Energy Learning Network

Rhwydwaith Addysg Ynni

Community Energy in Action:

Demonstrating the value of community-led solutions to net zero

A report produced for the Energy Learning Network
by Saskya Huggins – February 2025

Acknowledgements

This report would not have been possible without the contributions of many people. We thank everyone we interviewed for generously sharing their time, insights, and experiences.

We also wish to thank the very many organisations, volunteers, and advocates from across the community energy sector who are working every day to create a fairer, more sustainable, and locally driven energy system. Your work is evidencing the power of communities to deliver meaningful and lasting change.

Thank you also to the partners, researchers, and policymakers who are helping to grow the conversation around community energy. Your engagement and collaboration are crucial in ensuring its value is recognised and supported.

The Energy Learning Network

The network is a collaboration between climate solutions charity Ashden, the Centre for Sustainable Energy, and leading community energy bodies in every UK nation: Community Energy England, Community Energy Scotland, Community Energy Wales, and Northern Ireland's Action Renewables.

The Energy Learning Network is made possible by four years of funding totalling £1.5 million, from the National Lottery Community Fund.

This grant comes from the National Lottery Community Fund's Climate Action Fund, a £100 million commitment over 10 years to support communities across the UK to take action on climate change and involve more people in climate action. This commitment is helping the funder fulfil one of four key missions in its 2030 strategy, 'It starts with community' – supporting communities to be environmentally sustainable.

For further information visit:

www.ashden.org/energy- learning-network

Executive summary

Community energy is a powerful force making the net-zero transition faster, fairer, and more inclusive.

It brings communities together, drives local action, and turns collective effort into lasting impact. Its bottom-up approach puts people at the heart of the energy system, ensuring that local voices shape the transition and can benefit from the opportunities it brings. By fostering collective ownership, democratic decision-making, and place-based action, community energy delivers significant environmental, economic, and social value.

The UK government has set ambitious targets to achieve net zero by 2050. The Local Power Plan sets out a vision for scaling up local energy, with a target of 8 GWh of shared community-owned energy capacity by 2030. The plan also aligns with the government's broader energy security and affordability objectives, including reducing dependence on imported fossil fuels and ensuring a fairer distribution of costs and benefits in the energy transition. However, the role of community energy in delivering these objectives remains underdeveloped. While large-scale infrastructure projects play a key role in decarbonisation, community energy offers a complementary, people-centred approach that builds trust, secures public engagement, and ensures that the benefits of clean energy are felt locally.

Community energy is already contributing to national policy priorities by reducing carbon emissions and alleviating fuel poverty. Through its participatory approach it is strengthening local resilience. Its hyper-local focus ensures it responds to the specific needs and opportunities of each community and keeps the economic benefits of clean energy within these communities. These projects enhance grid flexibility, support energy efficiency initiatives, and promote local investment in renewables. By increasing public participation, they also foster public consent for the changes needed to deliver net zero, reducing opposition to new developments and ensuring that the transition is seen as fair and inclusive.

Despite these clear benefits, the full potential of community energy remains untapped. The sector continues to face significant barriers, including limited access to funding, regulatory constraints, and difficulties in connecting to the grid. The government has signalled its support for community energy through the establishment of the Community Energy Fund and the inclusion of community energy provisions in the Great British Energy Bill, but more comprehensive policy measures are needed to unlock the sector's full potential.

With stronger policy backing, financial investment, and collaborative partnership - including with local authorities and energy network operators - community energy could scale up significantly, creating new opportunities for clean energy generation, job creation, and local economic growth.

For policymakers: a strategic opportunity

Community energy has a crucial role in delivering national decarbonisation goals. It also provides wider economic and social value by increasing participation, strengthening communities, and ensuring a just transition.

It delivers:

Greater public engagement and trust.

Community energy enables people to take an active role in shaping their energy future. It fosters local involvement, encourages behavioural change, and ensures communities have a stake in the transition, which increases support for net-zero policies and reduces opposition to new developments.

A fair and just transition.

Community energy organisations prioritise social benefit, helping to ensure that the costs and benefits of decarbonisation are shared fairly. They focus on supporting fuel-poor households, addressing energy inequalities, and ensuring that vulnerable communities are not left behind.

Scalable renewable energy generation.

With the right policy support, community energy could grow 12-20 times larger by 2030, delivering more clean power and reducing reliance on imported fossil fuels.

Lower energy costs and local resilience.

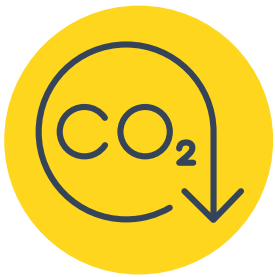
Locally owned projects keep wealth within communities, create jobs, and provide direct savings through energy efficiency initiatives and cooperative purchasing schemes.

A stronger policy framework, alongside targeted investment, would enable community energy to reach its full potential – delivering cost-effective, publicly supported renewable energy solutions while increasing participation and public trust in the energy transition.

For local authorities: a key delivery partner

Local authorities are on the frontline of delivering net-zero strategies and supporting their communities through the energy transition.

Partnering with community energy groups presents an opportunity to:



Meet local climate targets.

Community energy projects provide a scalable, locally focused approach to reducing carbon emissions and delivering on climate action plans.

Deliver cost-effective solutions.

By working with community energy groups, councils can access new funding streams, reduce public spending, and support projects that deliver long-term local benefits.

Strengthen public engagement.

Community-led energy initiatives help build trust, ensure transparency, and involve residents in shaping energy decisions, making local net-zero strategies more effective.

Tackle fuel poverty.

Community energy groups are well placed to identify and support those most in need, providing advice, retrofitting services, and affordable renewable energy solutions.

Support economic regeneration.

Investing in local energy initiatives creates skilled jobs, boosts the local economy, and ensures that money generated through energy stays within the community.

By working in partnership with community energy groups, local authorities can maximise their impact, unlock additional resources, and create solutions that are tailored to the needs of their communities.

Benefits to communities

A stronger community energy sector means stronger communities. Across the UK, local energy initiatives are already improving lives, creating local economic opportunities, and helping people take control of their energy future.

The benefits are wide-ranging:

Lower household energy bills.

Through local supply models, energy efficiency schemes, and advice services, communities are seeing real savings, helping to tackle fuel poverty.

Stronger local economies.

Community-owned energy projects reinvest profits locally, creating jobs, supporting local businesses, and keeping wealth within the community.

Healthier, more resilient communities.

Better home energy efficiency leads to warmer homes, improved health, and reduced strain on health services.

More public involvement in the energy transition.

Giving people a role in decision-making fosters a sense of ownership and responsibility, strengthening trust and engagement in wider sustainability initiatives.

Fairer access to clean energy.

Community-led initiatives ensure that renewable energy solutions reach those who need them most, rather than being concentrated in wealthier areas or controlled by large corporations.

When communities are actively involved in shaping their energy future, the benefits go beyond lower bills or carbon reductions. Participation in local energy initiatives fosters collaboration, builds stronger neighbourhood networks, and ensures that people feel included in the transition to net zero.

Conclusion: unlocking the potential of community energy

The energy transition is not just about infrastructure and technology – it is about people, fairness, and building a future where everyone benefits. Community energy is one of the most effective ways to ensure that decarbonisation strengthens communities rather than leaving them behind.

By increasing participation, building trust, and delivering real local benefits, community energy enables people to engage meaningfully with net-zero goals. It ensures that the transition is not only environmentally necessary but also socially just, supporting stronger, fairer, and more resilient communities across the UK.

Introduction

Community energy is a powerful force making the net-zero transition faster, fairer, and more inclusive - bringing communities together, driving local action, and turning collective effort into lasting impact.

Unlike top-down approaches, it puts people at the heart of the energy system, ensuring that local voices shape the transition to a sustainable energy system and communities can participate in, and benefit from it. By fostering collective ownership, democratic decision-making, and place-based action, community energy delivers significant environmental, economic, and social value.

These initiatives can reduce carbon emissions, alleviate fuel poverty, and strengthen community resilience, while also keeping the economic benefits of clean energy within local areas. Community energy builds trust, increases public participation, and secures local support for renewable projects, helping to overcome opposition to new developments and making the energy transition more effective. It also contributes to energy security by diversifying generation sources and improving grid stability through decentralised, community-led solutions.

