success. Questions to think about when preparing your Business Plan include:

• What is your vision and why do you want to make it happen?
• What steps do you need to take to achieve your vision?
• Who are the key people in the group and what are their roles and responsibilities?
• How will your projects be funded and/or create an income?
• Who can enable your group to be a success?
• How will you engage your local community?
• What is your action plan? What will you do, who will do it and by when?

Download a range of business planning templates recommended by the UK government. You may also be eligible for support to produce a community energy business plan through Community Energy South.
6. Shout about it

Once you have a basic action plan in place it’s a great time to engage with the wider community. This can help you to:

- Increase your network, gather momentum and raise your profile
- Identify skills and potential new core members in your community
- Identify project opportunities
6. Shout about it

Getting people together

Plan an open space event where the community can meet and provide input into your initial plan.

The Transition Network have developed a guide for open space events that you may want to make use of.

Now’s the time to start getting a presence with local groups and forums on social media as well as more traditional routes such as local bulletins and magazines.
7. Get incorporated

In order to secure project funds and income you will need to be an established legal entity and set up a bank account. **Before you do this, you should have a business plan in place.**

Community Energy Companies are usually Co-operative Societies or Community Benefit Societies. Community Interest Companies are another legal structure.

Take a look at the brief overviews of each provided and also consult **further information and support** to decide which structure is best for you.

An explanation on legal structures is outlined in [guidance produced by The Hive](#) - a support programme for co-operatives delivered by Co-operatives UK on creating the legal vehicle for your co-operative.

There are a variety of organisations that provide assistance with incorporation of a Co-operative or CBS and that will provide ‘model rules’ for you to adapt. [Co-operative UK](#) are one of these companies.
Co-operative and Community Benefit Societies

Co-operative Societies and Community Benefit Societies are the most common form of legal entity for a Community Energy Company. They are both classes as Registered Societies through the Financial Conduct Authority and allow members of the public to invest in shares that are withdrawable. This is an important fund raising mechanism for many community energy companies. At least three named Directors are required.

A co-operative society operatives for the mutual benefit of members. It can pay interest on member share capital and a share of the surplus, or dividend, based on the level of transactions.

A community benefit society operatives for the benefit of the community at large. There needs to be an overarching community purpose. A community benefit society has the power to pay interest on members’ share capital but it cannot distribute surpluses to members in the form of dividends.

A community benefit society can opt to have a statutory asset lock. This means that upon dissolution the assets cannot be shared amongst the members but that they must go to another asset locked organisation(s) with similar objects. This type of asset lock is not currently available for co-operatives.
Community Interest Companies

CICs are registered with Companies House as companies rather than through the FCA. Some of the key points to note are:

• CICs can either be a private company limited by shares, a private company limited by guarantee or a public limited company (PLC). A CIC limited by guarantee would have no share capital which means that they cannot issue shares.
• CICs can effectively be owned and controlled by one or more individuals.
• Demonstration is required that the company wishes to further social objectives as a social enterprise and use their profits for the public good.
• Required to pass a community interest test with the CIC Regulator.
• Not eligible for charitable status.
• Dividends, where applicable, and not interest are payable on shares as standard companies. **Shares cannot be issued to the public.** This will mean that raising funds through ‘share offers’ that offer interest on returns is not possible.
• CICs will have a compulsory asset lock – assets must only be used for the benefit of the community.
There are a wide variety of co-operative legal structures

Source: The Hive
8. Funding and support £

Before you start planning your project, it’s a good idea to get a basic understanding on how you could get funding and earn an income.

**Start up support**

If you are looking to start or develop a community energy group or project in Essex you may be eligible for start up support to help you with business development and preparing complex funding applications.

To apply please email contact@communityenergysouth.org

**Grant Funding**

There are a range of national and local funds that could help you with project development and installation costs.

Take a look at the Essex Community Energy Funding Database on the Community Energy South Website

**Income from energy generation**

You can earn income from a community energy project by selling your energy to a user through a Power Purchase Agreement.

For renewable heat projects you may be eligible to claim the Renewable Heat Incentive.
Many community energy organisations own renewable energy installations and sell the energy to a business or organisations where the project is located.

You can raise funds for a project through a community share offer. This allows people to **invest** in a project and **receive interest**.

Platforms such as **Ethex** allow organisations to advertise and gain interest in their project.

Take a look at the [Community Shares Unit](#) and their short video below.
Community Shares and Power Purchase Agreements

To raise funds for a community energy project you will need to secure a legal agreement with the energy user through a Power Purchase Agreement and produce a Share Offer document. You will need some legal support to do this. Click on the guide below for some more information.

What does a good power purchase agreement (PPA) look like?

