



Llywodraeth Cymru
Welsh Government



Ynni
Cymunedol Cymru
Community Energy
Wales

Community Energy in Wales

State of the Sector Report 2021

Working together towards net zero



About this report

The annual Community Energy State of the Sector survey and report has provided insight into the UK community energy sector since 2017. We are delighted to present the first Community Energy State of the Sector Report for Wales.

This report, sponsored by the Welsh government and Community Energy Wales, focuses on progress across Wales in 2020. It showcases the ambition of the sector and highlights the contribution of community energy for achieving net zero and a green recovery. The report provides evidence-based recommendations to policy-makers and stakeholders on how the sector can meet its potential.

Community Energy Wales conducted this research to:

- create an accessible database of survey responses for stakeholders
- further understand the current state of the sector
- identify evidence-based areas of growth and opportunity.

This research enables Community Energy Wales to advocate more effectively for their members and to identify where more support is needed. Anonymised data from this and previous year's surveys is publicly available, which reduces the need for community energy organisations to fill out multiple surveys and gives stakeholders access to relevant data to better understand the sector.

The survey was open from February to April 2021, with the data analysis and reporting delivered by Regen, before publication in June 2021. Questions were asked about electricity generation, low carbon transport, low carbon heat, energy efficiency, barriers to projects, and future plans. There were also questions about the social impacts of community energy, diversity, funding, and how COVID-19 has affected activities.

We are grateful to the 40 Welsh community energy organisations who completed the survey. Their responses provide the basis of this report.

The final database includes an additional 20 Welsh community energy organisations, who completed the State of Sector survey in previous years.

We hope this report and corresponding dataset are useful tools in supporting and understanding the development of the community energy sector.

To access the anonymous database, please contact info@communityenergywales.org.uk

This report is sponsored by:



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This report is written by:



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Summary

Community energy is playing a crucial role in achieving net zero

by gaining consent, increasing participation, and embedding behaviour change. Community energy organisations are a critical part of the future energy system and ensuring a just transition.

Refocusing of the sector

In 2020 there was 4.2 MW of new generation commissioned, compared to 2 MW in 2019. Organisations are refocussing on a whole system approach, including both their core priorities of tackling fuel poverty and demand reduction, and exploring innovative business models on flexibility, low carbon transport, and local supply. Welsh community energy organisations are impacted by the removal of subsidies and other financial support and there has been a shift in the sector away from small-scale electricity generation projects. These organisations are now looking to scale up their projects with over 54 MW in the pipeline.

2020 demonstrated the resilience and key role of community energy in a green recovery

Despite the lack of UK strategic, financial, and political support, communities have demonstrated significant staying power and are determined to take action on climate change. The early adopters and communities who have been working on energy for years are not giving up, with one newly constituted organisation identified in Wales through the 2020 survey. Community Energy Wales are seeing increasing interest from parish and town councils, and community organisations with other priorities, who want to deliver energy projects to address climate change. Community energy organisations in Wales employed over 79 people in 2020, raised over £4.4 million in community shares, and six organisations installed renewable electricity projects across Wales. This is compared with four in 2019, demonstrating continued growth compared with last year. During the pandemic, the sector has proved both its resilience, with 60 organisations continuing to work on projects, and its local value, with more than 16 organisations leading bottom-up COVID-19 response and delivering over £20,000 of recovery funds to their areas. With the right support this impact could be scaled up to help deliver a green recovery.

Policy support needed

Community energy organisations are grassroots and democratic, allowing them to act as a trusted intermediary, playing a vital role in local energy projects, particularly those that require individual behaviour change. An engaged energy citizenship will be necessary for achieving net zero and we are calling in this report for the government to get behind this populist movement, and provide real, demonstrable support for the sector.

Key messages

2020 saw the COVID-19 pandemic fundamentally change the lives of people all over Wales. Community energy organisations responded by delivering social benefits, as well as continuing to deliver new energy projects.

