

Commercial Buildings & Community Energy: Scaling up renewable energy delivery across the North West

25 June 2019

Welcome & Introduction



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Community Energy: Putting people at the heart of the energy system

Tackling climate change: projects or initiatives that reduce, manage, generate or purchase energy.

Focus on people: engagement and benefits to their local area and communities.

Democratic not-for-profit organisations: surplus funds support their local communities and ensure the entire community benefits from the projects.



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By 2024 Community Energy will be generating at least 10% of GM's renewable energy targets and will maximise carbon savings through energy efficiency and support a socially just low carbon energy transition



Community Energy Action Plan 2019



- Raise profile
- Skill up
- Improve development finance
- Support from local plans
- Innovate on energy efficiency, storage, flexibility & smart networks
- Set up Community Energy Hub NW

Agenda

10.00 – 12.30

- **Bev Taylor, Director of Energy & Environment, Bruntwood**
- **Mark Cropper, Chairman, James Cropper plc**
- **Louise Marix Evans, Director, Quantum & Community Energy North**
- **Discussion of zero carbon actions, renewable energy investment, drivers & barriers**
- **Martin Hunt, Forum for the Future**
- **Q&A – what do you need to act?**
- **Summary & next steps**

Bev Taylor, Director
Energy & Environment

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The “Perfect Storm”

As forecast by John Beddington, England’s chief scientific advisor, 2030 has arrived.....

Consistent with earlier demographic projections, **GLOBAL POPULATION** has increased from **6.8 billion** to **8.3 billion**.

Demand for **FOOD** has grown by **40%**, but supplies have not kept up with demand. World grain reserves are empty. Bad harvests and grain export embargoes are pushing 200 million people to “the brink of starvation.”

Demand for **ENERGY** has grown by **45%**, but supplies in recent years have not kept up, and the resulting scarcity has pushed energy prices to record highs.

Global demand for **WATER** has grown by close to **30%**. Water conservation measures have helped, but close to four billion people are now living in an area of high water stress

Efforts to reduce greenhouse gas emissions have fallen far short of the pledges made in 2010. Climate change is more evident, and the concentration of greenhouse gas emissions is dangerously close to the 450 ppm level that could trigger the worst effects of climate change.

Shortages of food, energy and water are increasing the number of failed states and ratcheting up international tensions.

So What Are We Doing About It ?

GLOBALLY

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.

Recently updated to 1.5 but on course for circa 3%.....

ACROSS THE UK

The Climate Change Act 2008 set the country's emission reduction targets. The "legally binding" targets are a reduction of at least 80% by 2050 (against the 1990 baseline).

AS A CITY.....

Last week we launched our [Local Industrial Strategy](#) which confirms Greater Manchester ambitions to become UK's leading green and digital city-region

Launch of UK's first ground-breaking city-region Clean Growth Mission to achieve carbon neutral living in Greater Manchester by 2038 – ahead of national 2050 target

- The council's Executive have adopted a [Zero Carbon Framework](#), which was produced by the city's Climate Change Agency.
- Areas for action include improving the energy efficiency of local homes; generating more renewable energy to power buildings; creating well-connected cycling and walking routes, public transport networks and electric vehicle charging infrastructure; plus the development of a 'circular economy', in which sustainable and renewable materials are reused and recycled as much as possible.
- Manchester's science-based target includes a commitment to releasing a maximum of 15 million tonnes of CO₂ from 2018-2100. With carbon currently being released at a rate of 2 million tonnes per year, Manchester's 'carbon budget' will run out in 2025, unless urgent action is taken.

- Sixty 'pioneer' organisations have so far signed up to play their part in meeting the zero carbon goal. These include the city council, Manchester City FC, the city's two universities, Electricity Northwest, housing providers, plus representatives of the local arts, faith and healthcare sectors.
- These pioneers are in the process of developing their own individual action plans to show how they will contribute to the city's overall carbon savings by reducing their own emissions and also by encouraging their stakeholders to follow suit.

