Electricity Distribution

The future of community energy

Exploring trends, developments and innovations

nationalgrid

REGEN

Acknowledgements

About Regen

This report has been prepared by Regen.
Regen provides independent, evidence-led insight and advice in support of our mission to transform the UK's energy system for a net zero future.
We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

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Contents

Executive summary—The community energy sector is set to expand at scale and pace

170

community energy organisations in NGED's licence areas

8 GW

is the aim to be delivered by community and locally owned energy by 2030

Renewed ambiton

There is a well-established and resilient community energy sector in NGED's licence areas, comprising 170 organisations employing 140 people and turning over £29 million. However, the sector's growth has slowed in recent years due to the lack of a supportive policy and commercial environment. UK government has stepped up its ambition on community energy, with dedicated action being taken to unlock these barriers and enable the sector to accelerate at pace.

The government will shortly publish the Local Power Plan, with a commitment to delivering 8 GW of local and community-owned energy by 2030. Proprotionately, around 2 GW will need to be installed in NGED's licence areas. Community energy organisations are gearing up for this acceleration, with a clear need for NGED to prepare to meet this renewed ambition and action.

This study

The purpose of this study is to explore the key trends, developments and innovations that will shape community energy, with a particular focus on the role of Distribution Network Operators (DNOs) in enabling this sector to meet its ambitions.

To inform this analysis, Regen has drawn on a range of evidence resources which include:

- **Nine interviews with leading community energy sector experts**
- **A roundtable with seven key community energy stakeholders with roots in our region**
- **Insights and feedback gathered from five events either led or sponsored by NGED**
- **Analysis from the latest community energy 'state of the sector' report.**

The study considers the future trajectory of community energy over three timescales:

- **Short term (the remainder of the ED2 business plan up to March 2028)**
- **Medium term (the ED3 business plan from 2028-2033)**
- **Long term (a ten-year horizon to 2035 and beyond).**

35 MW

pipeline of community-owned generation projects in NGED's region

37

community energy organisations working on retrofit and fuel poverty schemes

Short term

Community Energy England, Wales and Scotland's state of the sector report shows there is a pipeline of around 35 MW of community-owned generation projects seeking to progress in NGED's licence areas. In the short term, stakeholders are calling for DNOs to prioiritise on providing clear guidance and detailed support to help navigate the new connections reform process.

Community energy organisations have also highlighted the need for shared ownership with commercial generators to help progress projects and want support on how to approach metering arrangements in which projects are split between commercial and community ownership.

Medium term

Stakeholders expect to see rapid growth of the community energy sector under the Local Power Plan. Achieving this will require a focus on scalable, replicable delivery models, the development of larger sub-5 MW projects, and an increase in onshore wind schemes. It will also depend on expanding shared ownership arrangements between community groups and commercial developers.

To enable the community energy sector to meet its ambitions, stakeholders would like NGED to help ensure their strategy and future plans are captured in the Regional Energy System Planning processes and incorporated into network planning. They also see the value of NGED playing a more active 'matchmaking' role between communities and developers on shared ownership projects.

Community energy organisations are also keen to work with NGED to play a greater role in operating a smarter network. They are keen to trial innovative approaches to reducing network constraints through community aggregated flexibility and local energy markets and would like NGED to help monitor and evaluate the network benefits these models could deliver.

Thirty-seven community energy groups in the NGED region are already working on retrofit and fuel poverty. The guidance from Ofgem for DNOs to play a stronger role in energy efficiency is, therefore, seen as an opportunity for closer collaboration – particularly in supporting consumers in vulnerable circumstances. Stakeholders have suggested that DNOs could use their local presence and knowledge to help with coordination and financing of place-based energy efficiency schemes, with inclusive engagement delivered by trusted local energy organisations.

Long term

Looking ahead to the next decade, stakeholders envision community energy organisations owning a significant proportion of the UK's energy mix and leading local energy systems that combine local supply, retrofit and fuel poverty interventions within cohesive, community-driven plans. In this scenario, smart local balancing of supply and demand combined with extensive community and shared ownership models could see community energy organisations become a core partner for DNOs in operating their networks smartly and efficiently and addressing the needs of customers in vulnerable circumstances.

Introduction—The UK government has set ambitious goals for community energy

8 GW

The UK government's target for local and community-owned generation by 2030

Background

The UK government has set ambitious goals for community energy, with a headline target of 8 GW of local and community-owned generation by 2030. While this includes both local authority and community-owned projects, it represents a significant scaling up: meeting even half of this target with community-owned projects would mean 10x growth in current community energy capacity. To deliver on this target, the government will publish the Local Power Plan and has given Great British Energy (GBE) a remit to invest in community energy. This is a critical juncture for the community energy sector and its potential to deliver value to people and places across the country.

"We are committed to driving forward community energy, and we will talk to NESO and Ofgem to get it right and make sure it happens."

Ed Miliband (15 July 2025)

The local power target sits alongside the government's overall aim for Clean Power by 2030

95%

of electricity to come from clean sources

A key enabler for the Clean Power Mission

The Clean Power 2030 action plan aims for at least 95% of electricity generation to come from clean sources, with total clean power production matching or exceeding annual demand, bringing down the carbon intensity of power generation from ~171 gCO_2e/kWh in 2023 to well below 50 gCO_2e/kWh.

The sector supports this level of ambition and is preparing to expand at pace and scale to meet this target playing a critical role in the Clean Power Mission by delivering direct value from renewables to people and communities across the country. It is also gearing up to meet more demand-side challenges, with innovative retrofit, energy efficiency and low-carbon heat projects under way (for example Net Zero Terrace Streets led by Rossendale Valley Energy and HEAT hub led by Nottingham Energy Partnership). Some more ambitious organisations are exploring integrated local energy approaches which bring generation and demand together in a smart, dynamic way (for example, Tanygrisiau's heat and power project).

"I'm seeing a different positive energy in the sector generally. I'm seeing more enquiries around community energy. There are organisations who might have been thinking for 10/15/20 years, we wish we could put a turbine there but just weren't able to."

Katherine Rooney,
South West Net Zero Hub

Energy networks, particularly distribution network operators (DNOs), including NGED, will be a critical enabler in this transition. As most community energy projects connect at distribution level, DNOs will have a key role to play in supporting new organisations and projects through the connections process, demonstrating and enabling innovative new models and engaging with groups in their licence areas to help them progress. The community energy sector can also provide critical support for DNO activities and priorities as shown in the table below.

DNO activities and priorities

Network activities and priorities	How community energy can support
Supporting vulnerable customers	Reaching vulnerable individuals and households through extensive and wide-reaching energy efficiency and fuel poverty programmes, as trusted local partners. Using these programmes to recruit appropriate households to the Priority Services Register.
Increasing energy efficiency	Retrofit and energy efficiency programmes for both the most vulnerable and those able to afford new measures are run by community energy organisations. As non-profit, trusted organisations they can offer impartial advice and guidance. Working with the DNO could target energy efficiency support to areas which benefit the network.
Smarter and more flexible system	Community-led local energy models are pioneering ways of engaging and encouraging flexibility from individuals and communities. Alongside flexibility from existing community energy schemes, the sector can support providing different forms of flexibility to reduce network loads.
Resilience in response to shock events such as storms	Investing in community-led resilience measures for extreme events, such as ‘warm hubs’, can reduce the impact of power cuts and enable communities and the DNO to target support to those most vulnerable customers.

This report aims to explore the trends, developments and innovations that will shape community energy

Purpose

The purpose of this study is to explore the key trends, developments and innovations that will likely shape community energy, with a particular focus on the role of the DNO. This will enable us to better prepare for new community energy projects and identify opportunities to support the sector in its ambitions, as set out in our current business plan. The findings will also contribute to how we work with the community energy sector in our next 2028-2033 business plan.

To uncover these insights, a range of stakeholder engagement, research and analysis was conducted by Regen. This included:

- Nine interviews with leading sector experts
- A roundtable with seven key community energy stakeholders with roots in our region
- Collated feedback and discussion from five events either led or sponsored by NGED
- Analysis of 'state of the sector' data for our region from Community Energy England, Scotland and Wales – the most comprehensive survey of community energy organisations in the UK.

It should be noted that, since not all community energy organisations responded to the state of the sector survey, the data presented in this report is likely to understate to some extent the current role, activity and ambition of the community energy sector.

The report explores potential trends in community energy across three timescales, based on the business planning periods for DNOs. These five-year business planning periods are overseen by Ofgem and require DNOs to set out proposed investment, outputs, cost forecasts, strategies for network development (to support net zero and increased electrification), stakeholder engagement, performance metrics and how they'll manage uncertainty – all of which will determine their allowed revenues and regulatory obligations.

