

Involving local communities in Smart Local Energy Systems

Case studies and opportunities

July 2021

Reviewed in March 2022



Introduction

Smart Local Energy Systems (SLES) are an emergent concept, both technically and commercially. There is no single definition for this concept – SLES can be implemented and configured in a great variety of ways. In their report *A framework for understanding and conceptualising smart local energy systems*, Ford et al. (2019) develop a shared understanding of the various ways SLES can leverage “smart” and “local” elements in order to deliver value and benefits within a locality. As Ford et al. point out in *Smart local energy systems: A framework for exploring transition, context, and impacts* (2021), the purpose or goals of a SLES often extend beyond delivering energy services to end users, and are often intertwined with delivering additional environmental, social and economic benefits.

A recent report (WPI Economics, 2020) stressed the need for end-users to become engaged at a local level with the transformation to a decarbonised and less-centralised energy system. SLES have the potential to play a key role in this transformation. Their decentralised nature enables the emergence of new types of stakeholders, including local community groups and grassroots organisations, local authorities, and local enterprise partnerships working alongside private sector businesses (Devine- Wright, 2019). They also require more active participation of energy users as they can include demand shifting, energy storage, energy saving, co-design and co-provision.

InnovateUK has invested £102.5 million in industry and research to accelerate innovation in SLES. The projects funded include three large-scale demonstrators and ten detailed designs, including GreenSCIES for which this report has been prepared. GreenSCIES (Green Smart Community Integrated Energy Systems) is a two-year project to develop a detailed design for a SLES in Islington, London. The system will include a district heating and cooling network, solar PV electricity generation electric vehicle charging all governed by a smart control system. GreenSCIES is using a co-design approach, involving Islington communities throughout the whole project.

This report investigates how local communities are getting involved in four other SLES across the UK, using a case study methodology and a standardised framework for community involvement. We have also included two community heat networks and a cohousing project in our case studies, which are either completed or close to being implemented, and offer different insights into what community involvement in complex energy projects can look like.

The objectives of this report are:

- To analyse ways emergent SLES engage with local communities
- To outline opportunities for the GreenSCIES project beyond the detailed design stage
- To emphasize the importance of community involvement in SLES

A framework for community involvement in SLES

Community is a term used widely to describe different realities. In this report, we use it to represent every user of energy within the geographic constraints of each energy project (ie businesses, residents).

“Local Energy Oxfordshire partners think an energy system is local if it involves local organisations and communities, has management from the ‘edge’, and uses local assets and produces local benefits” ([source](#))

Community involvement is a key characteristic of a SLES – its ‘local’ nature means it involves local organisations and communities. SLES often require more active participation from energy users as they can include demand shifting, energy storage, energy saving, co-design and co-provision. As an emergent and innovative concept, SLES also require more engagement with potential users to ensure the necessary ‘buy-in’ or ‘take-up’.

Community involvement in a SLES can take many different forms. We will use the framework developed by Repowering London and Vattenfall in their report ‘*Community energy models applied to heat networks*’ (2019) where they examine how local authorities, developers and communities can apply community energy models to large scale energy projects. The report uses a framework, which distinguishes six mutually inclusive community energy models. We have expanded this framework to adapt it to an analysis of SLES, adding two elements: partnership and system participation.

1) Equity – Community investing (ownership) in the energy project

The energy project can take the form of a Community Interest Company, a Community Benefit Society or a Co-operative Society to raise equity from the community via community shares. Community investors become members of the Society and share profits and control.

2) Debt – Community lending money to the energy project

The energy project can borrow money from the community via bonds or loans. Normally this comes with no voting power.

3) Membership – Community becoming a member of the organisation running the energy project, ideally with the right to vote

The community can become part of the organisation running the energy project. Membership typically involves benefits such as access to the service, discounts, access to collaboration, or voting power in the organisation.