Josh Brown
Renewables Manager, Co-op Energy

You may want to make use of Pure Leapfrog’s Legal Toolkit. Pure Leapfrog can also provide you with advisory services and bridge financing.
9. Starting a project

1) What is happening near you? Take a look at the databases for Essex that show funds and local organisations that could support you. This is available on the [Community Energy South website](#).

2) Where are the high energy users in your area? Identify the buildings, organisations and operations that use the most energy. These will be the projects that can generate the most income.

3) Who are the high profile energy users? Getting an installation on a high profile building such as a local community centre or school can help you get noticed and build momentum.
Case Study - The Barcombe Energy Map

Barcombe Energy Group working with OVESCO & CSE mapped the opportunities for projects in the Parish of Barcombe in East Sussex.

They worked with the local community to identify opportunities. This included holding an energy day with workshops & mapping the parish for opportunities.

Their work resulted in 250 homes getting free insulation & two community energy projects to install solar PV using a community share offer.
How could your community generate local electricity, heat, store energy and provide infrastructure for Electric Vehicles?

What type of project?

- Bio gas
- Wind turbines
- Micro grid
- Hydrogen fuel
- Electric cars
- Solar Thermal
- Solar PV
- Heat pump
- Micro Hydro
- Solar PV
Community energy is based on local renewable energy options and ‘self sufficiency’ rather than on importing predominantly fossil fuel based power that is controlled by a few large generators.

**OLD WORLD**
- Centralised (few large generators)
- Predominantly fossil fuel based
- One-way power flows
- Predicatable – Planned
- Customers consume
- Flexibility from generators

**NEW WORLD**
- Decentralised (thousands of distributed generators)
- Hybrid – much more renewables
- Bidirectional power and information flows
- Intermittent – Managed
- Consumers self-produce and consume
- Flexibility form demand, storage and generation

Image from [UKPN](https://ukpn.org)
Saving energy is more important than generating energy, so steps to improve energy efficiency of buildings and use energy saving appliances and lighting should be considered before installing renewable energy.

There may be support in your local area to help people with energy efficiency.

Help with energy efficiency

The government’s ECO initiative can provide funding for home energy efficiency improvements such as insulation for people that are on a low income.

Find out more on the Ofgem website
Or call Simple Energy Advice on 0800 44 42 02

Enter your postcode on the Simple Energy Advice website to find out about home energy saving grants in your area

Take a look at the energy efficiency guide from the Energy Saving Trust.
## Renewable energy technologies that communities could use:

<table>
<thead>
<tr>
<th>Electricity</th>
<th>Heat</th>
<th>EV’s &amp; Hydrogen</th>
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## Electricity generation projects

Now that the government subsidy has ended for renewable electricity generation you will need to identify a high energy user that can directly use the renewable electricity you generate in order for your project to be economically viable.

<table>
<thead>
<tr>
<th>1. Solar PV (photovoltaic) uses solar panels to generate electricity from the sun.</th>
<th>2. Wind turbines generate electricity from the wind.</th>
<th>3. Micro hydro generates electricity from flowing water.</th>
</tr>
</thead>
</table>
| 1. Roof top  
2. Ground mounted | 1. Horizontal access  
2. Vertical access | 1. Archimedean screw  
2. Pelton  
3. Cross Flow  
4. Kaplan |

You will need an unshaded roof-top or site ideally orientated south but not north.

Take a look at the [Solar PV Guide](#) from the Energy Saving Trust.

Wind speed and location are crucial to getting a good yield. Large wind turbines are more effective than small ones. Current planning requirements and public objections can make installing large wind turbines difficult.

Take a look at the [Wind Turbine Guide](#) from the Energy Saving Trust.

If you have a river flowing through your community with a high energy user nearby hydro is worth investigating.

Take a look at the [Micro Hydro Guide](#) from the Energy Saving Trust.
### Heat generation projects

Although 33% of the electricity supplied to the national grid is renewable we are barely getting started with renewable heat. The average household also requires 4 times as much energy for heating than it does for electrical appliances.

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<thead>
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<tbody>
<tr>
<td>extract heat from the surrounding environment using electricity</td>
<td>generates heat from burning wood as a fuel</td>
<td>heat hot water from energy from the sun.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>1. Air Sourced (ASHP)</strong></th>
<th><strong>2. Ground Sourced (GSHP)</strong></th>
<th><strong>3. Water Sourced (WSHP)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHPs are currently the most common heat pumps used due to cost and ease of installation.</td>
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<td></td>
</tr>
</tbody>
</table>

Take a look at the [Heat Pump Guide](#) from the Energy Saving Trust.