This report sets out the value of community energy and the evidence of its contribution to national net-zero goals, its ability to enhance local economies, and its role in fostering public engagement, trust, and fairness in the energy system. By demonstrating the proven impact of community-led energy initiatives, it makes the case for greater recognition and support for community energy as a key pillar of a just and effective energy transition.

A full digest of evidence and sources can be found in Annex 1 of this report.

Annex 1:
The supporting evidence base with a fuller digest of evidence and sources given in part two of this report. A copy of this evidence can be foiund here: **The Value of Community Energy: a digest of supporting evidence for the Energy Learning Network.**

Understanding Community Energy

What is community energy?

Community energy is about people and communities taking democratic control over their energy future, by understanding, generating, using, owning, and saving energy in their communities, as well as working together across regions and nationally[1].

Although the sector covers a diverse range of organisations, they often share key characteristics:

- Owned and operated by ordinary citizens.
- Have the overarching goal of reducing the use of fossil fuels.
- Respond to the specific needs and interests of their local community.
- Capitalise on local opportunities by harnessing investment, funding, technical skills, volunteer time, and local knowledge and networks.
- Deliver activities by collective action with individuals working together and pooling resources.
- Encourage inclusive participation, fostering trust, fairness and a sense of shared purpose.
- Promote energy literacy and increased awareness of sustainability.
- Prioritise social and environmental goals over profits.
- Financial surpluses are reinvested in more energy projects or used to benefit the wider community and their members.
- Help reduce fuel poverty and value wellbeing.
- Develop innovative business models and approaches, driving system transformation.

The strength in a community approach to energy lies in the ability to generate localised and long-term benefits that maximise value for society, fostering equity and ensuring sustainable and inclusive growth. The community energy sector can also play a crucial role in building public support and acceptance for the scale and speed of change that's needed to meet the net zero challenge and help tackle the climate emergency.

1 Based on Community Energy England, What is community energy? Available at: **https://communityenergyengland.org/pages/what-is-community-energy (Accessed 10 December 2024)**

Community versus local energy approaches

Although both focus on decentralised energy initiatives, community energy prioritises community ownership and collective benefit sharing. By contrast local energy tends to be delivered by the public sector or through private - public partnerships[2]

The importance of place-based delivery is central to both community and local energy approaches, though the scale of geography can differ significantly between the two. For local energy, "place-based" typically refers to a city-region or a local authority, where initiatives are designed to address challenges and opportunities at a municipal or regional scale. In contrast, community energy tends to operate at a much more geographically focused, or hyper-local level, sometimes targeting areas as small as a single neighbourhood or village. Stewart et al 2023[3] explores the different characteristics of local and community energy in more detail.

Both can play a key role in the delivery of the transition to net zero – but there are distinctions:

Community Energy:

- Grassroots, community-led activities that respond to local needs and opportunities.
- Bottom-up initiatives with strong citizen participation.
- Emphasise local ownership and collective benefit sharing.
- Focuses on participatory approaches and fair distribution of costs, benefits, and opportunities in the energy transition.
- Often (but not always) operates at a hyper-local scale (e.g., neighbourhood, parish village).

Local Energy:

- Operates at a larger scale, often city-regions or local authorities.
- Typically delivered by the public sector or public-private partnerships.
- Tends to position individuals as consumers within the energy market.
- Designed to address challenges and opportunities at a municipal or regional level.

Shared Elements:

- Both prioritise place-based delivery
- Community and local energy are not mutually exclusive as community energy organisations can be a key player in the delivery of local energy – and there are some great examples of CE-local authority partnerships that are doing just that

2 Devine-Wright, P (2019) Community versus local energy in the context of climate emergency. Nat Energy 4, 894–896 (2019). **https://doi.org/10.1038/s41560-019-0459-2**

3 Fraser Stewart, Rebecca Ford, Prina Sumaria and Robbie Evans, Regen, 2023 Leveraging local and community energy for a just transition in Scotland. Available from: **https://www.climatexchange.org.uk/publications/leveraging-local-and-community-energy-for-a-just-transition-in-scotland/**

The community energy approach

“Community energy puts people at the heart of the energy system. It brings them together to take democratic climate action by understanding, generating, owning, using, and saving energy. Community energy provides clear accountability and participatory governance within the energy system, which is empowering, transparent and equitable. It accelerates the transition to a zero-carbon energy system while increasing community resilience. And it includes communities which may otherwise be excluded from the energy system.

But it’s more than this. Building a zero-carbon energy system is a social issue that requires a just transition. Community energy organisations are already at the forefront of energy system innovation; they have initiated behaviour change, accelerated the decentralisation of the energy system, reduced carbon emissions and upskilled communities across the UK. Community energy does all of this by building the consent, trust and active participation needed to ensure a rapid and just energy transition.”

The Community Energy Vision 2030[4]

4 Community Energy England, Community Energy Vision 2030. (date?) Available at: **https://communityenergyengland.org/files/document/388/1591956106_CommunityEnergy2030Vision.pdfuk/publications/leveraging-local-and-community-energy-for-a-just-transition-in-scotland/**

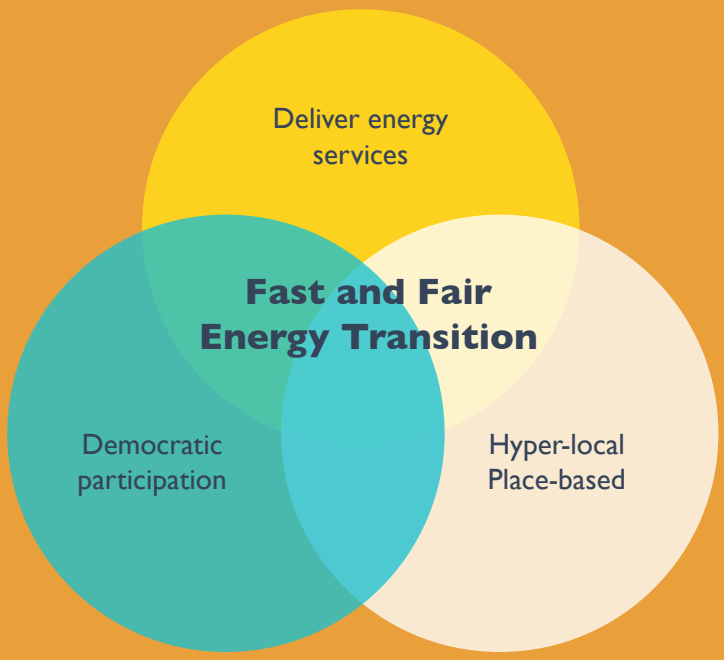
Community energy organisations can play a vital role in the energy transition. As locally rooted enterprises, they are well placed to understand and respond to the specific needs and opportunities of their communities. They are built around the interests of the community and are committed to its long-term well-being.

Through their strong local networks, they can identify and unlock additional resources and opportunities that would otherwise go unexploited. They create opportunities for people to participate, and create connections, and deliver meaningful engagement.

Their dedication to delivering local benefits is seen as evidence that they genuinely prioritise their community's interests, fostering trust. This trust is further reinforced by their democratic and participatory business practices which is enshrined in their legal structures and put people at the heart of the energy system.

Delivering a transition to a sustainable energy system that is just and fair is an important driver for community energy organisations. They work to ensure a more equitable distribution of the costs, benefits, and opportunities that will arise from that transition – as well as addressing broader injustice arising from the energy system and climate change.

By focusing on what feels fair, meaningful, and locally appropriate, a community energy approach empowers people to participate in the energy transition and generate a sense of ownership and control whilst helping to address the emotional and ethical aspects of the energy transition.



Because community energy projects are not driven by private gain, it is easier to be solution agnostic and offer more impartial advice. The co-operative structures adopted by many community energy organisations make it possible for them to blend diverse funding sources, deliver more marginal projects and use hybrid funding models to provide more inclusive support and services, ensuring that everyone can participate, and no one is left behind.

This flexibility also enables community energy groups to work with early adopters to test and build confidence in innovative approaches to achieving net-zero goals. By showcasing the benefits of decarbonisation through local examples and peer experiences, they help build wider acceptance of new technologies and energy practices.

A collaborative approach means community energy organisations seek to complement, rather than compete with, existing services and excel at working in partnerships. They work with local governments, businesses, and other stakeholders to leverage resources, share expertise and develop services built on collaborative approaches.

Evaluating the impact of community energy

Community energy activities generate a wide range of benefits, delivering value to multiple stakeholders.