4) PPA (Power or Heat Purchase Agreement) – The energy project is buying energy from community-owned assets

The energy project can involve the community by buying power or heat from local community energy groups with favourable conditions (rate, duration). The agreement can provide

additional income and stability to the financial models, decreasing the level of risks and making these projects more financially attractive for community investors.

5) Community Fund – The energy project is setting money aside to benefit the community

The energy project can allocate a portion of its profits to a Community Fund to benefit the local community in various ways (education, sponsorship for local events, funding local infrastructure, energy advice, donations to charities, community gardens etc...)

6) Community Engagement – The energy project is running activities to support the community

The energy project can support the community by delivering various activities such as fuel poverty support, door knocking, energy advice, collective switching etc... The difference from the Community Fund is that community engagement is seen as a service to the community delivered or commissioned by the energy project as part of the overall service.

7) Partnership – The energy project is partnering with a community organisation

The energy project can partner with a community group to involve community members in the development of the project through a user-centric approach.

8) System participation – The community is actively participating in the energy project

Instead of being passive end-users, community members can actively participate in the energy project as prosumers. The increase in small-scale low carbon technologies is creating opportunities for consumers to generate and sell electricity, store electricity using batteries, provide flexibility services, and even for electric vehicles (EVs) to alleviate demand on the electricity system.

9) Hybrid Models – A combination of 2 or more of the above models

All models could be applied to an energy project simultaneously. Hybrid models bring greater social impact, engagement and value to the community.

Case studies

We included in our case studies the three large-scale demonstrator projects funded by InnovateUK: Energy Oxford Superhub, Local Energy Oxfordshire, and ReFLEX Orkney. We have included one detailed design project funded by InnovateUK, Zero Carbon Rugeley, which was selected based on its similarity with GreenSCIES and the amount of information available online. The list of the 10 detailed design projects funded by InnovateUK (including GreenSCIES) can be found in Annex 1. In addition to this, we have included two community heat networks and once cohousing project: Brighton and Hove Energy Services Co-op Firle village, Springbok Sustainable Woodheat Co-op, and Bridport Cohousing Co-op.

The case studies have all been assessed using our community involvement framework. They are based on desk-based research (reports, websites, social media, webinars) and interviews with stakeholders in some of the projects to fill information gaps and ensure the information is up to date. It is important to note that all SLES projects in the UK are at early stages, either in design or demonstrator phase, so there are still a lot of unknowns and the observations made here are likely to change.

Energy Superhub Oxford



- Large-scale demonstrator
- Funded by InnovateUK
- Project partners: **Led by Pivot Power (EDF Renewables)** with Oxford City council, Habitat Energy, Kensa Contracting, Invinity Energy Systems, University of Oxford
- Location: Urban (Oxford). Heating is installed in social housing properties.

[Energy Superhub Oxford \(ESO\)](#) will include an Electric Vehicle charging network, a large hybrid battery energy storage system, the electrification of the Council's vehicle fleet, and the conversion of around 60 properties from conventional gas and electric heating to innovative ground source heat pumps. The whole system is controlled by an optimisation and trading engine.

Community involvement framework

1. **Equity:** Future plans unknown.
2. **Debt:** Future plans unknown.
3. **Membership:** No mention of a membership plan.
4. **PPA:** No mention of a PPA with a community energy group.
5. **Community Fund:** No mention of a community fund.
6. **Community engagement:** Yes. Activities include working with local schools to develop educational materials and developing tools to demonstrate the cost benefit of switching to low-carbon transport and heating.
7. **Partnership:** No community organisation as a project partner.
8. **System participation:** No. Individuals and businesses are end-users for electric vehicle charging and heating.

Observation: ESO's focus seems to be on technology innovation, with the first grid-scale battery (50MW) to directly connect to the transmission network, and the largest public EV charging hub in the UK. No community organisation is directly involved in the project.