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Net Zero by 2030

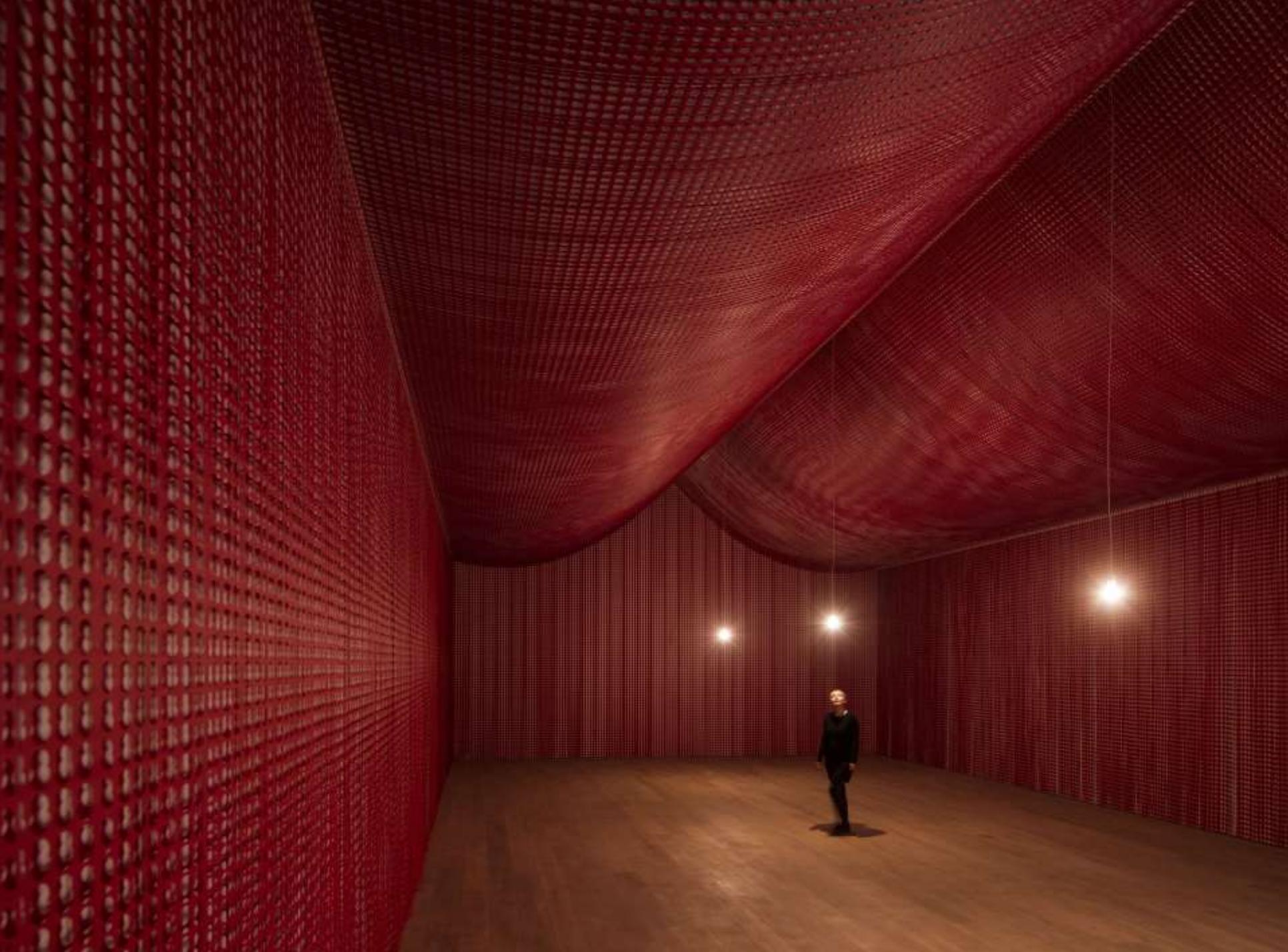
Community Energy

– from a landlord and large energy user perspective



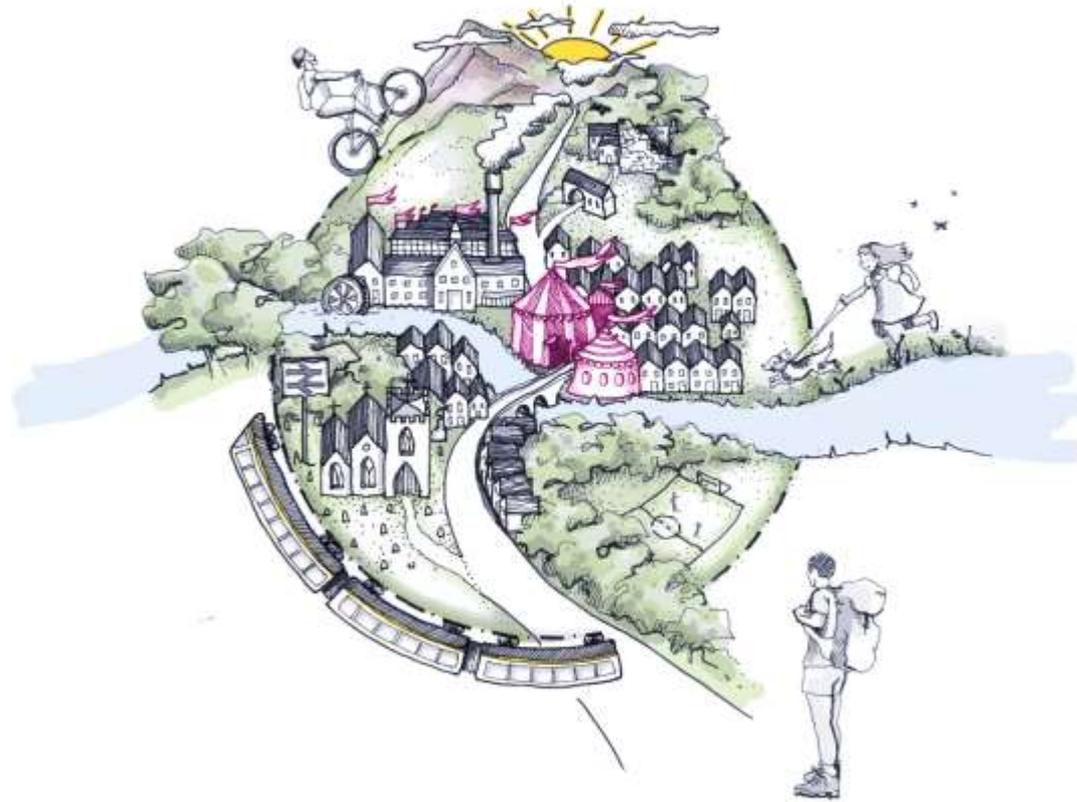








The Burneside Vision, 2015-2030



Burneside Community Energy Ltd

- Created October 2015
- £250,000 raised in 6 days for 250kW
- Phase 1 completed December 2015
- Phase 2 - £330,000 raised 2018 for 500kW
- Further phases planned to supply electricity and heat to all new developments