Short term:
Up to March 2028, the end of the current ED2 business planning period

Medium term:
2028-2033 (ED3 business planning period)

Long term:
A ten-year horizon to 2035 and beyond

Five key topic areas of the market are explored with a RAG rating to show progress

01

Generation

02

Shared ownership

03

Flexibility and local energy markets

04

Heat and retrofit

05

Low-carbon transport

RAG rating

Each area has a Red Amber Green (RAG) rating that indicates the current state of development, expected progress per stakeholder insights and data analysis, policy support and market readiness

Descriptor

- Significant short and medium-term progress expected, policy and regulatory change under way, funding and capacity support available or in development, demonstrated commercial and technical models
- Moderate short and medium-term progress expected, policy and regulatory change being considered, limited funding or capacity support, innovative case studies but more attention required to scale
- Limited short and medium-term progress expected, little or no policy or regulatory attention, limited or no funding or capacity support, very few demonstrated projects or commercial models

There are 170 community energy organisations in NGED's region

140FTE
paid staff

1,198
volunteers

£29M
total annual turnover

46
organisations

161
paid staff

525
volunteers

52
organisations

26
paid staff

337
volunteers

72
organisations

116
paid staff

296
volunteers

Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

01 —
Generation

01 — Generation — Renewable energy generation projects have traditionally been the bedrock of the community energy sector

Context

Renewable energy generation projects (wind, solar, hydro) have been the bedrock of the community energy sector for some time. Generation projects create revenue from exporting electricity to the grid or local off-takers, which can then be used to fund local initiatives in the interest of local communities. **In 2024 alone, over £1.2 million was invested from community-owned generation projects into local communities in NGED's region**, helping to tackle fuel poverty, create new jobs and skills, and regenerate community assets.

Generation projects are largely the focus of national policy attention for the community energy sector. The Local Power Plan is expected to commit up to £400 million a year in grants and low interest loans to community energy generation projects over the coming parliament. This represents a significant step change for the sector. To enable more projects to come forward, some key changes have been made. At the government level, the removal of the de facto onshore wind ban has removed a barrier to community-owned wind projects. Reforms to grid connections, such as raising the Transmission Impact Assessment threshold from 1 MW to 5 MW, should also make it easier for smaller projects connecting at the distribution level to secure a quicker and potentially cheaper connection offer.

Work is also under way to grow the capacity of groups in the sector on the ground. Local Net Zero Hubs are developing regional capacity-building programmes, while individual local authorities such as Devon County Council, London Councils and Greater Manchester Combined Authority have already implemented their own versions of this directly, supporting the sector through capacity building, site identification, funding and off-taking arrangements for local generators. GB Energy has also signalled its intention to provide support for community organisations at a national level.

> **"I feel like the ambition of the Local Power Plan has made more local authorities, including combined authorities, innovate on community energy."**
> Keith Hempshall, Centre for Sustainable Energy

This ambition is evident in the responses from community energy organisations to the state of the sector survey. The development pipeline across the sector in NGED's region is 5.1 MW of rooftop solar, 19.4 MW of ground-mount solar, 22.5 MW of onshore wind and 0.1 MW of hydro. Respondents expected 74% of the pipeline to be commissioned. They expect 41% of the pipeline to require capital finance in 2025 and 65% by 2026.

Current state of the sector

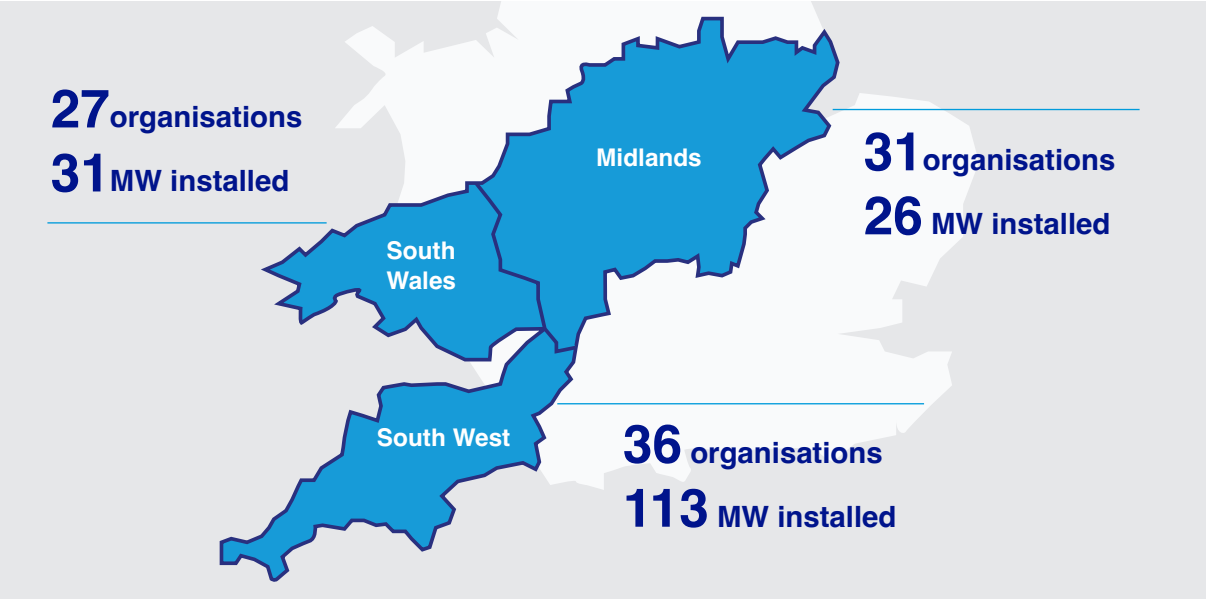
The government is targeting 8 GW of community and locally owned generation by 2030.

The Local Power Plan, delivered by GB Energy, will be the driving force of this growth, providing increased funding, finance and capacity support for new projects to progress. NGED serves 26% of the UK population. Proportionally, this would mean we are responsible for connecting 2.07 GW of the 8 GW target. This will include both community-owned assets and those owned by (for example) local authorities, or shared ownership arrangements.

At present, the community energy sector in NGED's region has a total generation capacity of 170 MW (Figure 1).

Growth has slowed in recent years, with an average annual capacity increase of just 2.5 MW from 2021 to 2024. This slowdown is due largely to a lack of policy support. In particular, since the closure of the Feed-in Tariff, there has been no revenue support for small-scale generation. In 2024, the sector saw development pick up slightly, with 2.2 MW of solar and 1.7 MW of wind in NGED's region (Figure 2).

Figure 1: **The majority of community-owned capacity is in the South West**



Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Figure 2: **Solar installations are the most common project type in NGED's region**

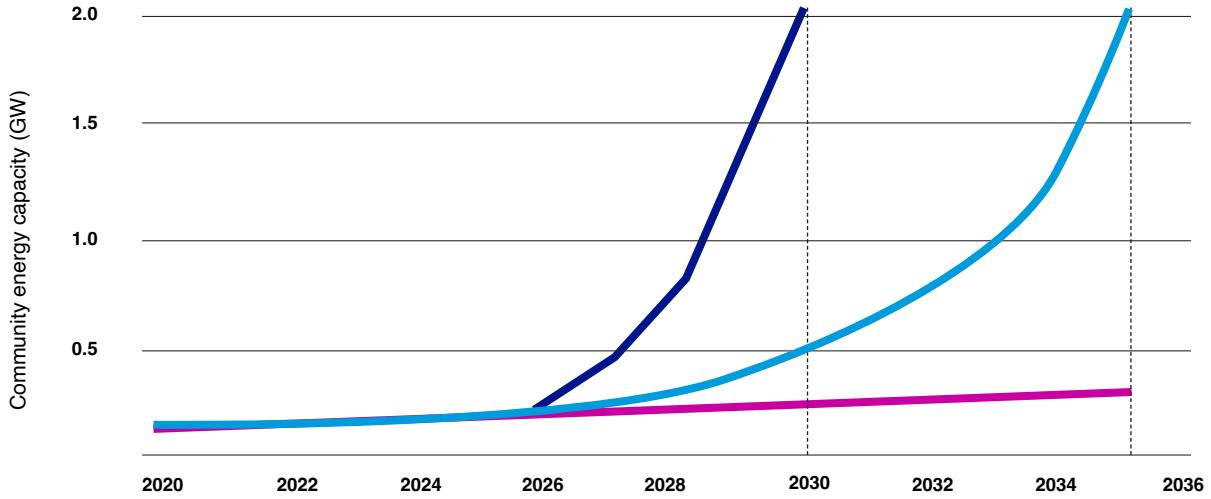
Size of community energy organisation	Wind*	Solar*	Hydro*
Small (0-3 FTE)	9	56	5
Medium (3-10 FTE)	2	7	1
Large (10-50 FTE)	2	5	2
Other	5	7	1
Total	**18**	**75**	**9**

***number of installations**

Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

The steady state pathway shown in the graphic below assumes growth at around 12 MW a year, which is consistent with historic growth according to previous state of the sector surveys in a challenging policy and commercial environment. ‘Meeting targets in 2035’ maps an indicative pathway to meet the 2.07 GW target within the licence areas by 2030, assuming policy, technical and commercial barriers are overcome in line with government ambition; ‘Meeting targets in 2035’ maps the same target being met by 2035. Under this scenario, the 2.07 GW target is reached predominantly in the ED3 business planning period.