Key stakeholders include members of community energy organisations, participants in their activities, the wider community, society as a whole, and the energy system. The outcomes stem from both the nature of the activities undertaken, such as advice services or renewable energy generation and trading, and the way they are delivered within local contexts.

Value outcome frameworks for community energy

While most outcome frameworks for community energy classify benefits into environmental, social, and economic themes, alternative models offer new perspectives for understanding and assessing impact. One such approach is Holstenkamp et al.'s (2022) framework, which groups community energy outcomes into three key rationales: improving effectiveness, supporting community empowerment, and strengthening the legitimacy of the energy transition.

An alternative approach to understanding the different types of value created by community energy draws on consumer research[5], which is rooted in Maslow's Hierarchy of Needs. The Community Energy Value Pyramid provides a complementary framework that categorises outcomes into three distinct yet interconnected types of value: practical, participatory, and transformative. This model captures both the direct, measurable benefits of community energy and the deeper social, behavioural, and systemic changes it can drive.[6]

System change through innvovation, shifting power, greater justice and inclusion, changing perceptions and practices.

Subjective benefits experienced by individuals. Build trust, support and commitment.

Tangible benefits that arise from our activities. Practical contributions made to stakeholders.

(Barnes et al 2024)

5 The Elements of Value, Measuring—and delivering—what consumers really want. Almquist E, Senior J and Bloch N, Harvard Business Magazine (January 2016) Available at: **https://hbr.org/2016/09/the-elements-of-value**

6 Barnes, J. et al. (2024) 'Creating valuable outcomes: An exploration of value creation pathways in the business models of energy communities', Energy Research & Social Science, 108, p. 103398. Available at: https://doi.org/10.1016/j.erss.2023.103398. Barnes, J. and Parrish, B (2024) Valuing community energy: Comparing community-versus market- based approaches to sustainable energy futures, Paper presented to the Digicarbon Workshop, October 2024. Available at: **https://www.researchgate.net/publication/388921259_Valuing_community_energy_Comparing_community-versus_market-_based_approaches_to_sustainable_energy_futures**

Practical value

The objective, quantifiable results that stem from activities undertaken by communities. These are the functional outcomes or tangible benefits that arise from their energy projects and the application of the profits they create.

Social

- Energy security
- Community capacity building
- Reduced fuel poverty
- Better health and wellbeing

Energy cost savings

- Job creation
- Creates economies of scale
- Attracts investment
- Interest payments to investors
- Leverages matched funding
- Reduces energy infrastructure costs
- Reduces dependency on grant funding
- Use surpluses for community benefit
- More financially resilient community organisations and spaces

Technical

- Energy storage
- Enhanced demand side flexibility
- More efficient use of current energy infrastructure
- Grid stability
- New technology adoption
- Energy literacy
- Access to skills
- Apprenticeships

Environmental

- Renewable electricity generation
- Improved energy efficiency
- Low carbon heat
- Low carbon transport
- Improved air quality
- Enhanced biodiversity
- Economic
- Delivers value for money

Participatory value:

The subjective outcomes of community energy that are experienced by individuals. Whereas practical value captures the immediate practical contribution that community energy projects make to its stakeholders and are objective and quantifiable, participatory value can only be perceived by individuals, they are subjective and, in most cases, harder to measure.

These normative value outcomes can strengthen community well-being, build public support and trust for sustainable initiatives, and encourage long-term participation and commitment.

Empowerment

- Creates sense of agency
- Voice in local energy decision making
- Increases local control over energy resources
- Creates more opportunities for participation
- Creates active energy citizens

Fairness

- Inclusion and transparency of decision making
- More equitable distribution of costs, benefits and opportunities arising from the energy transition
- Greater trust in the process

Social capital

- Engages people
- Strengthens social ties
- Sense of ownership and pride
- Builds networks
- Fosters collaboration
- Creates shared purpose
- Sense of belonging
- Resilient businesses
- Resilient communities

Sustainability

- Encourages behaviour change and more sustainable lifestyles
- Promotes environmental stewardship

Transformative value

Community energy delivers transformative value by fostering systemic change through innovation, redistributing power, promoting justice and reshaping public attitudes towards the energy transition. Public acceptance will be vital if the transition is to succeed.

Shifting power

- Enhances local democratic governance
- Creates community resilience
- Supports transition to a distributed renewable powered energy system
- Justice and inclusion

Innovation

- Developing and testing innovative models and technologies
- Normalising decentralised energy models
- Non-proprietorial and creative commons approaches

Tackling fuel poverty

- Promotes inclusive energy system with affordable clean energy for all
- Connects grassroots initiatives to system change

Perception and practices

- Changes public perception around energy use
- Normalise adoption of low carbon technologies
- Embed participatory governance models

The current state of the community energy sector

A key source of evidence for the value the sector delivers is its annual State of the Sector report.[7] It gives an annual snapshot of the size and spread of the sector. It sets out current outputs of the sector based on hundreds of submissions from individual community energy organisations from across the UK.

The report focuses on capturing the formative value that is delivered and echoes the focus of the reporting of most community energy organisations in terms of the environmental, economic, financial and social outputs that they deliver.

The 2024 State of the Sector report found that the sector comprised 583 organisations, with a combined membership of 69,500. It has secured over £225 million investment and employs almost 800 FTE staff. It contributed £12.9 million to the local economy through its own expenditure and community funds and delivered a further £4.4m in savings through energy efficiency improvements and advice.

Renewable generation at a glance

- Total renewable electricity capacity: 398 MW
- 251MW Solar PV; 33 MW wind; 13 MW hydro; 0.25 MW anaerobic digester
- Total renewable generation: 617 GWh
- Tonnes CO_2 saved: 165,980 tCO_2
- Equivalent to powering 228,530 domestic households
- 0.54% of the UK's wind, hydro and solar electricity generation[8]

Energy efficiency at a glance

- 319 organisations providing energy efficiency retrofit advice to local people and businesses
- 65,065 energy advice appointments
- 7180 people engaged in energy efficiency retrofit
- £4.4 million in energy bill savings

The State of the Sector report provides a valuable overview of many of the sector's practical outputs but does not capture the full set of practical co-benefits or fully reflect the broader participatory and transformative value it delivers. Later in this report, we present the wide range of evidence demonstrating the added value of the community energy approach.

7 Community Energy England, State of the Sector Report 2024 Available at **https://communityenergyengland.org/files/document/960/1720710752_CommunityEnergyStateoftheSector2024UKOverview.pdf**

8 (National Energy System Operator, 'Britain's electricity explained: 2023 review', January 2024 Available at: Britain's electricity explained: 2023 review and the Digest of UK Energy Statistics (DUKES) 2024 report Available at **https://assets.publishing.service.gov.uk/media/66a7da1bce1fd0da7b592f0a/DUKES_2024_Chapter_5.pdf**). state that In 2023 the UK's overall wind, hydro and solar renewables contributed 36.1% of the UK's electricity 316.8TWh electricity demand of which community energy contributed 0.54% based on CEE State of the Sector 2024 generation figures.

Expanding the sector's impact

Community energy has significant opportunities for expansion in both scale and impact.

Despite strong demand, many renewable projects remain stalled due to financial and policy barriers, while oversubscription for funding highlights the sector's readiness to grow. With the right support, community energy could rapidly increase its generation capacity, reinvesting profits into wider energy transition initiatives such as fuel poverty programmes and local energy advice services.

Beyond increasing renewable generation, the sector is also evolving through diversification into innovative business models, including shared ownership, low-carbon retrofit, and new approaches to energy management. Learning from successful community energy models across Europe, and leveraging stronger partnerships with local authorities and private sector stakeholders, the UK's community energy sector has the potential to become a much larger force in delivering a fair and sustainable energy transition.

The current pipeline

There are 270 MW of stalled renewable projects currently reported by the sector. In addition, the Community Energy Fund administered by the Net Zero Hubs, a key sector funder, is reporting significant oversubscription for feasibility funding. With the right support the community energy sector has the potential to significantly scale its generation, and therefore its profits, which in turn are used to leverage additional community-led activities that support the energy transition such as energy advice and fuel poverty programmes.

As well as increasing the volume of activity, the impact of the sector is also growing through diversification of its activities. This includes the development of innovative community energy business models relating to shared ownership, low carbon retrofit, the electrification of heat and transport and energy management - such as energy storage, demand side flexibility and local energy trading.