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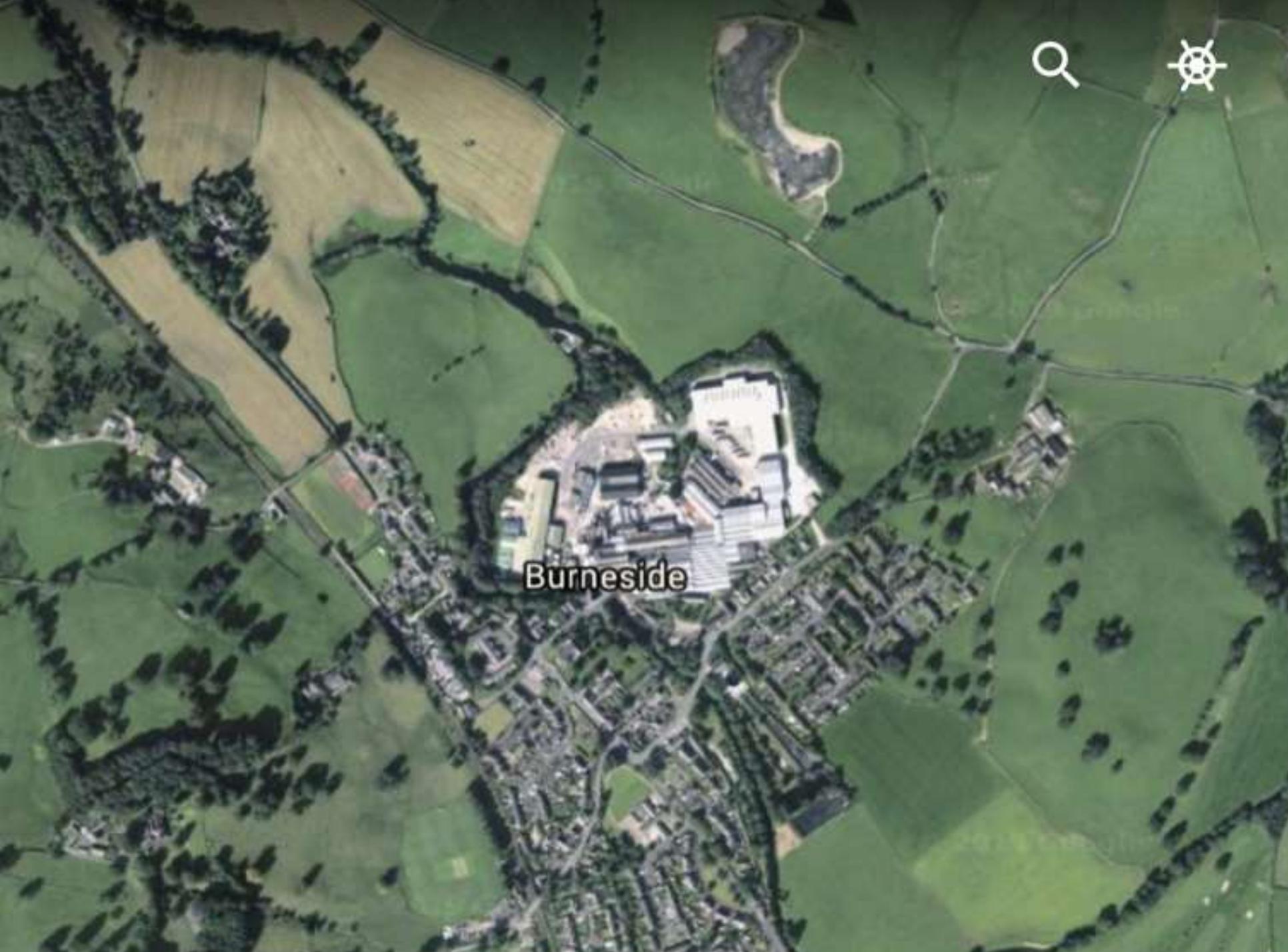


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Burneside

ELLERGREEN

*Catalysing the transition to zero carbon
communities*

1GW by 2025 / 10GW by 2030



**Community Energy:
What it is and how it works
(and why it's brilliant)**

Louise Marix Evans

25 June 2019

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1.96 MW

Heat Generation Capacity

£978,000

Community Benefit Spending in 2018

168 MW

Electricity Generation Capacity

Generating enough electricity to supply **64,000** UK Homes



29
Low Carbon Transport projects

92
Communities Improving Local Energy Efficiency

33
Energy Storage Projects

Access to Capital

- Patient Finance: low risk, long term investment
- Social & Environmental investment:
 - Tackling social issues e.g. fuel poverty
 - Reducing carbon emissions
- Co-operative & Community Benefit Societies
 - Individual small-scale investment
 - Organisation investors
- **Lower returns** than typical in the corporate investment sector & business finance
- Making renewable projects happen that wouldn't otherwise.



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Community means...