Figure 3: **Possible growth pathways for community-owned generation in NGED licence areas**



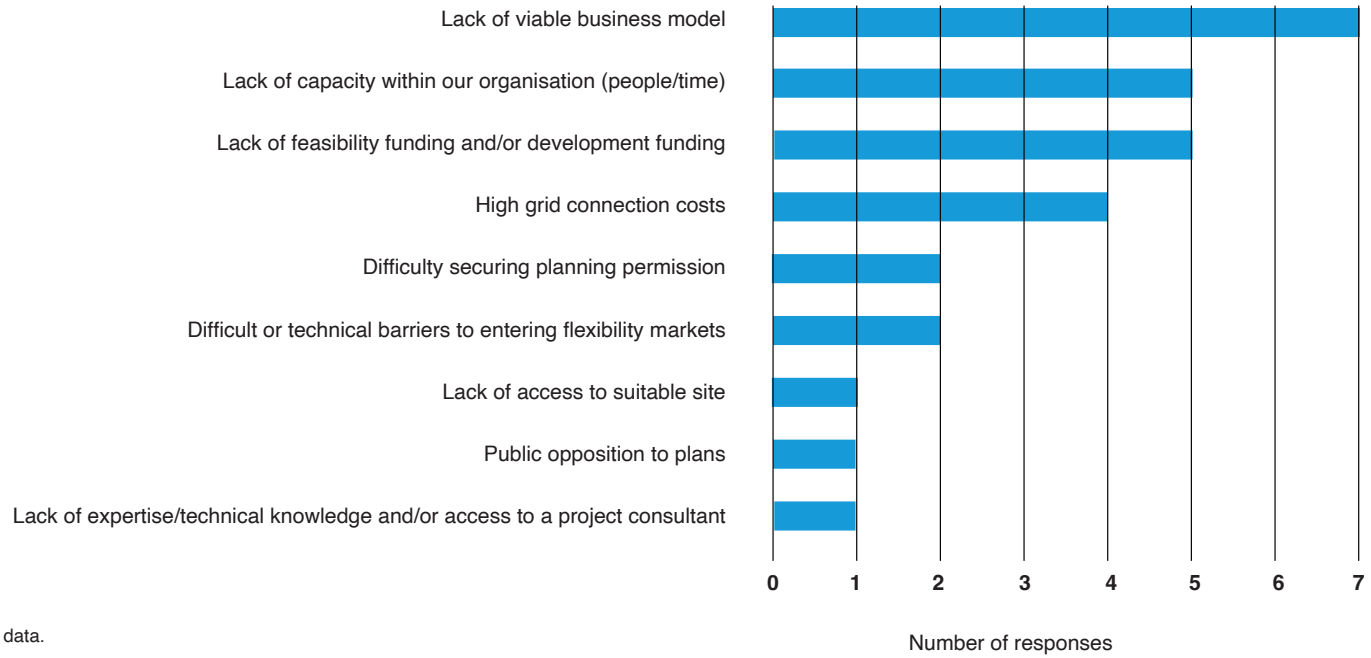
Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Barriers

There are currently at least 15 generation projects on hold across NGED's licence areas. If these projects went ahead they could potentially add 105 MW of generation capacity. The main barriers cited for these stalled projects can be seen in Figure 4.

Action is happening across these barriers, led by the UK government and the newly established Great British Energy, as well as via local authorities and Net Zero Hubs. An assessment of these barriers is outlined in Figure 5 on the following page.

Figure 4: **The lack of a viable business model is the main reason for stalled projects in NGED's region**



Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Assessment of barriers to community energy generation

Figure 5: **RAG assessment of barriers to community energy generation.**

Barrier	Action	RAG
Lack of viable business model	UK government exploring price mechanism, PPA support and local supply models (including the potential implementation of BSc Code Modifcation P441), although it is less clear how these models are expected to scale.	
Lack of organisational capacity	GB Energy, Net Zero Hubs and local authorities implementing capacity-building programmes.	
Lack of feasibility and/or development funding	GB Energy and Local Power Plan to offer new funding for this stage of projects.	
High grid connection costs	Transmission Impact Assessment threshold raised to 5 MW, national connections reform under way although limited attention to communities so far.	
Difficulty securing planning	Planning rules changed to enable renewable projects, ownership under review as material consideration.	
Lack of access to suitable sites	Local authorities providing more support with site identification, GB Energy expected to support local partnerships.	
Public opposition	Public awareness campaigns “expected to be launched in the near future”, ownership demonstrated to carry strong local support.	

Looking ahead

Short term

Given this new policy attention, increased funding and efforts to remove key barriers, all stakeholders expect some growth in community-owned generation. The scale of this is contingent on a core barrier – the business model – being addressed. The key point emphasised by all stakeholders was that, without a robust, scalable and replicable business model such as a long-term revenue support mechanism, the sector will not be able to develop projects faster than it has in the past few years. For example, Plymouth Energy Community reports that small to medium projects (<20 MW) still face unfavourable financial conditions.

> **"There is little point providing further capacity-building support, feasibility funding, template docs, etc, without a policy environment which creates a scalable and replicable business model for community energy."**
> Jake Burnyeat, Communities for Renewables

Under the current policy environment, we expect generation project development to continue at a broadly similar rate to the last five years and to be concentrated among established organisations. Stakeholders suggest that, in the short term, we will also see an increase in the number of paid staff within community energy organisations, more use of support organisations such as Solar for Schools, Communities for Renewables, Energy4All and Shareenergy to develop projects more quickly, and stronger partnerships with local authorities.

However, in the scenario where a long-term revenue support mechanism is implemented, we can expect a very significant uplift in project development activity from both new and established organisations. For reference, the introduction of the Feed-in Tariff (FiT) led to a rapid growth in community-owned generation, with an annual growth rate of 37% for the years from 2013 to 2017 when the FiT was available.

Medium term

In the medium term, stakeholders recognise the need for the community sector to move to a more cost-effective and replicable approach of scaling up proven community energy models.

If there is a supportive policy and funding environment, this is likely to include communities bringing existing generation into community ownership (e.g. the purchase by Gower Power of a 5 MW solar farm). The focus on scalable and replicable models is also expected to:

- Increase the number of co-located projects with different forms of generation and storage to optimise use of the grid connection and available land (see Awel Aman Tawe case study)
- Increase the number of onshore wind projects, especially in England. Since the de facto ban on onshore wind has been lifted, more communities are interested in pursuing onshore wind projects due to the favourable financial models compared to other technologies.

> **"Turbines present an opportunity for much more energy generation, therefore much more benefit. The financial models are better, but the potential community benefit is also better."**
> Katherine Rooney, South West Net Zero Hub

If barriers remain, particularly challenges with grid capacity and connection costs, stakeholders expect incremental growth, mainly through viable rooftop solar models (50 kW - ~1 MW) focused on onsite usage and a limited number of marginal small- to medium-scale projects that manage to secure investment.

In a more ambitious scenario where the government introduces a revenue support mechanism, further measures to support community energy to access the network (for example, allocating capacity specifically to local energy connections) and more flexible grid connection arrangements, more solar and wind generation projects would become viable. As with the commercial sector, the co-location of generation with storage would likely become more common and will require suitable grid connection agreements. This would mean a significant scaling of community generation through the RIIO-ED3 period.

Long term

Looking further ahead, stakeholders envision community energy organisations being able to own a significant proportion of the UK's energy mix, and to deliver local energy systems that combine local supply, retrofit and fuel poverty interventions within cohesive, community-led plans.

This includes not just new community-led projects, but also communities taking ownership of repowering projects, which has received increasing attention from the sector in recent years. While repowering is still a relatively new concept for the community energy sector, the opportunity is significant, with some stakeholders suggesting a 'community right to buy' for projects reaching the repowering phase.

This is ultimately contingent on all barriers being effectively addressed, including grid capacity and a stable price mechanism that guarantees revenues and the business case for larger community-owned projects.

Insight—Community right to buy

In other sectors, the government is considering a community right to buy as part of its English Devolution and Community Empowerment Bill. This would give communities the right of first refusal once important local buildings and spaces with significant community value come up for sale.

A similar right could be applied to low-carbon energy projects when sold or repowered. There would need to be caveats, including:

- Allowing the community first refusal to buy the project without competition at market value or below
- Giving enough time to allow the community to raise the necessary funds
- Access to National Wealth Fund or equivalent large lenders to allow community organisations to borrow the level of finance needed for larger projects.

If implemented, this could increase the opportunity for communities to own low-carbon generation in their local area.

Case study: Awel Amen Tawe, South Wales — exploring co-location of wind, solar and batteries

Awel Aman Tawe is an established community energy organisation, set up in 1998 to support communities in the Upper Swansea and Amman Valleys in South Wales.

Its 4.7 MW two-turbine wind farm was commissioned in January 2017, and it is looking to co-locate an additional 2.6 MWp solar array and a 900 kW battery. Currently, the wind farm has a 4.7 MW grid connection; however, it often does not export to this maximum due to the variable nature of wind. Adding the solar panels and battery will maximise the efficiency of the grid connection, allowing for exporting and generating income when the wind isn't blowing but the sun is shining, or importing cheap electricity from the grid at periods of excess grid capacity.

This project required a variation to the grid connection to be signed and includes an export limitation system that limits export to the original 4.7 MW. The grid-sharing agreement would give priority to the wind farm, with any additional capacity allocated to the solar farm when possible. The battery will be linked to the solar farm and store surplus energy from the solar farm that cannot be exported (estimated 6%/year) due to the 4.7 MW grid constraint. It will also charge from the grid at times of cheap electricity.