The potential for growth

There is strong evidence to suggest that the UK's community energy sector has significant potential for growth. With the right policy and financial support, community energy could scale dramatically, delivering economic, social, and environmental benefits while increasing renewable generation. Three key sources highlight this potential.

The Future of Community Energy report by WPI Economics for SP Energy Networks (2020) estimates that, with appropriate backing, the sector could expand 12 to 20 times by 2030. Community energy could contribute 5,270 MW, power 2.2 million homes, support 8,700 jobs, save 2.5 million tonnes of CO_2 emissions and add over £1.8 billion to the economy each year.

Partnership approaches offer a significant opportunity for community energy to scale its impact. Collaboration with local authorities, for example, has proven effective in delivering local energy projects by leveraging the expertise and reach of both councils and community organisations. Shared ownership models can also help increase community-owned generation capacity while fostering local support for larger renewable projects.

Looking beyond the UK, the growth of Europe's community energy sector over the past decade demonstrates what could be achieved. Across Europe, energy co-operatives have played a key role in expanding citizen-led renewable energy, enabling people to take direct action on climate change through democratic, locally owned initiatives. The co-operative model has been central to this success, fostering community investment and participation in the energy transition. Recognising their importance, the European Union's Clean Energy for All Europeans package, commonly known as the Clean Energy Package, formally defines and supports these initiatives as "citizen" and "renewable energy communities."[9]

While small, local projects remain valuable, some European energy co-operatives have grown into major enterprises while retaining their community ethos. Examples include:

- Ecopower in Flanders has grown to about **70,000 members and 60,000 customers.** It generates enough electricity to supply all its members from wind and solar.
- In France, Enercoop (established in 2005) now has 28,000 members/customers buying electricity from 470 hydro, solar and wind production sites across France. Enercoop works in partnership with co-operative energy developer Energie Partagée (Shared Energy), whose **42,000 members have raised €127m to build 391 projects which generate about 1,504GWh a year.**
- In Catalonia, Spain, Som Energia (Our Energy) has grown to 85,000 members (usually also customers) and **their projects collectively generate 71GWh/year.**

Community Energy in the European Union:[10]

12 022 MW	**€34.3+ million**	**3.5 million tons of CO_2 GHG**
total installed capacity	total investment value	emissions saved

These examples illustrate the scale that community energy can achieve when given the right conditions to thrive. By learning from European successes, unlocking UK policy barriers, and strengthening partnerships, community energy can become a far more significant force in the transition to net zero.

9 Unlocking community energy at scale: call for evidence to Parliamentary inquiry. Evidence submitted by Mark Luntley on behalf of Energy4All, Rescoop, Westmill Wind Farm and Westmill Solar Cooperative, January 2025

10 Energy Communities Repository viewed 17.01.25 Available at: **https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/energy-communities/energy-communities-repository-products_en**

Evidencing the value-add of a community energy approach

A successful energy transition requires contributions from businesses, the public sector, charities, social enterprises, and individuals. While all play a role, this report highlights the unique added value that community energy delivers.

The strength of the community energy approach lies in its deep roots within local communities, ensuring that its benefits are localised, long-term, and inclusive. It fosters equity, supports sustainable growth, and builds public acceptance for the scale and pace of change needed to meet the 2030 target. With its strong focus on local engagement and participation, community energy is uniquely positioned to foster participation.

By combining place-based initiatives with democratic participation, community energy can play a key role in delivering a fair and effective energy transition.

We set out the supporting evidence by the following themes:

1. Contributes to national net-zero targets
2. Scales up and delivers significantly more
3. Provides excellent value for money and a wide range of benefits
4. Creates more value for local economies than commercial alternatives
5. Improves people's well-being
6. Strengthens communities and local places
7. Delivers efficiencies and innovation in local energy systems
8. Supports a more effective and efficient energy transition
9. Offers more resilient business models
10. Increases investment in the transition
11. Expands UK ownership of the energy system
12. Boosts participation in the energy transition
13. Builds public trust
14. Strengthens public consent for the transition
15. Promotes fairness and justice in the transition

It should be noted that the evidence presented in this section does not always explicitly focus on community energy but rather examines individual components and factors that align with a community-led approach. Many sources discuss elements such as local ownership models, participatory decision-making, and fair distribution of benefits, which are central to community energy initiatives. Additionally, the literature explores broader themes like public consent, social equity, and decentralised governance—principles highly relevant to its success.

Finally, individual studies may focus on specific aspects, such as renewable energy ownership structures, public engagement strategies, or the socioeconomic impacts of energy transitions, rather than addressing community energy as a whole.

A full digest of evidence and sources can be found in Annex 1 of this report.

Contributes to national net-zero targets

- **Supports net-zero goals: Community energy accelerates local energy transitions and contributes directly to national decarbonisation targets.**

Supporting evidence:

The UK Community Energy State of the Sector Report (2024) provides an overview of community energy projects, showcasing their collective impact on emissions reduction, renewable energy generation, and community engagement. It highlights key metrics on capacity, economic benefits, and challenges. (Community Energy England, 2024)

Local and community energy can contribute to all eight of Scotland's Just Transition Outcomes, helping to achieve an equitable energy shift. They also identify key barriers to delivery in the report. (Stewart et al., 2023)

Future Island-Island Project: Advancing Net-Zero in Northern Ireland

The Future Island-Island Project on Rathlin Island demonstrates how local action can drive national progress toward net-zero. By integrating community-led initiatives with technology and sustainable practices, it offers a replicable model for reducing carbon emissions and achieving long-term environmental resilience.

Rathlin Island has committed to reaching carbon neutrality by 2030, well ahead of Northern Ireland's national targets. Central to this ambition is a shift towards low-carbon solutions in energy, waste, and tourism. A key focus of the project is sustainable waste management, where innovative methods are being used to cut emissions. By transforming waste plastics into useful products through 3D printing, repurposing electronic waste to extend product lifecycles, and reducing landfill dependency, the project significantly lowers carbon emissions associated with production and disposal.

Tourism, a major part of Rathlin's economy, is also being reimagined to align with net-zero goals. Digital tools such as LiDAR and immersive media are being used to promote sustainable tourism experiences, minimising environmental impact while ensuring long-term economic benefits. Additionally, the project is exploring ways to turn organic waste into valuable low-carbon materials, supporting a circular economy that reduces reliance on carbon-intensive resources.

Through this holistic approach, the Future Island-Island Project is not only accelerating Rathlin Island's path to net-zero but also creating a model for other communities to follow, proving that small-scale, community-driven action can contribute to national and global climate goals.

Scales up and delivers significantly more

- **Community energy could become up to 20 times larger by 2030, significantly increasing its contribution to net zero.**
- **Shared ownership will be a key driver to installing 8 GWh through the Local Power Plan by 2023.**

Supporting evidence:

The Future of Community Energy report by WPI Economics (2020) examines the potential for growth in community-led renewable energy, energy demand reduction, and energy supply projects. It estimates that with appropriate policy and financial support, the sector could become 12-20 times larger by 2030, delivering significant economic, social, and environmental benefits. The report highlights the untapped potential of the sector, attributing current limitations to unsupportive government policies and the absence of a comprehensive community energy strategy (WPI Economics, 2020).

Shared ownership models increase the amount of generation capacity in community ownership and can reduce the likelihood of local opposition to larger projects, when the local community has a genuine stake in its success. This approach has been identified as a key driver for achieving the Local Power Plan's 8 GWh target for 2030. The report outlines the value of shared ownership, the current landscape, challenges, and recommendations to enable its growth. It emphasises the importance of shared ownership in scaling up community energy projects and ensuring a fair transition to net zero (Regen, 2024).

Scaling Up Community Energy – Energy4All's Cooperative Model

Energy4All exemplifies how community energy can scale effectively, unlocking far greater investment and impact than traditional approaches. Through a series of cooperative share offers, Energy4All has raised over £100 million in capital, establishing a network of 35 energy cooperatives with more than 19,000 members.

Over the past decade, Energy4All has partnered with local councils to expand community energy on public buildings. The Schools Energy Cooperative, for example, has installed solar panels on over 100 school roofs, cutting energy costs and carbon emissions. More recently, North Lincolnshire Community Energy, in collaboration with North Lincolnshire Council, has installed solar panels on 18 public buildings, demonstrating the effectiveness of community-led renewables at scale.