Local Energy Oxfordshire



- Large-scale demonstrator
- Funded by InnovateUK
- Project partners: **Led by Scottish and Southern Electricity Networks**, with Low Carbon Hub, Universities of Oxford and Oxford Brookes, Oxford City Council, Oxfordshire County Council, Piclo, Nuuve, EDF, Origami Energy
- Location: Suburban and rural (Oxfordshire) for smart and fair neighbourhood trials.

[Local Energy Oxfordshire \(LEO\)](#) seeks to create the conditions that replicate the electricity system of the future to better understand these relationships and grow an evidence base that can inform how we manage the transition to a smarter electricity system. It will inform how Distribution System Operators function in the future, show how markets can be unlocked and supported, create new investment models for community engagement, and support the development of a skilled community positioned to thrive and benefit from a smarter, responsive, and flexible electricity network.

Community involvement framework

- 1. Equity:** Future plans unknown.
The community has invested in the £3 million share offer from community energy group Low Carbon Hub (LCH) to build the Ray Valley Solar Park. LCH plays a big role in the project (see below).
- 2. Debt:** Future plans unknown.
- 3. Membership:** No mention of a membership plan. LCH members are involved indirectly in LEO through their ownership of the Ray Valley Solar Park.
- 4. PPA:** Yes. The Ray Valley Solar Park will provide an anchor load for the trial. They are using an innovative local long-term PPA to harness local power generation, and find a way to make community-owned energy projects financially viable without the need for subsidies such as the FiT.
- 5. Community Fund:** No mention of a community fund.
- 6. Community engagement:** Yes, through the [Smart and fair neighbourhood trials](#) (real world pilots as part of the project) carried out by LCH.
- 7. Partnership:** Yes. LCH is a key delivery partner.
- 8. System participation:** Yes. Oxfordshire residents or groups who own or manage an energy generation or storage asset, and businesses who can provide demand-side response, can take part in the project.

Observation: Low Carbon Hub plays a major role in LEO, involving the local community through the trials and its investor community through their assets such as the Ray Valley Solar Park. They are developing a toolkit to support the ethical and equitable design of a low-carbon service offering and community-led trial delivery.

ReFLEX Orkney



- Large-scale demonstrator
- Funded by InnovateUK
- Project partners: **Led by European Marine Energy Centre** (EMEC), with OIC, Aquatera, Solo Energy, Community Energy Scotland, Heriot Watt University, Doosan Babcock.
- Location: Rural (Scotland)

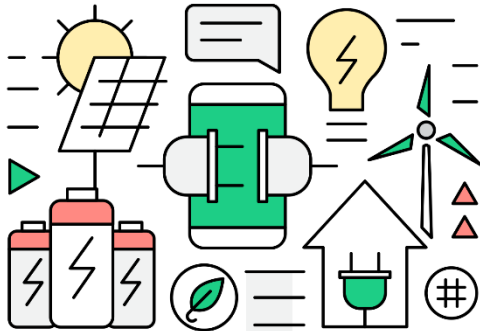
Orkney has very high penetration of renewable energy, but is lacking means to store and balance it. ReFLEX Orkney (Responsive Flexibility) is looking to solve this problem. The ultimate goal is to create a 'smart energy island' where smart control of energy technologies will manage and improve the supply-demand balance. The project aims to deploy up to 500 domestic batteries, 100 business batteries, 200 Vehicle-to-Grid chargers, 600 new electric vehicles, an electric bus and e-bike integrated transport system, and 100 flexible heating systems.

Community involvement framework

1. **Equity:** Future plans unknown.
Likely to be a mix of government (short-term) and private sector funding (long-term).
2. **Debt:** Future plans unknown.
3. **Membership:** Yes.
Orkney residents can become members for free and benefit from the following energy services: electric vehicle leasing, electric vehicle chargers for off-street parking, 100% renewable electricity tariffs, fully electric pay-as-you-go car clubs. They do not have voting powers (ReFLEX Orkney Limited is a Company).
4. **PPA:** Possibly, but from local community-owned assets (such as REWDT) rather than Community Energy Scotland.
5. **Community Fund:** Not known.
6. **Community engagement:** Yes, dedicated shop opened in Orkney. Two local groups have been provided by reflex Orkney with electric people-carriers which are owned and operated by each community group to provide transport for locals.
7. **Partnership:** Yes, community energy group Community Energy Scotland.
8. **System participation:** Yes, the core aim of ReFLEX is to provide its members with domestic batteries and access vehicle-to-grid charging. They have submitted grid connection applications for around 350 properties to date.