4.5 MW

Generating capacity of the two-turbine wind farm

Role of DNO

Short term

Clear guidance and specialised support

Community energy organisations need guidance through the rapidly changing connections environment. Stakeholders suggested this could include:

- Clear, consistent, plain-English guidance on any changes through guides and events
- Open, transparent communication between community energy sector leaders and senior members of connections teams.

Involvement in strategic planning

With the sector expected to grow significantly between 2028 and 2033, stakeholders stressed the importance of including community energy in discussions and decisions related to the ED3 business planning process and other strategic planning.

Medium term

Embedding community energy consistently within the DNO

Stakeholders noted that different teams within DNOs can have varying knowledge of community energy, leading to difficulties in accessing targeted support. DNOs should have a role in embedding community energy more consistently and deeply within their operations.

Advocating for community energy

This could include exploring community energy priority in the connections process, meaningful engagement to ensure community energy input is incorporated into network planning and providing support in liaising with local authorities and NESO to support the RESP.

Long term

Supporting smart local balancing

In the long term, a greater focus on smart local balancing of supply and demand combined with extensive community ownership models could see community energy becoming a core partner for DNOs in operating their networks in a smart and efficient manner.

> **"Internally, it's important to continue to upskill their teams within the DNO about community energy and how to engage with community energy."**
> Katherine Rooney,
> South West Net Zero Hub

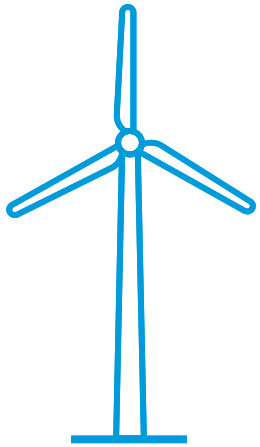
02 —
Shared Ownership

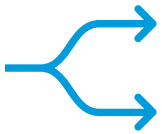
02— Shared ownership—Projects between developers and community organisations have a long history

Context
Shared ownership projects between developers and community organisations have a long history, starting with the Baywind project in 1996.

There are three main models: shared revenue, split ownership and joint venture (Figure 6). Each model involves a community organisation owning (and sometimes operating) a portion of the project for community benefit.

Figure 6: **Common models for shared ownership**



Split Ownership		Community owns a physical portion of the project – e.g. one wind turbine in a larger wind farm. They also assume the risks and rewards for their owned portion of the project.
Joint Venture		Community group and developer co-own a special purpose vehicle (SPV). Voting rights, risks and rewards are proportional to the community's ownership stake. Often the community holds a minority of shares (e.g. 10%).
Shared Revenue		Community purchases a share of the project's future revenue. There is no ownership of physical assets, voting rights or control over project. These projects tend to hold lower risk, but also lower potential returns compared to other models.

Source: Adapted from Local Energy Scotland's shared ownership model. [37]

Most of the early shared ownership schemes were wind farms, often in Scotland. In 2014/15 the government introduced an incentive into the Feed-in Tariff that led to a significant number of shared ownership 10 MW solar farms in England, including the NGED region. Since the end of the Feed-in Tariff, only a handful of shared ownership projects have been developed.

For the DNO, shared ownership can create unique challenges. For example, stakeholders who were developing split ownership sites noted one of their biggest challenges was complexities around the separate metering arrangements for grid connections between the community-owned and developer-owned assets. It may also require bespoke engagement processes to ensure both developers and communities are represented in the connections process.

> **"We are not going to make the 8 GW target unless shared ownership is a big part of the picture."**
> Paul Phare, Energy4All

Current state of the sector

There is currently a renewed conversation and appetite for shared ownership from both government and communities, with a consensus that the ambitious 8 GW target of locally and community-owned generation will not be possible without a significant proportion of that being shared ownership projects. Significantly, GB Energy has been given a remit to promote shared ownership as a core function.

In NGED's region, eight organisations are currently delivering a shared ownership project with a commercial energy developers, with a further 21 noting interest in pursuing shared ownership in future.

Barriers

Key barriers exist to scaling shared ownership at present. These include the lack of proven models, templates or clear guidance, which limits understanding of the shared ownership process among both developers and community groups. Additionally, there is a lack of incentives or requirements for developers to engage with communities on shared ownership options. This is compounded by challenging market conditions for renewables, such as high interest rates and elevated supply chain costs, which reduce developers' appetite for collaboration.

For those currently exploring split ownership sites, the fact that the two sections of the site cannot have separate grid connections was cited by some as the key barrier to progressing these projects. Other organisations have utilised grid-sharing agreements to address this.

> **"Grid connection for shared ownership projects remains a long-term mutual dependency, which is the thing that hindered our discussions with one developer."**
> Helen Martin, Bristol Energy Co-operative

Work is already under way to address some of these issues. GB Energy is producing legal templates and guidance to support project development. The government has also consulted on making shared ownership mandatory under the Community Electricity Right (2015), indicating stronger future policy direction. The Welsh government has been supportive of shared ownership, publishing guidance for stakeholders. While this has supported the development of three shared ownership projects in recent years, some stakeholders are calling for stronger policies given that, of the 30 projects entering the Planning Inspectorate Wales process since the guidance, 27 included no element of shared ownership.

Insight—Community Electricity Right (2015)

A voluntary approach for developers to encourage shared ownership was developed by the Shared Ownership Taskforce in 2014. The Infrastructure Bill (2014/2015) introduced a Community Electricity Right that was intended to be exercised if developers did not take up the voluntary approach of offering shared ownership options to communities.

The Community Electricity Right is a backstop power that, if exercised, would make it mandatory for developers to offer communities an ownership stake in all renewable projects.

Assessment of barriers to shared ownership

Figure 7: **Barriers to shared ownership projects**

Barrier	Action	RAG
Lack of proven models	Pioneering models such as Alwyn Forest, Forest Gate Solar Farm and others are proving different shared ownership models.	◆
Lack of guidance and templates	GB Energy has commissioned a consortium to create a suite of legal templates and guidance documents. In Wales, the devolved government has been supportive of shared ownership, publishing guidance for stakeholders.	◆
Limited understanding of shared ownership for both developers and communities	GB Energy guidance and increased public and policy attention via the Local Power Plan is expected to increase the profile of shared ownership opportunities.	◆
Lack of incentives or requirements for developers to offer shared ownership	Government consulting on Community Electricity Right 2015, which would make offering shared ownership mandatory.	◆
Challenging market conditions for renewables – high interest rates and supply chain costs	GB Energy expected to invest in supply chains and provide new finance and investment support, with government considering increases to the Contracts for Difference scheme for large developers.	◆
Grid connection issues for split sites	Some shared ownership projects are looking at setting up grid-sharing agreements and separate metering.	◆

Looking ahead

Short term

In the short term, stakeholders expect the completion of a small number of shared ownership projects, as well as an increase in wind and solar developers offering shared ownership options, supported by new government guidance. For example, the Forest Gate Solar Farm in Wiltshire developed by Eden Renewables offers the opportunity for Zero North Wiltshire and Bath and West Community Energy to own up to 20% of the project. The project is due for construction in 2026.

In a more ambitious scenario, provision of support from GB Energy for shared ownership projects could help community energy groups engage with developers on equal terms.

A package of incentives, such as a mandatory requirement to offer ownership to the local community and material consideration in planning, would drive developer participation and lead to a surge in shared ownership projects being developed. As communities and developers became more comfortable with the model, the scale of these projects would increase.

In a more conservative scenario, without incentives and/or a mandatory requirement, shared ownership will remain niche, with only a handful of projects advancing on a voluntary basis.

Medium term

Stakeholders told us that, in the medium term, we could see broader uptake of shared ownership for wind and solar across all types of communities, including those who have not typically been involved in community energy. However, this could be limited by the fact that the ~60% of solar projects, ~40% of onshore wind projects and ~220% of battery projects in NGED's region in the grid connections queue already have planning permission and are unlikely to offer shared ownership retrospectively. As such, we would expect shared ownership to be a more prominent feature of post-2030 projects (i.e. those entering development today).

In a more ambitious scenario, GB Energy could buy the community-owned element of a project and steward this portion while a community raised finance and created a legal entity if necessary. With this support, we could see hundreds of diversified shared ownership projects being delivered across technology types and geographies.
In a more conservative scenario, if risk and capacity barriers persist, shared ownership will remain confined to areas with experienced community energy organisations and willing developers, limiting reach and impact.

Long term

Over time, as shared ownership proves successful across a variety of technologies and project scales, it has the potential to become a standard model for both new developments and repowering efforts of all sizes. Stakeholders note that the public will likely have come to expect community ownership to be offered to them (at least 20% share), and there will plenty of examples and support organisations to guide any new communities through the process.

> **"We have big ambitions that, in the future, all projects will either be fully community-owned or at the very least have 35% shared ownership."**
> Ben Ferguson, Community Energy Wales

In a more ambitious scenario, where these barriers are addressed, particularly with the establishment of a large-scale low-interest loans from a lender such as the National Wealth Fund or GB Energy to provide consistent and affordable financing, we could see dozens or hundreds of new projects coming online, driven by widespread community participation and improved access to capital.