- Sharing benefits: investors, host site, local community
- Whole life costing: sound business case
- Practically grounded
- Professional businesses
- Skilled: Technical, Financial, Risk Management, Legal, Due Diligence
- Innovation: storage, electric vehicle charging, data aggregation, flexibility & grid balancing, building energy efficiency



- NOT...



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Shoreham Port



BRIGHTON ENERGY
COOPERATIVE



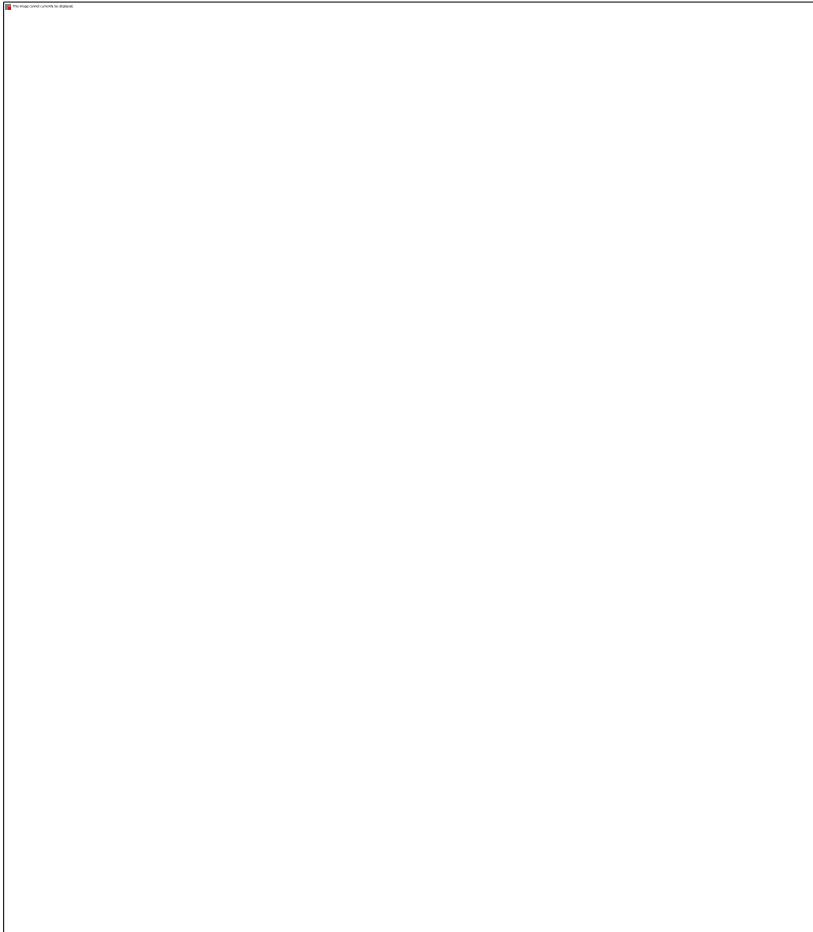
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Bradford Trident

Quantum



Riding Sunbeams



Innovate UK



Department
for Transport

Quantum

Community Energy North / Ellergreen Partnership

- Five businesses in Cumbria being investigated: potential 2MW solar at 20+ sites
- FITs pre-registrations under the community energy extension
- Packaging individual sites together to make a viable investment in CEN as a whole, rather than cherry-picking best sites
- Watch this space....

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Benefits of partnering with CE

Community Energy can add value on new developments

- Reducing carbon impact
- No capital cost to developer
- Helps engage local community
- Opportunities for innovative approach to energy systems and finance
- Developer could purchase exported green generation through PPA

But there are challenges:

- Lack of perceived pass-through benefits - although that seems to be changing slowly amongst progressive developers/owners
 - Selling/re-financing a building with a CE lease needs to become 'normal'
-

Ideal partners

- Willing and interested
- Forward looking
- Open to innovative alternatives
- Unlikely to invest themselves
- Currently:
 - Roof-space or land suitable for 200kW+ (2000 m²)
 - Able to use most of the power generated
- Next year
 - Smaller sites
 - Grid constraints
 - Potential for storage
 - Bundling sites together for investment