Observation: ReFLEX Orkney is a local project with a clearly defined community of Orkney residents, who are involved via a strong membership offer.

Zero Carbon Rugeley



- Detailed design
- Funded by Innovate UK
- Project partners: **Led by Engie**, Opus One Solutions, Keele University, Conigital, Connected Places Catapult, Regen, Shap, Energy Capital, Cadent, New Vic Theatre, Chase Community Solar
- Location: Industrial and market town (Staffordshire)

Zero Carbon Rugeley will deliver a detailed design of a SLES for Rugeley town and its local area, including the 2,300 houses being built in the former ENGIE Rugeley coal-fired power station. This project will focus on user-centric approaches to engagement, business models and marketplace design, bringing together a number of leading organisations that are delivering solutions in the heat, transport and power sectors. The detailed design will develop energy business models for new-build and retrofit, create a local market platform, a pipeline of energy projects, an optimised energy system and policy framework and proposals.

Community involvement framework

1. **Equity:** Future plans unknown.
Representative of the project said it was being considered.
2. **Debt:** Future plans unknown.
3. **Membership:** Future plans unknown.
Representative of the project said it was being considered.
4. **PPA:** Future plans unknown. **Potential with Chase Community Solar assets?**
5. **Community Fund:** Future plans unknown.
6. **Community engagement:** Yes, extensive engagement. New Vic theatre have organised workshops with the local community to explore what 'zero carbon' means for the future. Engagement methods used include group talks and discussions, cultural animation approaches, interviews, online activities, surveys, online polling.
7. **Partnership:** Yes, the community energy group Chase Community Solar ('support generate business models and energy solutions by being a local user'), and the New Vic theatre ('support user-centric design process through innovative co-generation process').
8. **System participation:** Future plans unknown.

Observation: Very rich community engagement strategy developed by Keele University and implemented by New Vic theatre. **A lot of unknowns, need to find out more.**

Springbok Sustainable Wood Heat Co-op



- Completed project
- Project partners: Energy4All (provides administration and management services)
- Location: Rural (Surrey)

The Springbok Sustainable Wood Heat Co-operative (SSWHC) has been operating a wood fuelled district heating system on the Springbok estate in Surrey since June 2015. Springbok estate is owned and mainly occupied by Care Ashore, a charity providing convalescent breaks for elderly seafarers in need. The estate had an old and inefficient oil fired heating system, and SSWHC raised a total of £425,000 via two community share offers to replace it with a wood fuelled district heating system. SSWHC has a contract for the long term supply of heat to Care Ashore, and receives further income from the Renewable Heat Incentive. They have recently moved to 100% self-supply for wood chip from the local woodland. Prior to installing the district heating system the Co-operative commissioned £15,000 of energy efficiency and demand management work. Returns to investors were nil in year 1, 6% for 3 years, and then 7%.

Community involvement framework

1. **Equity:** Yes, all the funds for the project were raised through two community share offers, with a 5%-6% return on investment to reflect the level of risk involved in this pioneering project.
2. **Debt:** No.
3. **Membership:** Yes, SSWHC is a Community Benefit Society. All investors become members of the co-op and have a say in how the system in run.
4. **PPA:** No. The Co-op is registered as a 'producer trader' and has its own wood chip supply. The Co-op works closely with a small, family owned local forestry company which it employs to harvest wood and also now to do its chipping.
5. **Community Fund:** The Co-op's surplus profits are being paid to Care Ashore to support its work.
6. **Community engagement:** No mention of community engagement activities.
7. **Partnership:** Already a community organisation.
8. **System participation:** No, residents on the estate are only end-users.