In a more conservative scenario, where barriers remain and finance remains inconsistent or inaccessible for many communities, growth in shared ownership will be slower and more fragmented, limited to better-resourced or more experienced community energy groups.

Case study: Alwen Forest Wind Farm, Wales — a large-scale shared ownership project

The Alwen Forest Wind Farm is a large-scale renewable energy project led by RWE Renewables in partnership with Community Energy Wales (CEW). Located across Conwy and Denbighshire counties, the proposal comprises up to nine wind turbines and battery storage.

CEW and RWE have committed that up to 15% of the capital cost of the project will be owned by the local community. This is being delivered through a Community Benefit Society, Ynni Hiraethog, in which local people will be able to buy shares. Ynni Hiraethog will operate on a 'one shareholder, one vote' basis, ensuring democratic control, and surplus returns will be reinvested into community benefit locally.

Work on the shared ownership agreement began in 2017, with formal planning gaining approval in October 2025. RWE and CEW have undertaken extensive public and technical consultation, covering environmental, ecological, hydrological, visual and noise impacts. Construction is expected to follow pending final investment decisions.
If realised, the shared ownership model at Alwen Forest is expected to deliver a range of benefits:

- Financial returns for local investors who purchase shares in Ynni Hiraethog
- A stronger sense of local agency and ownership over the renewable energy transition
- Community benefit funds and reinvestment into local services and infrastructure
- Economic stimulus via jobs during construction and operation, with significant portion of supply chain spend anticipated to stay within Conwy and Denbighshire.
- Contribution to Wales's policies on local ownership of energy assets and its decarbonisation goals

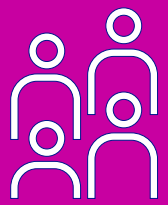
Key challenges include ensuring there is sufficient uptake of share investment locally, the regulatory and financial risk inherent in large infrastructure projects and ensuring meaningful community engagement throughout. Next steps involve finalising the route to market, securing investment decisions and ensuring the community ownership structure is robust and sustainable over the long term.

Note: picture shows coal clough wind farm Burnley, Lancashire.

15%

of capital cost commissioned will be owned by the local community

Role of DNO



Short term

Provide clarity around connection rules and processes

In the short term, stakeholders are calling on DNOs to actively support pioneering shared ownership projects by providing clarity around connection rules and processes for both developers and communities. Where ownership is split, there is a clear desire for the option of separate metering to reflect distinct interests. To enable progress, stakeholders are seeking clear, accessible guidance alongside tailored one-to-one support and surgeries focused on shared ownership models and grid connection pathways.

Medium term

Bridge the divide between developers and communities

In the medium term, some stakeholders see a key role for the DNO to support bridging the divide between the commercial renewable sector and the community sector. DNOs have unique insight on the development queue and also established relationships with the community energy sector. One option would be a match-making service that connects developers who are in the grid connection queue with interested community energy organisations in the locality.

Long term

Integrate shared ownership into DNO processes

In the long term, in a scenario where community ownership of generation becomes commonplace, DNOs could integrate this model into their processes. Grid connection applications processes could include questions as to whether shared ownership is planned to ensure it is considered from the start and DNOs could ensure they have specific connection agreements designed for these models.

03 —
Flexibility and local energy markets

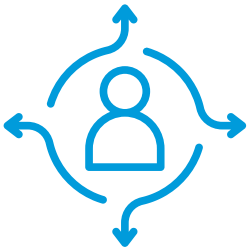
03— Flexibility and local energy markets— Trusted community organisations have the potential to increase reach and participation in flexibility

Context

Community energy organisations are well-placed in engaging local people, and their non-profit, local nature means they are trusted in local communities. This has potentially significant value to the Distribution System Operator role of DNOs, increasing outreach and engagement for household-level demand shifting, while providing generation and storage assets that can be aggregated or called on during curtailment and flexibility events.

A key objective of community energy stakeholders is to be able to sell power they generate to local consumers (households, businesses, industry) which has the potential to better match supply with demand and maximise local consumption, in turn reducing strain on the local network. There are a range of models for how such a market could work (Figure 8), although there are limited incentives at present to enable this.

Figure 8: **Models of local energy markets**



Peer-to-peer trading	Direct energy exchange between consumers (e.g. community-owned generations) and consumers via digital platforms, often using blockchain for settlement.
Energy local	A model where those part of the energy club receive cheaper electricity for when generation assets within the club (in the same substation area) are generating.
Virtual Power Plant	Aggregation of distributed energy resources such as solar, batteries and EVs, coordinated to act as a single flexible power plant in energy markets.
Heat and Power Networks (Integrated Local Energy Systems)	Combined management of local heat and electricity systems to optimise efficiency, carbon reduction and local balancing of energy demand and supply.

Source: Adapted from Local Energy Scotland's shared ownership module. [37]

For the DNO, local energy markets could provide potential benefits through reduced network costs by limiting losses and reduce the need for distribution network upgrades. Communities are keen to understand the potential for these models. There have been several innovation projects focused on these opportunities, such as through Innovate UK's Prospering from the Energy Revolution programme. The Local Power Plan is also expected to consider the case for regulatory changes to enable local energy markets as a core business model.

Current state of the sector

Currently, a handful of innovation projects have been developed exploring how community energy can provide flexibility. Barriers have included the technical complexity of managing large amounts of data and the difficulty in accessing the multiple markets required to 'stack' revenues, which can be complex.

Local energy supply projects, where a group of customers can purchase power from local generation over the distribution network, are still rare. Stakeholders advise this is due to the lack of a clear regulatory model that would enable viable business models at scale and a lack of appetite among licenced suppliers to support these arrangements with necessary balancing, metering and consumer protection functions.

Those projects that do include local supply have tended to operate on a smaller scale under regulatory sandbox or innovation conditions.

> **"It feels instinctively like another way to reach people and bring more people into community energy, who may not be able to invest."**
> Helen Martin, Bristol Energy Co-operative

However, the government and regulators are showing more interest in local flexibility and local supply models. Ofgem, for example, is considering code modification P441 that would enable suppliers to treat a community as one complex site, enabling supply and demand to be netted off. These types of models could open more self-sustaining business model opportunities and meet the appetite among the wider public to consume energy generated by community-owned projects and participate in locally driven markets.

Insight— Code modification P441

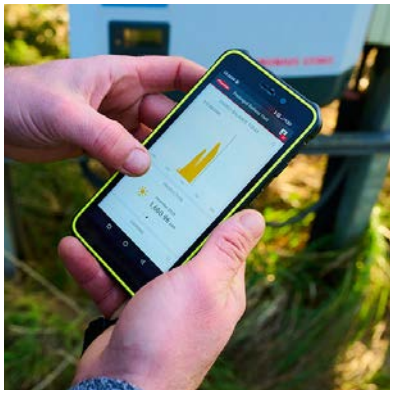
Balancing and Settlements code modification P441 seeks to enable local supply of energy using the distribution network. If enacted, this could, in theory, reduce the non-commodity costs for community generators further. More information can be found here.

Assessment of barriers to local energy markets

Figure 9: **Barriers to local energy market models.**

Barrier	Action	RAG
Lack of market incentives for local supply	UK government and Ofgem exploring incentives to enable local supply between community generators and households.	◆
Complex regulations	Legislation on licence exemptions and local supply rules under review, although limited attention to multi-vector projects.	◆
Lack of demonstration of local market models	Energy Local, Urban Chain, PfER and similar projects provide learnings, although still on a small scale in practise.	◆
Inaccessibility of flexibility markets	Elexon in market facilitator role currently exploring offering access for local and community generators.	◆
Lack of understanding of network benefits	Project GECCO underway, need for more direct quantification.	◆

Looking ahead



Local markets and flexibility can provide distinct value to the DNO/DSO, creating new assets and improving engagement for flexibility, with the potential to help minimise network losses and constraints. NGED has invested in understanding this potential, most recently through Project GECCO (see below). As such, flexibility and local markets will be key for NGED to understand, prepare for and enable.

Short term

The UK government's Clean Power Flexibility Roadmap is reviewing the legislation and regulation around local energy markets, particularly local supply, with a view to tackling some of the core barriers, including the lack of a clear regulatory model or incentive for licensed suppliers to offer local tariffs. Some stakeholders suggest this review is a good opportunity to trial local energy markets with the view to having a more intentional design in the future. These changes will take time, so in the short term, we do expect more local energy market projects to come forward, learning from the Energy Local model, in particular. However, the number of projects is likely to remain relatively small - e.g. 5-10 projects.

Insight—Project GECCO

The Geoprint for Energy Club Connections and Operations (GECCO) aims to create a new type of connection specifically for community energy groups who operate or want to operate as a local energy club. This will directly target support to community energy and, by extension, vulnerable customers - an important aspect of NGED's Innovation Strategy

Medium term

In the medium term, if there is no national price support scheme, local energy markets may become a dominant business model for community energy. This would, however, require regulatory reform and incentives for suppliers to participate in matching supply and demand locally.