**So, what are the stages for a
business/organisation that
wants Community Energy?
And is it right for us?**

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Project Steps Outline

- Contractual arrangements
- Planning & grid connection checks
- Final technical & financial assessments
- Raising funds
- Publicity
- Delivering projects
- Ongoing management, relationships
- Developing community benefit fund operation

Contractual Stages

- Initial visit... site visit, roof/land, energy demand, ownership
- Decision makers please
- Memorandum of Understanding/Option/Exclusivity
- Energy bills/HH metering & current unit price
- Heads of Terms – outlining key issues re lease/PPA
- Lease usually 25 years
- Power Purchase Agreement – principles, shared benefits with company, investors, community from start, Index linked (often to RPI) with break point for re-neg.

Technical Steps Outline

- Planning & grid connection checks
- Installer quotes and technical checks
- Modelling output and onsite demand
- Structural Survey
- Site access, critical issues, H&S, warranties, timeline
- CE finance
- Shared communications plan
- Installation plan

Generating Long Term Partnerships

- CE monitoring of system performance
- CE billing
- Access for maintenance/repairs
- CE reporting for you on CO2 savings, community benefits, other engagement
- Outreach and communications of good news stories
- Innovation and future partnership projects

Thank you and do get in touch

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Quantum

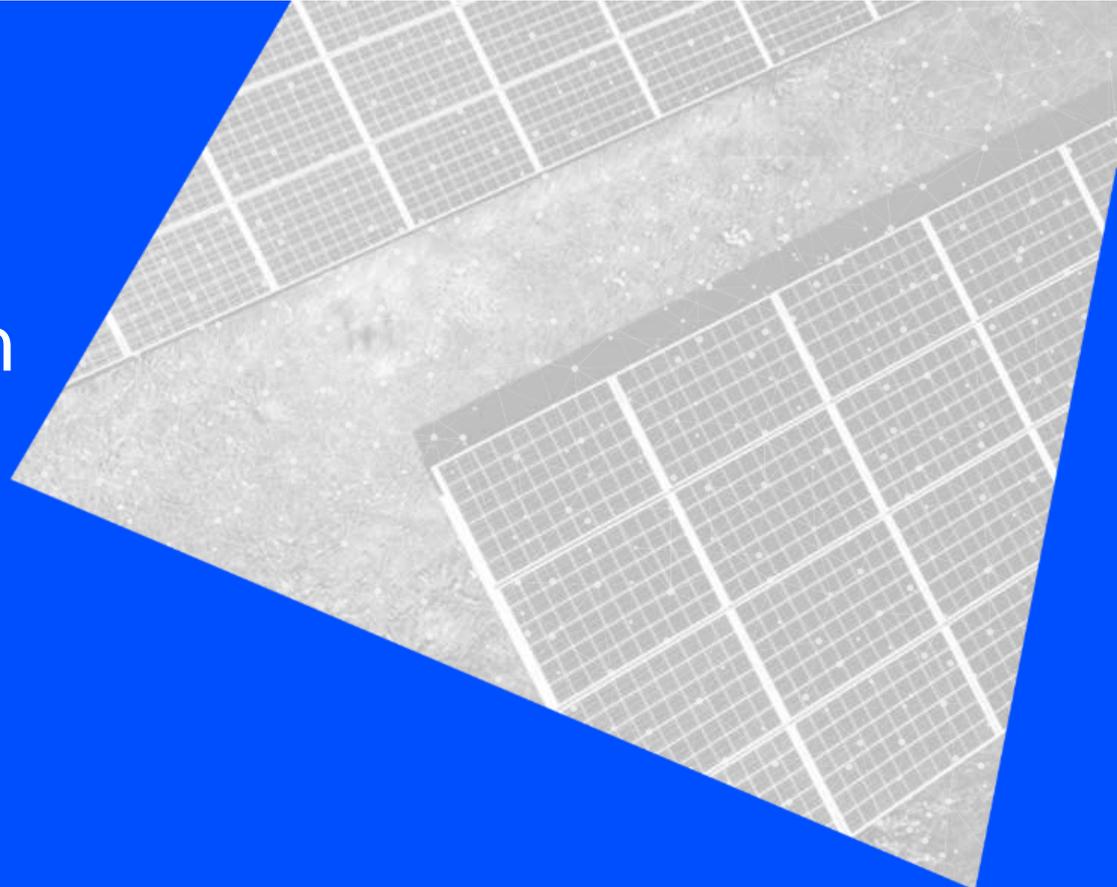


POWERPAIRED
the community energy matchmaker

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Community energy in the UK



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Challenges for community energy