Looking ahead, shared ownership models could further amplify this impact by enabling deeper partnerships between communities, councils, and commercial investors. Energy4All is already demonstrating this potential through its collaboration with Nadara (formerly Falck Renewables, and more recently Renantis) and BlueFloat Energy, exploring ways to integrate community ownership into large-scale renewable energy projects, including offshore wind. By combining community investment with external funding, these partnerships have the potential to accelerate the transition to clean energy while ensuring local people retain a stake in the benefits.

Energy4All's model shows that by working together, communities can drive a faster, fairer, and more ambitious energy transition.

Provides excellent value for money and a wide range of benefits

- **Strong social impact: Community energy projects generate significant social returns, strengthening local resilience and well-being.**

Supporting evidence:

Cosy Kingdom, a free energy and debt advice service in Fife, was found to generate £34 in social return for every £1 invested. Benefits included improved health due to warmer homes, increased energy literacy, and economic advantages for local organisations. Without this service, there would be a significant gap in local energy advice. (Carrick, 2024)

Analysis of two community energy fuel poverty alleviation programmes found they delivered a 9-10:1 return on investment. The primary input was staff time (partially paid and volunteer), leading to tangible outcomes such as improved physical and mental health, increased disposable income, and more productive work and home environments. (Nolden et al., 2021)

Creates more value for local economies than commercial alternatives

- **Greater local value: Community-owned renewables generate significantly higher returns for local communities than commercial providers.**
- **Stronger local economies: Procuring community-owned energy can create significantly more local value than buying from commercial suppliers.**

Supporting evidence:

A comparative study on wind farms found that community-owned projects deliver an average of £170,000 per MW in local financial benefits, 34 times more than private wind farms, which contribute only £5,000 per MW. (Aquatera, 2021)

Community energy delivered between 12-13 times as much community value reinvested back into the local area as would be through 100% commercial models. Factoring in wider social benefits would result in an even higher difference in return (Capener 2014)

A socio-economic assessment in Devon explored various scenarios to determine whether the potential benefits of locally generated, community-owned electricity could outweigh its slightly higher anticipated purchase cost. The report found that under one scenario, purchasing electricity from local community energy projects could generate 46% more local value than buying from a local commercial supplier. Purchasing electricity from local community energy generators, rather than non-local commercial alternatives, could deliver more than triple the local value. By purchasing electricity from local community energy Devon County Council could deliver an additional £15.27 million to the Devon economy. (CAG Consultants, 2021)

Harlaw Hydro – Maximising Local Economic Value

Harlaw Hydro, a community-owned hydro scheme in southwest Edinburgh, demonstrates how community energy projects can deliver significantly greater economic value to local areas than commercial alternatives. Established by the Balerno Village Trust (BVT), Harlaw Hydro was funded through a community share offer, raising £410,000 without the need for loans. Since its commissioning in 2015, the scheme has provided a reliable income stream for the community while generating clean, renewable energy.

Unlike commercial projects, where profits often flow to external investors, Harlaw Hydro reinvests its surplus directly into the local economy. Over £470,000 has been donated to BVT, supporting community initiatives such as the monthly farmers' market, a small grants programme, and the employment of a community development worker. Additionally, funds have been used to upgrade local infrastructure, including the Balerno Community Centre, which has benefited from solar PV, air-source heat pumps, and energy efficiency improvements.

Harlaw Hydro also extends its impact beyond Balerno by investing in other community-owned energy projects across the UK. To date, it has invested £84,000 in 15 different community enterprises, including community energy schemes, featuring solar, wind, and hydro projects, strengthening the wider community energy movement.

By prioritising community ownership, Harlaw Hydro ensures that the financial and social benefits of renewable energy stay local, creating a more resilient and self-sustaining economy.

Improves people's well-being

- **Lower costs and greater well-being: Community energy reduces bills, alleviates fuel poverty, and enhances overall quality of life.**

Supporting evidence:

The Power of Places report for Innovate UK by Regen (2024) cites many examples of the benefits community energy delivers to people, on three key themes**:**

Lowers energy bills

The Energy Local project in Bethesda allowed participants to purchase local renewable electricity at a lower rate, saving them 24% on energy bills. This model demonstrated the potential for localised energy markets to reduce costs for consumers. (Energy Local, 2016)

Community energy groups in the UK have collectively saved residents £4.4 million on energy bills since 2020 through energy advice, efficiency improvements, and bulk purchasing of energy-saving measures. (Community Energy England, 2024)

Every £1 spent on local energy advice and fuel poverty support yields £9-10 in social returns, including health, income, education, and reduced healthcare costs (Community Energy England, 2024).

Improves energy efficiency & reduces fuel poverty

From 2016-2019, community energy organizations engaged 234,000 people and facilitated nearly 28,000 energy-saving improvements in homes and buildings (Community Energy England, 2024).

Local energy groups help underserved communities by using local knowledge and trust to deliver targeted fuel poverty interventions (Nolden et al., 2021).

Improves health & wellbeing

Locally led initiatives improve home warmth and comfort, reducing winter mortality. It can also lead to better indoor and outdoor air quality by reducing fossil fuel use (Bray et al., 2024).

Energise Barnsley – Enhancing Well-being Through Community Solar Energy

Energise Barnsley is a pioneering community energy initiative in South Yorkshire, dedicated to improving residents' well-being by making renewable energy accessible and affordable. Established by community energy developer 'Generation Community Ventures' in partnership with Barnsley Metropolitan Borough Council, the project collaborates with housing provider Berneslai Homes. The Smart Solar project also collaborated with charity Age UK Barnsley to retrofit residential smart batteries with existing solar in social housing, targeting older residents.

In an area where 19% of people find it challenging to afford their fuel bills, Energise Barnsley has lowered fuel costs by up to 50%, sharing the benefits of the UK's energy revolution. The battery project has supported residents who are retired, carers, or have disabilities. All these groups are more likely to spend time at home, so help with fuel bills is particularly important.

Beyond financial savings, the project has had positive social and health impacts. Warmer homes help to reduce the risk of illnesses linked to cold and damp conditions, particularly among elderly and vulnerable residents. By making energy more affordable, the initiative supports healthier living conditions, reducing the burden on healthcare services. Key findings from the project include using in-house installation teams, in addition to Energise Barnsley asset managing the project, resulting in confidence to scale the initiative, and provide quick remedial solutions beyond the life of the project end. As this was the third innovation project for Energise Barnsley the choice of residential battery with LED guidance light on the front panel was a success for promoting energy behavioural change by the tenants.

Energise Barnsley has also created a community fund, reinvesting surplus income into local initiatives that further support residents. This fund has been used to provide energy advice clinics, fund food bank initiatives, support healthy eating programmes, replace tungsten lights for LEDs at local community sports centres, all of which contribute to improving well-being at a broader community level.

By keeping financial benefits within the community and prioritising those in greatest need, Energise Barnsley exemplifies how community energy projects can enhance economic stability, health, and social cohesion. Its innovative approach has been recognised with the 2024 Ashden Award for People's Energy, highlighting its success in delivering clean power and lower bills to South Yorkshire residents. To date it is self-financed with over £4 million of community bonds, since its inception in 2016.

Strengthens communities and local places

- **Economic growth and local reinvestment: Community energy initiatives generate substantial revenue and investment, retaining wealth locally.**
- **Job creation and business stimulation: Local projects create jobs and support local businesses by reinvesting revenue.**
- **Environmental enhancement: These projects reduce carbon emissions and deliver nature-based initiatives that boost local biodiversity.**
- **Strengthened community resilience: Participation in local energy projects fosters social cohesion and reinforces a strong, united community**

See also: Can deliver more value to local economies than commercial alternatives

Supporting evidence:

The Power of Places report for Innovate UK by Regen (2024) demonstrates that community energy initiatives deliver significant financial benefits. For example, the North West Net Zero Hub transformed £1.5 million in funding into £54 million in local returns, and UK community energy groups achieved a £43.2 million turnover in 2023, with a total of £225 million secured in investment since 2017. Wider local net zero initiatives could potentially unlock a £500 billion investment opportunity.

Community Energy England (2024) indicates that local energy projects create tangible employment opportunities, with 796 people employed in 2023 (including 102 new jobs). Examples such as Bath & West Community Energy and the Huntly and District Development Trust illustrate how revenue reinvestment supports local businesses and fosters additional economic growth.

Environmental benefits are significant, with UK community energy projects reducing 166,000 tonnes of CO_2 in 2023—an amount equivalent to 209,000 London-New York round-trip flights. Initiatives like Wiltshire Wildlife Community Energy's wildflower meadows and the Point & Sandwick Trust's tree planting in the Hebrides exemplify how community energy not only meets but exceeds standard planning requirements by integrating ambitious environmental goals.