A key barrier will be proving local energy market business models in urban areas, where generation options are generally limited to rooftop solar and the 'spill' from these schemes is often not enough to provide value to local consumers. As such, we expect community energy generators to pursue local energy market arrangements on a larger scale in collaboration with local authorities and businesses, especially for larger generation projects, and to explore aggregating smaller projects, with a priority for peer-to-peer trading, Virtual Power Plants and local supply. We also expect to see a demonstration of the first local power 'pools' where generation is combined to meet local demand, for e.g. from public sector buildings.

Stakeholders also suggest that a handful of more diverse projects may emerge here, connecting generation directly to community heat schemes and electric vehicle charging, rather than solely selling, trading or balancing power locally. This may build on current innovation projects or rely on further innovation to demonstrate – particularly network benefits and technical arrangements.

Long term

Longer term, stakeholders anticipate local energy markets becoming a core proposition for community energy organisations, demonstrated extensively and with more robust, bankable business models to pursue. Local authorities and community energy organisations are likely to pursue local energy markets in collaboration, leveraging for example, local authority sites, heat and retrofit funding and building stock to match generators to demand at town or city-level.

However, it will be vital for local energy markets to demonstrate value in terms of network cost reductions. If these schemes are implemented at a scale and lead to other consumers paying noticeably more on their bills, regulators may react by restricting such schemes.

Case study: Energy Local Totnes — matching generation with demand at the substation level

Energy Local Totnes is a community-led energy initiative in Devon that enables residents use electricity generated locally. Power from a 330 kW hydro plant and several smaller 35 kW solar arrays allows households to benefit from lower prices whenever local renewable generation is available.

It was initially developed by the Totnes Renewable Energy Society (TRESOC) in partnership with Energy Local CIC and green energy supplier 100Green. The aim is to reduce bills, cut carbon emissions and strengthen local energy resilience by connecting generation and consumption within the same substation area.

Households and small businesses join an 'energy club' that matches smart-meter data with output from local generators. When local power is available, members pay a Match Tariff (around 15 p/kWh), while at other times, electricity is supplied from the grid at a higher time-of-use rate.

The model rewards residents who shift usage to periods of local generation and pays generators a better rate for their electricity. After their first year, the smart meter data showed that members had saved an average of 25.6% off their bills and customers paid an average price of 18.6 p/kWh.

The inherent challenge with energy local schemes is having a wide enough range of renewable generation types to provide members with enough opportunities to access cheaper electricity. Energy Local Totnes manages this through a mixture of hydro and solar, with the planned addition of 100 kW more solar and a battery to complement the generation types in the club.

25.6%

average bill saving of members after their first year

Role of DNO

Short term

Demonstrating the value of local energy markets

Potential benefits to local energy networks include reducing the need for costly network reinforcement through peak load management and enhancing system flexibility for more efficient network operation. The DNO can support in quantifying these benefits through analysis and innovation projects.

Lead innovation projects exploring different models

DNOs could lead innovation projects that explore the network performance and economic value or different local energy market models. These insights would be instrumental in building a robust business case for future local energy markets.

Medium term

Integrate local energy markets into DSO operations to help drive a smarter network

This will require establishing clear processes for projects aiming to connect under local market arrangements, including combinations of generation and demand, and recognising network areas where local markets may alleviate congestion or address network need.

As part of their Smarter Networks focus, DNOs could use flexibility such as, demand turn-up, to enable more community energy connections and reduce the level of curtailment they see. They could also develop the potential of community-led flexibility.

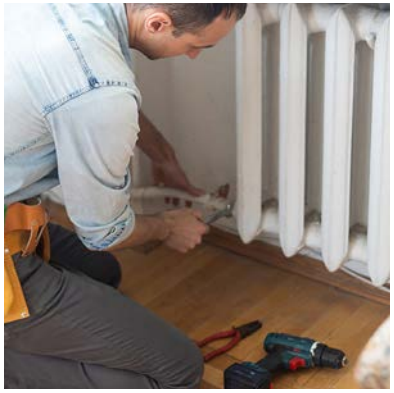
Long term

Larger DSO role in local level system balancing

The longer-term role of the DNO in local energy markets will depend on whether we see more significant reform of power markets towards more value being delivered locally. Some stakeholders argue that with higher levels of decentralised generation, storage and flexible demand, we will shift towards balancing the network at a much more local level. In some models, this could see the DSO having a much larger role in system balancing, beyond addressing constraints.

04 —
Heat and retrofit

04— Heat and retrofit— A central ambition for community energy organisations



Context

Community retrofit and heat initiatives, focused on improving energy efficiency and low-carbon heat, have increasingly become a central ambition for community energy organisations. Much of this activity is focused on supporting fuel-poor households. The most accessible way for community energy groups to move into energy efficiency is to offer advice, surveys or support to households. For example, infrared surveys, energy champions, signposting grant support and providing low-energy lightbulbs.

There have been many government schemes offering grant funding for retrofit. These have principally focused on supporting fuel-poor households to achieve higher energy efficiency standards, and have had a range of delivery models, through energy companies (the Energy Company Obligation), local authorities (the Home Upgrade Grant, Local Authority Delivery scheme and now the Warm Homes: Local Grant) and social housing providers (Social Housing Decarbonisation Fund and now Warm Homes: Social Housing Fund). For community energy groups, supporting the delivery of local authority-led schemes has been the most typical model.

With DNOs expected to have some regulatory responsibility to support the rollout of energy efficiency and low-carbon technologies through ED3, along with their duties to consumers in vulnerable circumstances, community energy could prove a valuable partner for engagement and delivery.

Current state of the sector

Many community energy organisations have pivoted to energy efficiency and retrofit work, recognising the importance of buildings in decarbonisation and fuel poverty (Figure 10). In 2024 alone, these activities resulted in an estimated saving of £738,908 for individuals and businesses across NGED's licence areas. The majority of these savings are likely to be felt by the most vulnerable, who are targeted via grant-funded schemes.

Community energy organisations have been involved in some renewable heat projects, including low-carbon heat networks/district heating and street/neighbourhood level heating. A leading project is the Innovate UK-funded Net Zero Terrace Streets project, which aims to produce a replicable and scalable model for decarbonising mixed-tenure terraced housing. However, so far, these have been innovative pilot projects with a substantial segment of grant funding that are challenging to replicate and scale.

Barriers

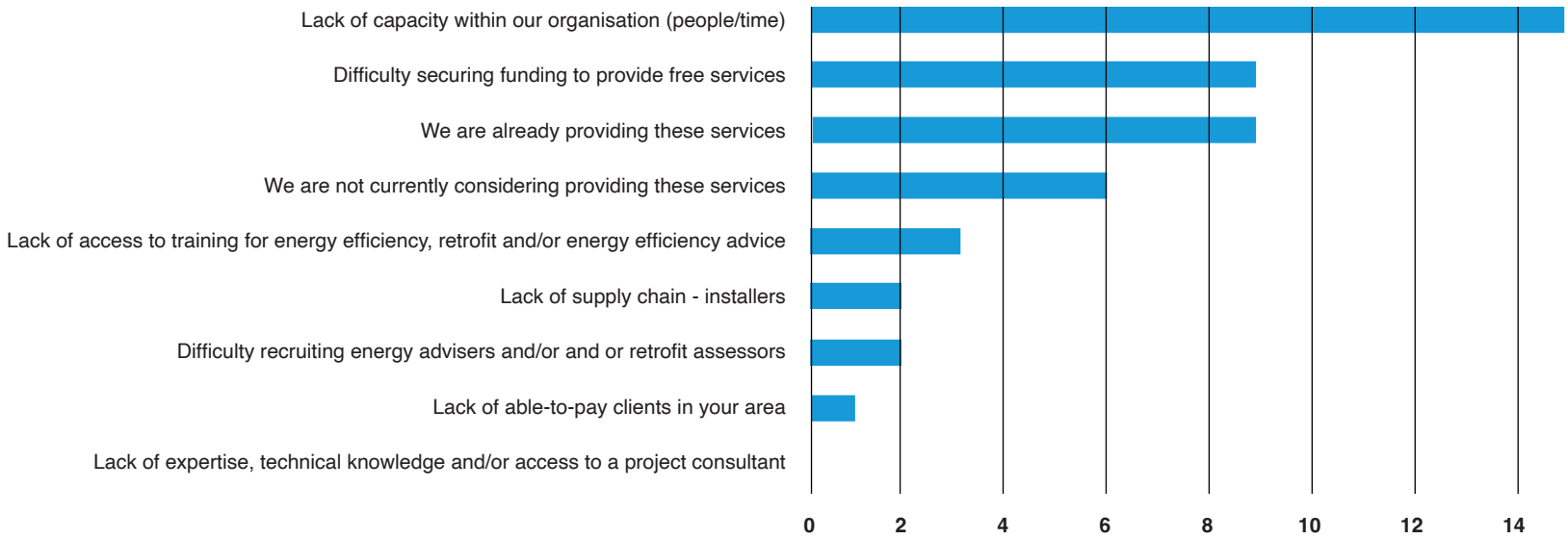
This shift faces several barriers, including lack of capacity and difficulty securing funding. Short-term and competitive funding cycles make it hard for organisations to plan and retain staff to deliver these services. There is also a patchy landscape of local authority support – some councils are engaged, while others have either had negative past experiences or don't know how to navigate the complexities of accessing and working in partnership with community organisations. Additionally, many community energy organisations struggle to engage heat and reftrofit supply chains, which are already busy and often unwilling to provide multiple quotes for small or uncertain projects.