Observation: A pioneering project for a community owned district heating system. Relatively high amount of community investment raised, showing there is appetite for innovative community heat projects.

Brighton and Hove Energy Services Co-op Firle village



- In progress
- Project partners: RetrofitWorks
- Research and development phase funded by the Rural Community Energy Fund
- Location: Rural (Sussex)

Brighton and Hove Energy Services Co-operative (BHESCO) has been working since 2017 with the Firle Estate to create an affordable, low-carbon heat network for this village outside of Lewes in East Sussex. At present, most properties in the village rely on fossil fuels as a source of heat, usually heating oil or liquid petroleum gas (LPG). They obtained grant funding from the Rural Community Energy Fund to conduct the project. The first phase of the project is to install 4 micro-heat networks (with air source heat pumps) to be shared by 22 properties in the village. A Heat Interface Unit will be installed in each property. BHESCO is working with a 'fabric first' approach and will improve the energy efficiency of each home in partnership with RetrofitWorks before going ahead with the install. The ambition is to develop a replicable solution that can be easily adopted by other rural towns and villages in the same situation. The project will be funded via a community share offer of £215,000.

Community involvement framework

1. **Equity:** Yes, the totality of the heat network construction will be funded via a community share offer.
2. **Debt:** No.
3. **Membership:** Yes. Investors in the community share offer will become members of BHESCO and have a say on how the project is run. The system will be collectively owned in part by residents through a special purpose investment vehicle, called Firle Energy Services, that will be established for this purpose.
4. **PPA:** No.
5. **Community Fund:** Not known, to find out.
6. **Community engagement:** Not known, to find out.
7. **Partnership:** Already a community organisation.
8. **System participation:** No, residents in the village are only end-users.

Observation: Project is still in development, need to find out more as they progress. BHESCO are working with a fabric first approach and Heat Interface Units. The target annual return is 3% as a benchmark for a potential GreenSCIES share offer.

Bridport Cohousing Co-op



- In progress – construction began Summer 2020, completion expected in Summer 2022
- Project partners: Bournemouth Churches Housing Association (BCHA), Barefoot Architects, Bristol Energy Co-op, and others
- Research and development phase funded by: Homes England, Dorset Council, CAF Venturesome and Power to Change
- Location: Market town (Dorset)

Bridport Cohousing (BC) was created in 2008 by initiative of residents in Bridport, where renting or owning property was out of reach for many people. BC's purpose with cohousing development 'Hazelmead' is to provide affordable homes for local people, designed to be high quality, energy efficient and climate resilient. It is currently the largest cohousing neighbourhood in the UK, offering 53 affordable eco-homes for sale and rent. The project is committed to reduce the community's carbon footprint by 40% within five years. BC will include a smart local energy system with high-performance, low-carbon buildings, solar PV, air source heat pumps for space heating and hot water, a tesla battery, a microgrid battery, and EV charging and car club.

Community involvement framework

1. **Equity:** Yes, Bridport Cohousing ran a [community Share offer](#) in 2021 to fund to construction of shared spaces and facilities. In 2022, Bristol Energy Co-op (BEC) is running a [community share offer](#) to fund a part of the energy system: the battery, solar panels and microgrid elements.
2. **Debt:** Not known
3. **Membership:** Yes, through Bristol Energy Co-op (investor members) and through Bridport Cohousing (resident members).
4. **PPA:** Yes, with Bristol Energy Co-op who.
5. **Community Fund:** Yes, through Bristol Energy Co-op.
6. **Community engagement:** Bridport Cohousing have ran an extensive community engagement campaign over the last decade. They are holding regular bi-monthly informal events called 'Meet the Neighbours' for anyone interested in getting involved and in finding out more about Bridport Cohousing.
7. **Partnership:** Already a [community](#) organisation.