Community energy responding to adverse policy environment for project development over the last three years.

Communities innovating new business models to reflect policy climate - PPAs; solar plus storage; energy efficiency projects; renewable heat opportunities; and acquiring assets being sold or refinanced on the secondary market.

But it takes a lot of time for resource-poor groups to identify willing owners and viable sites. Little visibility of community energy models and benefits amongst majority of asset owners, or indeed how it can contribute to Advancing Net Zero. **PowerPaired aims to streamline the process of identifying and contacting asset owners.**

The vision

A trusted digital platform which matches owners of viable land and buildings with community energy groups who have the ability to deliver renewable energy projects with them.

From care homes to churches, from housing developments to hospitals, from farms to factories – our vision is of a growing number of asset owners partnering with local groups, to catalyse the next wave of community energy projects



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Our work to date

- Seed funding from Friends Provident Foundation, and since then further financial support from Greater London Authority, Postcode Lottery
- Project Steering Group including representatives from the National Trust, Community Energy England, Savills and Marks & Spencer
- Feasibility study (Phase 1) completed confirming need, identifying asset owner demand, informing design
- Beta platform and database created with input from stakeholders like Aster Group and Community Energy Wales.

Phase 2: piloting PowerPaired



- We piloted the beta site with GLA, Suffolk County Council and Oldham Council anchoring activity in Manchester, London and Suffolk areas throughout 2018 and early 2019
- Recruited 35 Community Groups, 15 Asset Owners and uploaded 15 Assets during pilot phase
- Assets range from land associated with National Grid substations to church roofs, office buildings, libraries and schools.
- Launch and roll out in summer 2019.

Assets and Asset Owners

Search for...

Assets

Results: 104

 <p>Ipswich County Library Northgate Street, Ipswich, Suffolk</p> <ul style="list-style-type: none"> Technologies Capacity: N/A Energy Consumption: 30000 kWh Hours Of Opportunity: N/A Distance: 5.1 km 	 <p>Gainsborough Community Library Osgate Lane, Ipswich, Suffolk</p> <ul style="list-style-type: none"> Technologies Capacity: N/A Energy Consumption: 3000 kWh Hours Of Opportunity: N/A Distance: 3.4 km 	 <p>Land at Bramford Electricity Substation Butt Lane, Bramford, Ipswich</p> <ul style="list-style-type: none"> Technologies Capacity: N/A Energy Consumption: Unknown Hours Of Opportunity: N/A Distance: 4.1 km
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 <p>Clinks Care Farm Ltd Toll Manks</p>	 <p>Islington Council London</p>	 <p>National Grid Warwick</p>
 <p>Oldham Council Oldham</p>	 <p>SP Energy Networks Glasgow</p>	 <p>Salford City Council Salford</p>
 <p>St Thomas of Canterbury, Wilbury Lechworth Garden City</p>	 <p>Sts Peter Paul church, Godalming</p>	 <p>Suffolk County Council Ipswich</p>

Champion innovation, create change

- **No financial or legal commitment required**
- Just a willingness to explore whether have assets that might be suitable for renewables development and interest in partnering with a local group
- **Only basic data required on assets and a simple, intuitive platform to use**
- **Supports growth of Community Energy sector**
- Community energy projects can help asset owners to meet their objectives around carbon reduction without having to make capital investment
- **Access cheaper greener source of power, whilst supporting pioneering new solutions**



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Or sign up at [www. powerpaired.org](http://www.powerpaired.org)

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