"The tougher challenges are going to be around people's homes and energy efficiency and heat, and they all have big potential works for Community Action."
Keith Hempshell, Centre for Sustainable Energy

Insight— Energy Saving Devon

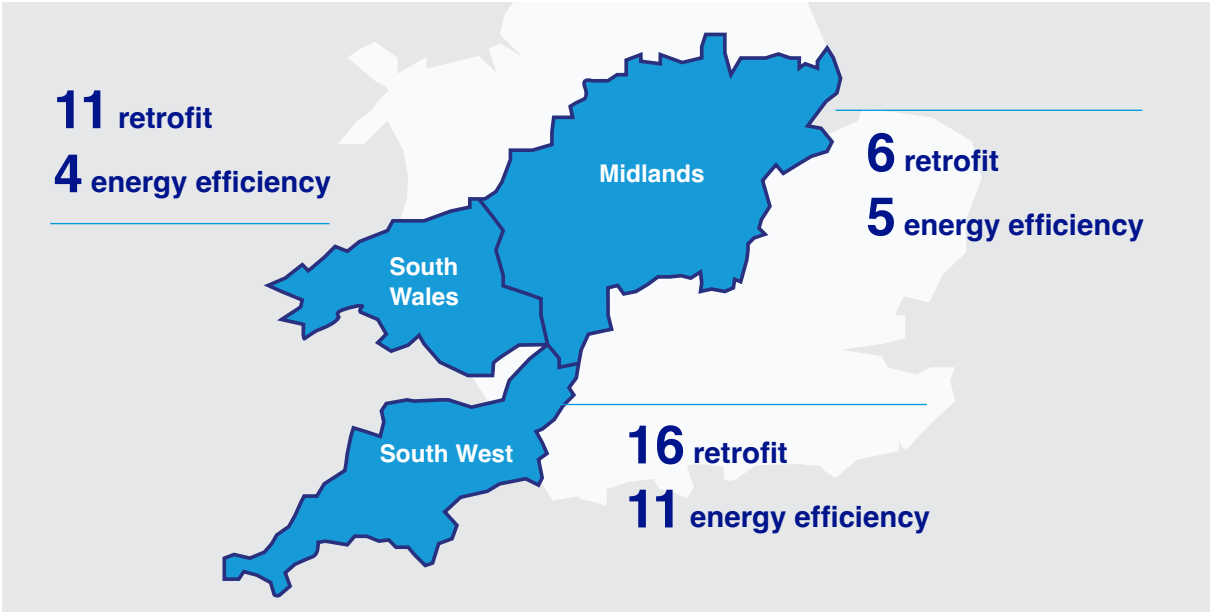
Energy Saving Devon is Devon County Council's long-running retrofit/advice partnership that acts as the 'one-stop' retrofit gateway for residents and local partners. It works with local community energy groups (e.g. Exeter Community Energy Advice, 361 Energy, Tamar Community Energy and others) to deliver retrofit advice, low-cost measures, funded home visits and PAS-2035-aligned retrofit support targeting both fuel-poor households and 'able to pay' owners while building a pipeline for larger retrofit projects across the county.

Figure 10: **Lack of capacity and securing funding are the biggest barriers to organisations starting energy efficiency projects**



Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Figure11: **Organisations involved in retrofit or energy efficiency advice services**



Across the region, Figure 11 details the number of organisations involved in retrofit and energy efficiency advice services. Between these organisations, the state of the sector survey showed there are 21 retrofit advisers, nine retrofit assessors, five retrofit coordinators and two retrofit designers.

Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Assessment of barriers to community advice, heat and retrofit

Figure 12: **Barriers to community advice, heat and retrofit.**

Barrier	Action	RAG
Lack of clear policy on the role of community energy in heat and retrofit	The UK government and local authorities are exploring the role of communities in Warm Homes Plan.	◆
Difficulty securing funding for free services	Advice, efficiency and retrofit are not typically profit-generating and so depend on competitive grants to deliver – may see movement in Warm Homes Plan.	◆
Lack of capacity within community energy organisations and local authorities	Increasing support and collaboration with local authorities, although no UK-wide staff support outside of competitive grant funding.	◆
Lack of energy advice, efficiency and assessor training	National training schemes such as City & Guilds exist, although can have long lead times and are costly.	◆
Lack of supply chain – installers	The UK government is exploring ways to boost the heat and retrofit workforce, coverage is not consistent across different areas.	◆

Looking ahead

Short term

Stakeholders outlined that, in the short term, more community energy organisations will pivot towards energy efficiency advice and home retrofit work. They noted that the energy crisis is still severely impacting the most vulnerable and existing organisations are receiving a higher volume of enquiries than in previous years. Government schemes, such as Warm Homes funding, are enabling funding for energy efficiency advice and retrofit work for low-income households, and some local authorities are beginning to test new delivery models. However, stakeholders noted that until the Warm Homes Plan is published, it is difficult to assess the immediate future of this sector.

In a more ambitious scenario, local authorities would formally partner with community energy organisations for retrofit and energy efficiency delivery, with dedicated long term funding pots for advice and implementation. With this foundation, we could expect a wave of small-scale community energy efficiency and retrofit projects to emerge across the UK.

In a more conservative scenario, if funding remains fragmented and local authority engagement uneven, progress will be limited to the most proactive areas and only modest growth in activity is likely.

> **“ I think you become trusted within the community. If you’ve set yourself up within that community and people know that you’ve delivered successful retrofit projects in the past; they will be more trusting with future projects.”**
> Andrew Pinches, Rossendale Valley Energy

Medium term

In the medium term, some stakeholders suggest there will be a reduction in the need for energy advice services, with a large proportion of households reached by local authority or government schemes ahead of this point. There may also be a shift to more collaborative working between community energy organisations in a geographical area (e.g. Energy Saving Devon). However, there is scepticism with the level of involvement community energy could have in all geographical areas regarding the delivery of retrofit measures (versus advice and engagement alone), with some stakeholders pointing out the lack of existing community energy groups ready to scale up in areas across NGED’s licence areas.

> **“ Within the West Midlands, we have a very fragmented community energy sector. Moving beyond the energy advice to more of a delivery role requires a jump in the level of expertise, risk management and funding. I struggle to see how community energy within the West Midlands is going to have a significant role there.”**
> Laurie Duncan, Community Energy Birmingham

> **“ A lot of energy advice, you know, it’s great and is useful, but everyone’s heard it all before and everyone’s doing it all now. Bespoke in-home advice is needed to really support people to reduce their energy use and get access to the right support.”**
> Andrew Pinches, Rossendale Valley Energy

Barriers remain substantial. Short-term funding cycles still dominate and heat decarbonisation is highly technical, creating challenges for community energy groups to engage meaningfully. There is also regulatory uncertainty around heat zoning, with concerns that DESNZ’s approach – focused on large, capital-intensive heat network zoning – is not well-suited to community energy models. The retrofit challenge also involves significant complexity and high expertise, making it hard to scale from one-off innovations to mainstream approaches. Broader societal and economic shifts are also needed to drive demand for retrofit, which remains low among consumers.

Despite this, current work is laying important foundations. UK pilots on heat zoning and Local Area Energy Planning (LAEP) are testing new ways of integrating community energy into local plans (see Bristol LEAP). Leading community energy organisations, including Carbon Co-op and Rossendale Valley Community Energy, are trialling innovative approaches such as Heat the Streets and Net Zero Terrace Streets. Despite technical hurdles, these models show strong potential - provided the right incentives and conditions for scaling up can be established.

In a more ambitious scenario, a clearer national heat strategy, combined with coordinated long-term funding and formal recognition of community energy as a delivery partner (e.g. via GB Energy or LAEPs) would allow community energy groups to scale retrofit and heat projects. Dozens of new community-led projects could be delivered in both urban and rural settings.

In a more conservative scenario, if funding remains sporadic and technical support limited, community involvement will be limited to a few exemplar projects, with minimal broader market impact.

Long term

> **“ Heat networks (with public sector partners) may be the main opportunity, supported by capital programmes.”**
> Charlotte Gibson, Gower Power

Stakeholders told us that, in the long term, community energy could become a routine delivery partner for many local authorities in retrofit and heat network projects. A small number of jointly owned heat networks may also be in development. There was also an ambition from some community energy organisations to focus on linking retrofit and heat together, rather than delivering these measures separately.

In a more ambitious scenario, strategies like the Warm Homes Plan would formally recognise community energy as a core delivery partner and heat networks would be de-risked for communities through local or national government. Under these conditions, a growing number of community-owned heat networks could operate across the UK, with community energy organisations playing a central role in many retrofit and heat network projects at the local level.

In a more conservative scenario, where current barriers remain and no large-scale shifts occur in regulation or finance, the role of community energy in heat networks and retrofit will remain limited and highly dependent on specific, localised champions or pilot programmes.

Case study: Brassington Community Heating — low-carbon heat solutions in rural areas

Brassington Community Heating is a community interest company with an aim to develop low-carbon ways of providing energy to the rural Brassington village. The village is currently off the gas grid, and tied to expensive, high-carbon fossil fuels for its heating demands.