Observation: According to our research this might be the first truly community-led, smart local energy system in the UK.

Opportunities for GreenSCIES

We have identified opportunities from these case studies for GreenSCIES to involve the local community beyond the detailed design phase, which will be completed by May 2022. Currently, GreenSCIES is developing a more detailed concept in the Angel area called New River. London Borough of Islington (LBI) will decide whether to move onto the demonstrator phase and build New River in partnership with private and public organisations. It is proposed that an Energy Service Company (ESCo) is created to take ownership of GreenSCIES. This ESCo could be jointly owned by LBI and an independent investor. The total cost of building New River has been estimated at £16M, and GreenSCIES expects that £8M of the build costs will be funded through grant funding.

Our case studies include projects at a detailed design, demonstrator, implementation or completed stage, and provide a variety of insights on community involvement opportunities.

Opportunity 1 – PPA with a local community energy group

The GreenSCIES concept design report includes solar PV installations on each site of the New River scheme. An existing local community energy co-op (such as Power Up North London) could take ownership of these solar PV installations, and sell the electricity to GreenSCIES via a PPA. The community energy co-op would run a community share offer to raise the funds to purchase the solar PV installations from GreenSCIES, and so this opportunity is directly linked to community investment.

The large-scale demonstrator [Local Energy Oxfordshire](#) will be buying electricity from the Ray Valley Solar Park owned by the community energy group Low Carbon Hub via an innovative PPA. Low Carbon Hub is financing the park through a combination of community shares, loans, and grant funding.

Alternatively, if the New River scheme doesn't include solar PV installations, GreenSCIES could purchase any surplus electricity from local community-owned solar sites to help power the heat pumps.

Opportunity 2 – Community investment and ownership (equity or debt)

The costs of building GreenSCIES could be partly funded by the local community via community shares. We are currently analysing a survey aiming to test Islington residents' appetite to invest in a SLES in their area, and will share the results in a separate report '**Community investment in GreenSCIES**'.

As outlined above, a community energy co-op could run a community share offer to purchase elements of the scheme, such as the solar PV installations. Alternatively, GreenSCIES could set up its own co-operative (or another legal form) in parallel to the ESCo and raise community investment in the form of equity (community share offer) or bonds (community bond offer).

[Springbok Sustainable Woodheat Co-operative](#) has raised £425,000 via community shares and [BHESCo Firle village](#) intends to raise £215,000. Both of these projects are innovative compared to 'traditional' community energy projects (solar, wind) and located in rural areas. This suggests

a larger scale urban project such as GreenSCIES could potentially raise up to £1M from a community share offer.

The GreenSCIES co-operative could be part of the ESCO alongside LBI and the private investor(s). This would give co-operative members a say in how the ESCO is run and managed. New River residents could become members of the co-operative without needing to invest, to ensure fair representation. We will be exploring this idea and governance options in our report '**Community investment in GreenSCIES**'.

Another option could be to use Community Municipal Investment. This is an innovative funding instrument in the form of bonds developed by Abundance, which allows councils to offer a regulated investment directly to their residents. LBI was the third Council in the UK to run a CMI offer, and raised £1m to support their green and sustainable projects.

Apart from Bridport Cohousing, none of the SLES included in our case studies have or have disclosed plans to set up their own Society to raise community investment, therefore this would present a strong innovation and replication opportunity for GreenSCIES.

Opportunity 3 – Framework for ethical and equitable delivery

GreenSCIES aims to use a co-design approach as much as possible, involving the local community in the co-design process to ensure the SLES reflects and fulfils their needs. When building the New River scheme and extending its offering, GreenSCIES can use the toolkit developed by [Local Energy Oxfordshire](#) for an ethical and equitable design of low carbon service offering and community-led trial delivery. For the delivery of their Smart and fair neighbourhood trials, they have determined ethical principles such as “clarity of scope, inclusive participation, do no harm, informed consent”.