<table>
<thead>
<tr>
<th><strong>1. Logs stoves</strong></th>
<th><strong>2. Chip Boilers</strong></th>
<th><strong>3. Pellet Boilers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass fuel costs are subject to price fluctuations according to wood availability. Some people are also concerned with emissions from biomass boilers.</td>
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</tbody>
</table>

Take a look at the [Biomass Guide](#) from the Energy Saving Trust.

<table>
<thead>
<tr>
<th><strong>1. Flat panels</strong></th>
<th><strong>2. Evacuated tubes</strong></th>
<th><strong>3. Roof top and field scale</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar thermal can be effective on rooftops that have some shading and are less suitable for solar PV.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Take a look at the [Solar Thermal Guide](#) from the Energy Saving Trust.
1. Electric Vehicles (EVs) use electricity stored in batteries to power the vehicles.

By 2035 you will no longer be able to buy a petrol, diesel or hybrid cars or van in the UK. In order to prepare for this transition there needs to be a big step forward in electric vehicle technology and charging infrastructure.

We need to increase electric vehicle charging on a massive scale and come up with solutions to ensure that the national grid can cope with the increased demand. Community Energy Groups are well places to ensure that this happens in each community.

Take a look at the Electric Vehicle Guide from the Energy Saving Trust.

2. Hydrogen vehicles are less common than EVs

Hydrogen power cars and vans are still in their infancy but the market is starting to develop. Hydrogen is currently well suited to long range and heavy goods transport including buses, heavy goods vehicles and trains. If you can form links with operating companies, your community group could help develop new projects.

Take a look at the Blog on Hydrogen Vehicles from the Energy Saving Trust.
When identifying sites you will need to consider:

- **Site suitability** – *is the site suitable for the type of technology?* e.g. for solar PV you need to be aware of shading, direction of building and roof condition. The [Energy Savings Trust](https://www.energysavings.org.uk) has a guide that will help you get started.

- **Planning** – *do you need planning consent?* There are specific planning requirements for listed buildings, conservation areas and site designations such as National Parks and AONBs. Start by looking at advice on the [government’s planning portal](https://www.gov.uk/planning).

- **Is anyone likely to object?** Identify any neighbours that may overlook the installation or may be affected by any site traffic.

- **Can you connect to the grid?** – You will need to make an application to connect renewable electricity for anything but domestic size installations. Grid connection can be expensive especially for large or remote sites. [Got a quote on grid connection costs](https://www.ukpn.org.uk/) in Essex through UKPN.

- **What legal documents will you need?** If you plan to own and operate start looking at what is needed to undertake a [share offer](https://www.gov.uk/government/publications/share-offers-in-uk) and put in place a [Power Purchase Agreement](https://www.gov.uk/government/publications/power-purchase-agreements).
10. Case studies

There are community energy groups and projects running throughout the South East.

Take a look at the interactive map.

Here are a selection of case studies from across the region......
The *Schools and Community Energy Report* provides a summary of all the renewable energy projects that have been completed in the South East.

If you are interested in supporting schools with community energy projects, the *LESS CO₂*-sustainable schools programme is a free energy efficiency programme available to any UK school.
Number of community energy schools: 84
Number of pupils reached*: 60,363
Total kW of solar PV*: 4142
Estimated tonnes carbon saved/yr*: 1265
*through solar schools only
Energy groups, schools & education programmes 2012 - 2019

Take a look at the map
Riding Sunbeams helps community groups to install solar farms to power the railway. Community solar for the rail network.
Sites have been developed with funding from the Rural Community Energy Fund
The first demonstration project has been installed at Aldershot
Meadow Blue have installed community owned solar farms in Sussex
Awel is a Community Benefit Society and its project owns and run two 2.35MW Enercon wind turbines on Mynydd y Gwrhyd, 20 miles north of Swansea.
Springbok Sustainable Wood Heat Co-operative has operated a wood chip fuelled district heating system on the Springbok Estate near Alfold, Surrey
Forest Row Energy have been awarded with grants from the Big Energy Saving Network, UK Power Networks, Scottish Gas Network and Power Partners to deliver free energy advice that helps people save money on their energy bills and become more energy efficient. They have a free guide available that was funded by Power Partners.

Forest Row Energy also won the M&S Community Energy Competition in 2018 to install solar PV on the Forest Row community centre. The installation is about the size of household system and shows local residents the savings they could expect to make from solar PV. This small project has helped this community energy group raise their profile in the local community.

Take look at Forest Row Energy’s Projects
Energise Sussex Coast are running the Energise Living Labs project in partnership with Kingston University. Local residents are working with researchers to reduce their energy use in the home. The project is funded by the European Union’s Horizon 2020 Research and Innovation Programme.

Take a look at Energise Sussex Coast’s Projects