The organisation has received grant funding from the Community Energy Fund (CEF) to develop a feasibility study on a heat network, heated by a large air-source heat pump at the centre of the village. Their proposal involves the heat pump being powered by a local wind and solar farm.

The CEF stage 2 feasibility report, led by Equans, shows that the project is technically viable but financially challenging under current market and funding conditions. Challenges include the high capital cost of the project (~£18.5 million), of which Equans estimate that £2.4 million will need to be granted in order to provide ~5% rate of return over 18 years. The economic viability of this scenario is significantly influenced by the price consumers will pay for the heat and is, therefore, based on numerous assumptions on future energy prices, grant availability and how many people would connect to a potential heat network. An additional issue around the complexity of retrofitting heat networks into historical rural properties was also raised as a potential logistical and financial challenge.

The next steps for the project include setting up Brassington Community Heating Trust, for which they are currently recruiting volunteers.

£18.5m

investment required to cover the total capital cost of the project.

Role of DNO

> **"The Priority Services Register is currently underused, with many vulnerable people unaware of it. Communities can help promote PSR and identify those in need."**
> Charlotte Gibson, Gower Power

Short term

Continue to support community energy organisations working on fuel poverty issues

In the short term, DNOs can continue to work with community organisations to provide consistent energy efficiency advice, especially to vulnerable customers. These projects can support the DNO to ensure their Priority Services Register (PSR) is up to date and includes as many people as possible.

Training retrofit and energy advice staff

This could include DNOs taking a role in training retrofit and advice staff, recognising the challenges of organisational capacity and availability of training.

Medium term

Support with longer-term funding for retrofit and advice projects

Building on the success of existing programmes, community energy organisations ask for longer-term (at least three-year) funding to be able to develop and maintain effective energy efficiency programmes.

Support co-ordination of place-based schemes

DNOs could use their local presence and knowledge to help with the coordination of place-based energy efficiency schemes, ensuring different measures and schemes are complementary, and helping to maximise the potential role of community energy groups in this space.

Long term

Test and demonstrate innovative community heat solutions

DNOs can test and demonstrate innovative local/community heat solutions where these may have benefits to the network, similarly to innovation projects.

Be a key partner in place-based approaches

DNOs could be a key partner in a place-based approach to transitioning away from gas heating, with a key role in supporting vulnerable customers. Some stakeholders suggest DNOs could also play a role in financing some elements of the transition, through the Regulated Asset Base model.

05 —
Low-carbon transport

05— Low-carbon transport—Community-owned transport is growing but requires more support

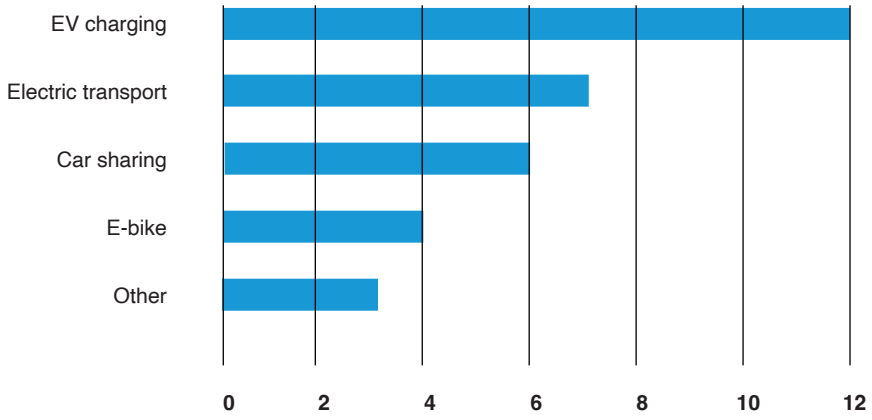
Context

Community-owned transport solutions such as community-owned vehicles (electric cars, e-bikes or minibuses), sharing clubs, or owning and operating EV charging stations are innovative business models that are yet to become common across the community energy sector. Community EV car clubs usually include a community organisation owning or leasing a small number of cars which are parked at designated spots across a locality. Members of the car club typically book to hire by the car via web or app. Installing EV chargers can provide a revenue for a community energy organisation from those who use the chargers to charge their personal EVs.

Current state of the sector

A limited number of community energy organisations have explored developing car clubs and installing EV charge points (Figure 13). However, creating a sustainable, non-grant-funded business model for low carbon transport projects has proven challenging, with three communities reporting stalled projects in the region. Issues cited include difficulties securing electric car club insurance and network capacity issues for EV chargers (especially acute in Wales). One community energy organisation told us that collaboration with their local authority enabled them to access funding for a low-carbon transport project, but the bureaucracy and lack of resources at the council have meant the project has been delayed by several years.
In general, business models for car clubs are challenging, with high initial capital costs and high usage of any cars needed to match the maintenance outgoings.

Figure 13: **EV charging is the most common type of low-carbon transport community energy project**



Source: Community Energy England, Scotland and Wales 2024 state of the sector data.

Looking ahead

Short term

In the short term, stakeholders told us they will only be able to develop innovative, grant-funded community-owned car clubs due to current financial and insurance challenges. There will also be limited EV charging projects pursued, mainly where local authority or other funding has been made available.

Medium term

In the medium term, as EV uptake increases across all communities, more community energy organisations will look to install chargers, often alongside forms of community-owned generation such as rooftop solar and battery storage. Some community-owned car clubs will be set up; however, these will be limited to high-population centres.

Long term

In the long term, if consistent support (via local, national government or GB Energy) is given, more car clubs could be set up in towns, villages and cities. EV's will be commonplace, giving a robust, grant-free business model for developing EV charging stations development.

Case study: TrydaNi support and a network for EV car clubs

TrydaNi provides overarching support and a network for community organisations to run and manage EV car clubs.

The organisation now focuses on semi-rural and urban communities in Wales to tackle the transport issues in areas limited by public transport options and challenged by high upfront costs of buying electric vehicles. Its aim is to provide affordable, low-carbon transport options to support equality and decarbonisation in these communities.

TrydaNi provides a solution to the complexities of individual groups creating their own individual car clubs by providing the technical expertise, while also being a non-profit, community-owned enterprise. Its model involves working with local community organisations to set up car clubs in their area. It uses the same digital platform across its network, which enables all members of a the car club to book any electric vehicle from any of their car clubs, for any period of time at £2/hr plus 16p for the first 100 miles, with a customer service team on hand to answer any questions. Volunteer 'member co-ordinators' earn credits to use the cars in exchange for tasks required to keep the car club running.

Car clubs, especially in rural areas are difficult business models to develop and maintain – therefore TrydaNi's trial car sharing project has relied on Welsh government and National Lottery funding. The Welsh government provided £1 million in funding and its community finance partner and the National Lottery funded a two-year project in partnership with Community Energy Wales to support the growth of new and existing car clubs.

£1M

funding provided by the Welsh government

Role of DNO

Short term

Support navigating EV charging connections

In the short term, DNOs could support on navigating and understanding the connections process for EV chargers, including working with community energy organisations to find optimal points on the network to connect.

Medium term

Understand the network benefits of EV chargers

In the medium term, as part of exploring local energy market and flexibility solutions, stakeholders suggested the role of DNOs could include understanding the network benefits of EV chargers as part of a wider local energy system.

Long term

Support site-finding for EV chargers

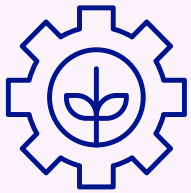
In the long term, stakeholders would like DNOs to actively support organisations to find suitable sites for EV chargers that also provide network benefits.

Stakeholders see the DNO as a key partner in realising the potential of community energy

Overview of the DNO

The findings from this research and engagement point to a community energy sector preparing to scale at pace, with renewed policy support and ambition.

Across these findings, clear roles have emerged for the DNO to prepare for and enable this growth in the short, medium and long term. This has implications for core DNO/DSO functions, outlined in Figure 14.



Generation

Shared ownership

Flexibility and local energy markets

Heat and retrofit

Low carbon transport

Figure 14: **Highlights on key asks against some of the relevant DNO/ DSO roles outlined in Ofgem's ED3 guidance.**

	Connections	Consumer vulnerability and energy efficiency	Smarter network
→ **Short term**	Provide specialist 1:1 support to community energy organisations tack-ling the changing connections process.	Work with community energy organisations to provide energy advice to vulnerable customers, engage on flexibility and efficiency programmes and ensure people who need support can access it through referrals and PSR membership.	Support innovative projects that explore how community flexibility and local energy markets impact network loads and the economic value they generate. Use to help shape code reforms, such as P441.
→→ **Medium term**	Advocate for community energy to be considered 'needed' in the connections process. Work towards a solution for grid agreements for split-ownership and local energy markets.	Provide long-term funding (at least three years) to support community energy efficiency and retrofit programmes, including training and guidance for community organisations.	Identify network areas where local or energy efficiency improvements may alleviate congestion or address network need.
→→→ **Long term**	Ensure DNOs have specific connection agreements for shared ownership projects and local energy markets.	Support vulnerable customers to move off gas, through supporting low-carbon heat programmes with strong community leadership and involvement.	Use the changing role of the DSO to collaborate with more communities to support balancing at a local level.

Electricity Distribution

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