Research by Braunholtz-Speight et al. (2020) confirms that working towards a common renewable energy goal strengthens local cohesion and builds community resilience. This shared commitment not only underpins the success of energy projects but also reinforces a strong sense of community, vital for long-term local sustainability.

Community energy and the Welsh language: Preventing brain drain through local enterprise

De-population and youth out-migration is an issue across Wales but is more acute in northwest Wales. Often referred to as 'brain drain', the migration of young people leaving Wales to seek employment opportunities in English cities has a significant impact on the continuation of the Welsh language in this region. However, community businesses and social enterprises play a significant role in the continuation and growth of the Welsh language.

Community energy organisations, by their nature of being in and responsive to the needs of local communities have shown to provide well paid employment opportunities through the primary medium of Welsh. Community energy organisations based in northwest Wales such as Ynni Ogwen are playing a significant role in preventing further brain drain.

As they explain, community energy projects are situated at the heart of Welsh speaking communities and therefore, working in the Welsh language is a natural aspect of their work. It also enables the status of the Welsh language to re-establish itself in the role of industry. Community energy projects make people feel a sense of confidence and agency to respond to local challenges. Doing this through the medium of Welsh also gives people added confidence to speak the language outside of casual settings like in the family home and increasingly in professional settings. In turn this supports the growth and nourishment of the language.

By helping young people stay and work locally, these organisations show that community energy is not just about renewables, it is about empowering people, preserving language, and sustaining culture.

Delivers efficiencies and innovation in local energy systems

- **Cost savings and efficiency: Local energy reduces system costs by improving efficiency and optimising infrastructure investment.**
- **Enhanced resilience: Decentralised energy systems boost grid resilience and flexibility**
- **Driving innovation: community-led projects drive innovation in heat, transport, and energy generation.**

Supporting evidence:

Local demand flexibility, solar, and storage could cut system costs by £1.1 – £2.5 billion annually, with energy efficiency measures increasing savings to £2.2 billion (Aunedi et al., 2022). Local area energy planning ensures cost-effective infrastructure investment and targeted retrofits (Energy Systems Catapult, 2018).

Local energy systems help balance supply and demand, reducing grid constraints, network losses, and upgrade costs (Regen and partners, 2018). Flexibility services, including battery storage and smart EV charging, improve grid management (Energy Networks Association, 2024). Time-of-use tariffs promote off-peak energy use, enhancing stability (Ofgem, 2019). Distribution-level flexibility could reduce system operation costs by 25-40% while increasing efficiency and renewable energy integration (Imperial College, 2022).

A decentralised model allows better integration of renewable generation, reducing network losses and improving grid stability. (Regen and partners, 2018)

Community-led innovation is advancing retrofit and heat pump installations, with initiatives like People Powered Retrofit in Manchester and Loco Home Retrofit in Glasgow (People Powered Retrofit, 2024; Loco Home Retrofit, 2024). Rural and island communities lead energy innovation, including Scotland's Carbon Neutral Islands programme and the Rural Energy and Community Heat project (Scottish Government, 2024; Innovate UK, 2024).

Supports a more effective and efficient energy transition

- **Lower costs, higher returns: Investing in local energy solutions generates far greater savings and wider societal benefits compared to centralised models.**
- **Stronger local economies: Community-led energy projects create jobs, keep wealth within communities, and empower marginalised groups.**
- **Greater energy resilience: Local projects reduce transmission losses, enhance grid efficiency, and provide more reliable energy.**
- **More public engagement: Community energy initiatives drive energy literacy, encourage behavioural change, and foster public support for renewables.**

Supporting evidence:

Innovate UK (2022) demonstrates that place-specific energy strategies would reduce the overall cost of transition by over two-thirds, while generating substantially higher energy savings and social benefits. The shift to localised energy solutions would result in £108bn of energy savings and £825bn in wider benefits, compared to the £57bn savings and £444bn benefits from place-agnostic models.

Regen (2024) outlines that local energy initiatives not only contribute to national decarbonisation goals but also drive regional development by addressing specific needs and capabilities. These projects improve grid efficiency, promote community engagement, and bolster resilience through decentralised energy production.

Braunholtz-Speight et al. (2020) highlight the significant role of community energy organisations in supporting national emissions reduction targets. By distributing generation assets locally, they minimise transmission losses and help optimise grid efficiency. Additionally, they promote energy literacy and behavioural changes, especially in relation to renewable energy adoption.

Increases investment in the transition

- **Lower-cost financing: Community energy organisations can offer capital at interest rates up to two percentage points lower than traditional loans.**
- **Keeps wealth local: On average, there is £4bn of investable wealth per 100,000 people in the UK, yet much of this capital leaves local communities.**
- **Bridges funding gaps: Citizen-financed community renewable energy could generate up to €176 billion, helping to bridge the EU's investment gap.**
- **Strong public interest: A measurable portion of the public is inclined to invest in community energy, demonstrating support for citizen-funded renewable projects.**

Supporting evidence:

Braunholtz-Speight et al. (2020) show that community energy organisations provide some of the cheapest capital available, offering interest rates two percentage points lower than those on traditional loans. This makes them an affordable and flexible option for raising finance in renewable energy projects.

The Place-based Climate Action Network (2020) reports that, on average, there is £4bn of investable wealth per 100,000 people in the UK. However, much of this wealth leaves local communities to flow into global companies, highlighting the potential benefits of redirecting citizen finance into community energy.

Pons-Seres de Brauwer and Cohen (2020) demonstrate that citizen-financed community renewable energy could unlock up to €176 billion, a sum that could be used to co-finance community-based wind energy and help bridge the EU's investment gap in the transition.

A YouGov poll commissioned by Common Wealth (2025) indicates that 3% of people are very likely and 11% are fairly likely to invest in community energy, underscoring significant public interest in citizen-led renewable projects.

Low Carbon Hub leveraging millions for Oxfordshire's net zero transition

Oxfordshire-based social enterprise Low Carbon Hub is a prime example of how community energy initiatives can attract and unlock substantial investment in the energy transition.

Since 2012, Low Carbon Hub has raised £10 million in community shares. By combining this with loans, grants, and its own surpluses, the organisation has enabled over £20 million of capital investment in the construction of community-owned renewable energy projects across Oxfordshire.

The income generated from these installations has already resulted in £1 million being reinvested into community benefit projects. This, in turn, has helped secure an additional £13 million in contracts and grants to further support Low Carbon Hub's work in the energy transition.

Moreover, these programmes have triggered further investment. For example, the Oxfutures programme transformed £104,700 of public capital funding into £470,900 of private investment. This was achieved by providing 25% matched funding to small and medium-sized businesses for energy efficiency measures.

Low Carbon Hub's success demonstrates the power of community energy in driving meaningful investment and accelerating the shift towards a low-carbon future.

Expands UK ownership of the energy system

- **Greater local control: Community co-operatives ensure that more wealth is retained within the UK rather than being owned abroad.**
- **Equitable wealth distribution: Co-operative models promote fairer sharing of wealth, addressing the stark inequality where the wealthiest 10% hold 45% of national wealth.**
- **Democratic decision-making: Co-operatives empower local communities by enabling those directly affected to influence business strategy and address challenges such as climate change.**
- **Resilient and accountable: By pooling resources and sharing risks, co-operatives remain democratic and less susceptible to external market pressures.**
- **Re-orientating enterprise: These models offer a proven method to redirect economic benefits towards the common good, reducing financial leakage and ensuring local benefits.**

Supporting evidence:

The New Economics Foundation (2018) report, Cooperatives Unleashed: Doubling the size of the co-operatives sector, highlights that over half of UK company equity is owned by foreign entities, with only just over 12% held by individuals. It argues that co-operative models, built on democratic ownership and collective decision-making, provide a means to retain wealth within local communities and drive sustainable, purpose-driven economic activity.

Data from ONS (2018a) further emphasises the need for local ownership, revealing that the wealthiest 10% of households own 45% of the nation's wealth and nearly 70% of financial assets. This significant disparity underscores the importance of shifting towards community-owned enterprises to ensure that the benefits of economic activity are more equitably shared and that local challenges, including those posed by climate change, are effectively addressed.