GreenSCIES could also include commitments on fuel poverty as part of the procurement process. **This could be something to explore further with project partners.**

Opportunity 4 – Membership scheme

Large-scale demonstrator [ReFLEX Orkney](#) is using a different membership scheme, where Orkney residents can become members for free of ReFLEX Orkney and benefit from a wide range of services such as electric vehicle leasing, electric vehicle chargers for off-street parking, 100% renewable electricity tariffs, fully electric pay-as-you-go car clubs. As ReFLEX Orkney is a company and not a Society, members do not have a say on how the company is run.

GreenSCIES could implement a similar scheme to [ReFLEX Orkney](#), open to residents of all New River sites and include services in the membership such as: fully electric pay-as-you-go car club, reduced price of electric vehicle charging, energy saving advice from local organisations.

Opportunity 5 – Wide variety of community engagement approaches

Detailed design project [Zero Carbon Rugeley](#) has used a wide variety of community engagement approaches to co-design the different elements of a Rugeley SLES, and develop a 'SLES ready' community. Keele University has established a community engagement strategy including: partnership with local organisations such as the New Vic Theatre who focus on

engaging 'hard to reach' communities, participatory engagement methods using cultural animation approaches and setting up a community gatekeeper advisory group.

Annex

InnovateUK invested £102.5 million in industry and research to accelerate innovation in SLES. The projects funded to date include:

- 3 large-scale demonstrator projects:
 - Oxford Superhub
 - Project LEO
 - ReFLEX Orkney
- 10 detailed design projects:
 - West Midlands Regional Energy System Operator (RESO) – Coventry
 - GIRONA – Coleraine, Causeway Coast and Glens
 - Peterborough Integrated Renewables Infrastructure (PIRI) – Peterborough
 - Zero Carbon Rugeley – Rugeley
 - GM Local Energy Market – Greater Manchester
 - Project REMeDY – Southend
 - Energy Kingdom – Milford Haven
 - Multi-vector Energy Exchange – Liverpool
 - REWIRE-NW – Warrington
 - GreenSCIES 2 – Islington, London

References

Energy Superhub Oxford

<https://www.fleetpoint.org/electric-vehicles-2/infrastructure/energy-superhub-oxford-eso/oxford-kickstarts-ev-revolution-with-energy-superhub-oxford/>

<https://www.energyrev.org.uk/news-events/blogs/ukri-have-now-announced-the-10-detailed-design-of-smart-local-energy-system-projects/>

Local Energy Oxfordshire

<https://project-leo.co.uk/news/>

ReFLEX Orkney

<https://www.sustainableislandsplatform.org/innovation/reflex-orkney/>

<https://www.orkney.gov.uk/OIC-News/ReFLEX-Orkney-launches-innovative-green-energy-services-for-Orkney.htm>

<https://www.communityenergyscotland.org.uk/wp-content/uploads/2020/10/Next-Steps-in-Community-Energy-Full-Paper-Final-25-08-20.pdf>

<https://www.reflexorkney.co.uk/news/community-transport-goes-electric-under-reflex-orkney>

Zero Carbon Rugeley

<https://www.newvictheatre.org.uk/lockdown-diary-week-14/>

<http://www.rugeleypower.com/wp-content/uploads/2021/01/WP7-D3-Community-Engagement-Strategy.pdf>

<http://www.rugeleypower.com/zero-carbon-rugeley-project/>

Springbok Sustainable Wood Heat Co-op

<https://www.springbokwoodheat.co.uk/>

<https://committees.parliament.uk/writtenevidence/23937/pdf/>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/717798/Strategic_and_Commercial_Case_development.pdf

Brighton and Hove Energy Services Co-op Firle village

<https://bhesco.co.uk/firle>

Opportunities

<https://www.islington.media/news/islington-set-to-launch-londons-first-community-municipal-investment-to-help-tackle-climate-emergency>

<https://www.islington.media/news/islington-council-launches-pioneering-london-first-municipal-investment-to-help-create-a-greener-future>