Building more inclusive community energy co-operatives

Community energy is playing a crucial role in making the UK's energy system more diverse and inclusive. By fostering local participation, these initiatives give underrepresented groups greater opportunities to take an active role in the energy transition. A key resource supporting this shift is A Participatory Toolkit for Building More Inclusive Community Energy Co-operatives, developed by Repowering London, the Centre for Sustainable Energy, and Dr Anna Rebmann from King's College London. This toolkit provides practical guidance for community energy co-operatives looking to improve diversity in their membership and governance.

The toolkit focuses on participatory research and co-design approaches to ensure projects engage a wide range of people. It offers strategies for involving local residents in planning and decision-making, ensuring community energy initiatives reflect the needs of all members, particularly those who are often excluded from energy projects.

One example of these principles in action is the Community Energy Newham project in Newham, London. Led by Repowering London and supported by Newham Council, this initiative brought together residents of the borough to work together in installing community-owned solar panels on local buildings. Through extensive community engagement and inclusive decision-making, the project not only generates renewable energy but also strengthens local ownership. Surplus income from energy generation will be reinvested into the community, funding local initiatives and providing training opportunities in the green energy sector. The participatory research project included recruiting a Newham-based community researcher and carrying out co-design workshops with Newham residents and its outcomes have fed into Community Energy Newham's first community share offer.

This approach highlights how prioritising inclusivity, and local participation can reshape the UK's energy system. By ensuring that diverse communities have a meaningful stake in renewable energy, community energy projects are building a more equitable and representative energy future.

Boosts participation in the energy transition

- **High public willingness: 53% of respondents would reduce their energy consumption for community energy projects, with 24% likely to volunteer and 14% willing to invest.**
- **Local engagement is critical: The next phase of decarbonisation relies on broad, community-level participation.**
- **Broader sustainability initiatives, such as tree planting, effectively engage diverse, hard-to-reach groups.**

Supporting evidence:

A YouGov poll commissioned by Common Wealth (2025) reveals strong public support for community energy, with over half of respondents indicating they would adjust their energy usage, and notable proportions prepared to volunteer or invest. This data underscores the potential for significant community involvement.

The WPI Economics report (2020) highlights that the future of decarbonisation depends on extensive local engagement across various sectors, emphasising the necessity for people to participate in energy efficiency and renewable energy initiatives.

Climate Outreach (2024) demonstrates that broader sustainability activities, like tree planting, not only yield environmental benefits but also mobilise diverse community groups, reinforcing the overall participation in community energy efforts.

Nature, Skills, and the Energy Transition

Welcome to our Woods (WTOW) is using nature and skills training to connect people to the energy transition. Based in Treherbert, they manage woodland resources while offering hands-on training that equips people with practical skills to work in sustainable land management and forestry.

Through courses on forestry tools, coppicing, and regenerative horticulture, WTOW provides direct pathways into green jobs. Volunteers who have completed NVQ Level 2 courses in coppicing and greenwood trades at Black Mountains College have gone on to take paid roles as foresters, millhands, and agroforestry officers with WTOW. This demonstrates how practical training in natural resource management can lead to employment in the low-carbon economy.

By embedding learning in natural settings, WTOW not only strengthens local skills but also deepens people's connection to sustainability. Volunteers have applied their experience to launch well-being and nature-based businesses, including yoga and recovery-focused courses in the woods.

WTOW's approach shows that nature and skills training can be powerful tools for widening participation in the energy transition, empowering people with the knowledge, confidence, and opportunities to contribute to a more sustainable future.

Builds public trust

- **Trust is critical for the energy transition: Community energy organisations are widely trusted for their local expertise and independent advice, unlike profit-driven companies and government.**
- **Better uptake: Initiatives like Plymouth Community Energy achieve 4.5 times higher rates of energy assessment uptake compared to commercial providers.**
- **Authentic local networks: Non-commercial projects build credibility through independent intermediaries and trusted local networks.**
- **Trusted intermediaries: With government and media trust at a ten-year low, community groups are well placed as trusted intermediaries.**

Supporting evidence:

The Forum for the Future (2020) underscores that public trust is critical for the energy transition, as communities must accept new technologies and data usage to support renewable initiatives. Without this trust, resistance to projects such as wind farms may lead to inefficiencies and energy losses.

The Energy Saving Trust and Forum for the Future for DECC (2014) report found that volunteers trained by Plymouth Community Energy achieved a 4.5 times higher uptake for home energy assessments than those trained by British Gas, illustrating the effectiveness of community-led initiatives in building trust.

A narrative review by the UK Energy Research Centre (Warren & Foulds, 2020) highlights that local, non-commercial community energy projects enhance trustworthiness and authenticity. It advocates for using independent, local organisations as intermediaries to overcome the low trust often associated with centralised government bodies.

Mininni et al. (2024) in Energy Research & Social Science argue that trust is influenced by advisor motives, noting that people are particularly wary of profit-driven entities. This research supports the role of community energy as trusted intermediaries.

Additional studies (Simcock et al., 2014; Evensen et al., 2018; Mallaburn and Eyre, 2014) confirm that community groups, local institutions, and businesses are more trusted than central government and energy companies. Researchers like Rugkåsa et al. (2007) and Reeves (2016) advocate for engaging community organisations to enhance outreach, especially with fuel-poor groups.

Further evidence from Walker et al. (2010) and Burchell et al. (2014) demonstrates that non-commercial project characteristics and local networks boost trust in renewable energy initiatives. Fornara et al. (2016) add that trusted local networks effectively encourage individuals to adopt energy-saving measures.

The Climate Citizens Research Group (2024) reports that low trust in government can be mitigated if leaders address public concerns with ambitious, credible policies. The Centre for Sustainable Energy on behalf of Community on Fuel Poverty (2024) recommends empowering trusted intermediaries to offer clear, independent advice.

The Edelman Trust Barometer UK Report (2024) confirms that trust in government and media is at a ten-year low, whereas peers and scientists remain highly trusted. Jennings and Paterson (2023) find that local government, community groups, scientists, and medical professionals are among the most trusted sources for communicating the co-benefits of climate action.

Finally, practical examples such as the Clean Heat Streets project in Rose Hill, Oxford (2024) illustrate how peer influence drives technology uptake, while the ePlace-Based Climate Action Network (2020) emphasises that authenticity and mission-driven local organisations are key to building trust in climate initiatives.

NEMO Cities Project: Building Public Trust in Sustainability

The NEMO Cities Project is helping to build public trust in environmental policies by making air and noise pollution data more transparent and accessible. As part of an EU-led initiative in Northern Ireland, the project uses advanced remote sensing technology to monitor vehicle emissions in real time. This provides clear evidence of pollution levels, allowing local authorities to make informed decisions and giving communities confidence that action is based on reliable data.

People are more likely to support sustainability initiatives when they can see measurable improvements in their environment. By tracking pollution levels and sharing this information openly, NEMO ensures that transport and urban planning policies respond directly to local needs. Residents can follow changes, understand their impact, and see how reducing emissions leads to better air quality and healthier communities.

As well as cutting pollution, the project encourages greater public involvement. When people have access to real-time data, they can take part in discussions about transport and sustainability, helping to shape decisions that affect their daily lives. By making environmental information easier to understand, NEMO is strengthening trust between the public, policymakers, and those working on sustainability.

By showing that data-driven approaches can lead to meaningful change, the NEMO Cities Project is proving that transparency and public engagement are key to making sustainability efforts more effective and widely supported.

Strengthens public consent for the transition

- **Strong local support: Community-owned renewables enjoy higher public backing (62% vs 40%), driving greater community consent.**
- **Enhanced civic engagement: A significant number of people are willing to volunteer, invest, and reduce energy use for community projects.**
- **Multiplier effect: Involvement in community energy leads to broader participation in other sustainability initiatives.**
- **Inclusive participation: Local projects foster social cohesion and empower communities, reducing resistance.**
- **Increased local autonomy: Community energy ownership boosts local resilience and income, strengthening community benefits.**

Supporting evidence:

A YouGov poll commissioned by Common Wealth (2025) reveals that 62% of respondents would support a community-owned renewable energy project, compared to only 40% for privately owned ones, highlighting the strong public preference for community-led initiatives.

A survey of 4,862 adults in Great Britain (October 2024) demonstrates significant public willingness to engage in community energy through volunteering, investing, and reducing energy consumption, underlining the potential for broad civic participation.

Community Energy England's State of the Sector Survey (2024) shows that 76% of members and supporters become involved in other sustainability initiatives, indicating a multiplier effect where engagement in community energy drives further local action.

Regen's Power of Places (2024) report emphasises that local energy projects foster inclusive participation and social cohesion, with locally owned renewables receiving greater public support and reducing opposition compared to commercial alternatives.

Findings from the Social Market Foundation (2025) indicate that many people feel excluded from the net zero transition, which undermines trust in government-led efforts, reinforcing the need for community-led approaches that truly involve citizens.

The National Trust (2012) concludes that community energy ownership increases local autonomy, resilience, and income, particularly in areas with few wealth-generating opportunities, underscoring the socio-economic benefits of community energy.

Bristol Energy Network and the Bristol City LEAP Project

Bristol City Leap is a pioneering public-private partnership enabling the investment of £1 billion in Bristol's decarbonisation by developing renewable energy, energy efficiency, and smart energy projects to help the city reach net zero by 2030.Bristol Energy Network (BEN) prepared a report during the Bristol City Leap bid process to highlight community priorities. The document incorporated input from members and the wider community on renewable energy projects, housing developments, skills and training needs, necessary resources for community energy initiatives, and investment interest in both local and citywide schemes.

As part of the Community Energy Propagator group—advocates for community involvement in Bristol City Leap—BEN contributed to a framework ensuring that communities could actively shape City Leap. Their proposals emphasised access to expert support, funding for both profitable and non-profitable energy projects, and meaningful participation in decision-making processes. This push for inclusivity and local leadership directly contributed to the establishment of The Bristol City Leap Community Energy Fund, supported by the Centre for Sustainable Energy, Bristol Energy Network, and Bristol & Bath Regional Capital. Additionally, the creation of a Community Forum and a Heat Network Advisory Panel now ensures ongoing community representation in project decisions.

Increasing opportunities for local community energy ownership has boosted resilience, retained economic benefits locally, and reinforces public trust in the energy transition. It can also create opportunities for volunteering, investment, and energy reduction efforts and community involvement in broader sustainability initiatives.

At the heart of all this work is BEN's commitment to a just transition which led to BEN's role in co-authoring the City of Bristol Just Transition Declaration, encouraging stakeholders to align climate and nature transition efforts with justice-centred principles. BEN contributed to research on applying these principles in an energy context, capturing key concerns such as affordability, social justice, and local economic benefits, and sharing the findings with national energy stakeholders.

Promotes fairness and justice in the transition

- **Fair transitions build public support by ensuring outcomes, processes, and treatment are equitable.**
- **Inclusive, bottom-up approaches reduce resistance and foster transformative change.**
- **Community energy ownership redistributes wealth, supporting disadvantaged areas and avoiding extractive patterns.**
- **Participatory governance ensures local benefits are retained and decision-making is transparent.**
- **International models from Wales, Denmark, and Scotland demonstrate that fair, community-led approaches yield lasting local impact.**

Supporting evidence:

Mayne (2016) argues that fairness is a critical value in its own right, with high inequality undermining policy effectiveness, social cohesion, and environmental outcomes. He emphasises that a just transition is essential for building the public support needed to succeed.

Innovate UK funded programme Project LEO set out an ethical framework for local energy approaches, contending that addressing fairness in outcomes, treatment, and process is key to securing social licence and achieving mass participation in the transition. (Huggins 2020)

Brisbois and Cantoni (2025) show that bottom-up, inclusive strategies are more transformative and face less resistance than top-down approaches that ignore distributional impacts, which can lead to social disempowerment and frustration.

The Institute of Welsh Affairs (2024) illustrates that community ownership in renewable energy projects can redistribute income effectively, ensuring that local communities retain a greater share of economic benefits—a model successfully demonstrated in Denmark.

Evidence from former coalfield communities highlights that renewable energy projects can replicate historical patterns of resource extraction if benefits are not fairly distributed, underscoring the need for robust redistributive policies and community ownership.

The Centre for Local Economic Strategies and Scottish Land Commission (2024) emphasise that community and public ownership models enhance local control, accountability, and long-term value retention in natural resource management.

Finally, the National Trust (2012) concludes that community energy ownership increases local autonomy, resilience, and income, particularly in areas with limited wealth generation, reinforcing the importance of a fair, community-led energy transition.

Denmark's Collective Ownership of Wind Turbines

Denmark is a global leader in community-led renewable energy, demonstrating how collective ownership of wind turbines can promote fairness and justice in the energy transition while building strong public consent. Unlike many commercial wind developments, which can face local opposition, Denmark's approach ensures that the economic and social benefits of wind energy are shared widely, securing long-term public support.

A key factor in Denmark's success is its legal framework, which historically required at least 20 per cent local ownership of new wind projects. This policy empowered communities to co-own wind turbines, ensuring that profits from energy generation flowed back into local economies rather than external investors. As a result, thousands of Danish citizens now own shares in wind farms, benefiting from stable returns while actively contributing to the country's clean energy goals.

One example is the Middelgrunden offshore wind farm near Copenhagen, which at the time of its development in the early 2000s was the world's largest wind farm. This partnership between a utility company and a co-operative of local residents involved the community from day one. Initially 8,500 Danish citizens invested, raising Euro 23 million – half the project's total cost – becoming equal partners in the windfarm. Ultimately over 50,000 locals ultimately took part helping shape everything from the placement of the turbines to the drafting of contracts and ensuring widespread public buy-in, reducing opposition to offshore wind development.

Beyond economic benefits, Denmark's community energy model fosters greater energy democracy, allowing local people to participate in decision-making about energy infrastructure. This inclusive approach strengthens trust in renewable energy projects, making it easier to scale up the transition while maintaining public support.

Denmark's experience shows that fairness and justice in the energy transition are not just about reducing emissions. They are also about who owns and benefits from the energy system. By prioritising collective ownership and public participation, Denmark has built a renewable energy sector that is both environmentally sustainable and socially equitable, setting an example for other countries looking to accelerate their energy transition with strong public consent.

Recommendations for Further Research

To ensure that the full value of community energy is recognised and leveraged effectively, further research should focus on three key themes:

1. Making the full value of community energy more clearly acknowledged.
   Strengthening evidence on the economic, social, and environmental contributions of community energy.
2. Understanding if the hyper-local approach of community energy delivers additional benefits beyond place-based approaches.
   Assessing whether community-led initiatives enhance efficiency and impact.
3. Better understanding the role of community energy in building trust, participation, and public consent in the energy transition.
   Examining its participatory and transformative potential in fostering engagement and just outcomes.

Recognising the Full Value of Community Energy

Community energy generates significant economic, social, and environmental benefits, yet its impact is often underreported or underestimated. Further research is needed to demonstrate its contributions more clearly, including:

- Understanding its catalytic role in encouraging the uptake of low carbon technologies and energy efficiency measures.
- Assessing how community energy projects drive increased local retention of financial value, skills development, and job creation.
- Strengthening measurement frameworks to capture the participatory and transformative outcomes community energy delivers.

The Additional Benefits of a Hyper-Local Approach

While place-based approaches to the energy transition are well-documented, further research should examine whether a hyper-local, community-led approach delivers even greater benefits. Key areas to explore include:

- The efficiency and effectiveness of hyper-local energy initiatives compared to broader regional models.
- The role of decentralised, community-led energy generation in supporting local grid resilience and reducing system costs.
- How community energy facilitates more targeted, equitable access to renewable technologies and efficiency measures.

Building Trust, Participation, and Public Consent

Community energy plays a crucial role in building public trust in the energy transition. Research should explore how its participatory and transformative aspects contribute to:

- Increasing public acceptance of renewable energy infrastructure and reducing opposition to energy projects.
- Strengthening community involvement in energy planning and governance, ensuring a just and inclusive transition.
- Enhancing social cohesion and fostering a sense of ownership over local energy solutions.

Research Collaboration and Capacity Building

To advance understanding in these areas, partnerships with universities, social scientists, and policy researchers should be expanded. Additionally, supporting community energy organisations in conducting their own impact evaluations will enhance the sector's ability to demonstrate value and influence policy.

Finally, ensuring that research findings and best practice are widely shared across the sector is essential. This will enable community energy groups to build on existing learning, refine their approaches, and incorporate insights into their work, ultimately strengthening their impact. Adequate support should be provided to facilitate knowledge exchange, learning opportunities, and the integration of research findings into practice, helping the sector to continuously evolve and improve.

By addressing these research priorities, the evidence base for community energy can be significantly strengthened, reinforcing its role as a key driver of a fair, participatory, and effective energy transition.