Delivering additional social benefits

Community energy contributes to the energy sector and the foundational economy in a meaningful way, responding to the needs of their communities, creating jobs and investment in the local area, and installing renewable generation capacity.

A net zero transition

Community energy is supporting the transition to net zero, with 22.6 MW installed renewable capacity in Wales. At scale, community energy has the potential to achieve at least 1 GW of locally-owned generation by 2030.

The pandemic has shown the contributions community energy organisations make to their local areas, with £20,000 diverted to COVID-19 relief in Wales.

A supportive policy environment

To unlock the potential of community energy to deliver at scale, we need a long-term, stable, and supportive policy environment, from both Welsh and UK governments.

People powered net zero:

The role of community energy in a net zero future

In Wales, the public sector has a target to reach net zero carbon by 2030, and the Welsh government has set a local ownership target of 1 GW by 2030. However, many local authorities and public bodies are yet to make significant progress towards this goal. Community energy is uniquely placed to help reach these targets, whilst keeping important social issues at the heart of the energy transition.

Community energy organisations work to tackle decarbonisation and social justice, both of which underpin a fair transition to a net zero energy system. The survey identified 60 active community organisations across Wales, with one new organisation being constituted in 2020, which was the same as in 2019.

In 2020, 50 community energy organisations were involved in renewable electricity generation, 13 were active in energy efficiency work, and 20 were involved in low carbon transport projects. In 2020, these projects created 18 new jobs, bringing the total to 79 FTE staff.

Despite the restrictions on meeting face to face in 2020, community energy organisations adapted to delivering webinars, phoning instead of visiting, and using online tools to engage over 98,500 people, helping them save energy and money, and empowering them to take action to reduce their carbon emissions.

Most community energy organisations are community asset holders, but many also interact with their communities in different ways. For example, 18 were involved in education, 19 worked to improve their local environment, and 21 provided additional funding for other local improvement projects. Ecodyfi, for example, provided energy advice to other organisations, enabling more communities to benefit from community energy.

This combination of grassroots education, reducing fuel poverty, wider support to local communities, and use of low carbon technologies makes community energy an essential part of a net zero future.

The transition to net zero will affect everyone. Community action in Wales has the local reach to ensure no-one is left behind.

In 2020

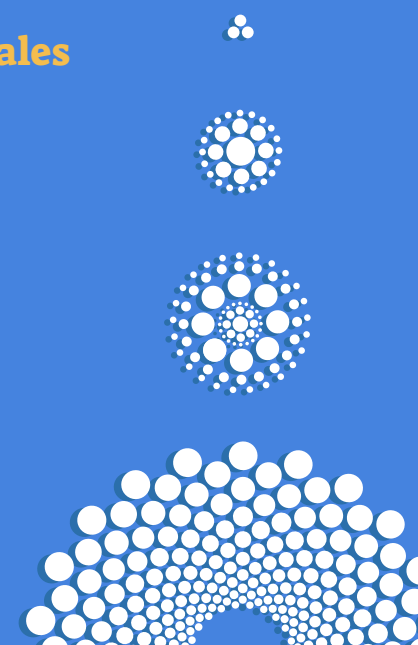
• **60 community organisations across Wales**

• **with 79 FTE staff**

• **and 880 volunteers**

• **reached over 98,500 people**

Community Energy: State of the Sector – Wales 2021



People powered net zero:

Community energy: the trusted intermediary

Community energy organisations provide a key link between the seemingly inaccessible world of the energy system and people using energy in their everyday lives.

Community energy organisations are uniquely placed to bridge the gap between the energy industry and communities, while advocating for the most vulnerable in society. At least eight survey respondents have engaged with their local Distribution Network Operator (DNO) and 11 have either delivered or are currently delivering a project in partnership with their DNO. Over 15 have worked on projects with charities. Awel Co-op, for example have worked with their local DNO, charities, and businesses to create successful projects.

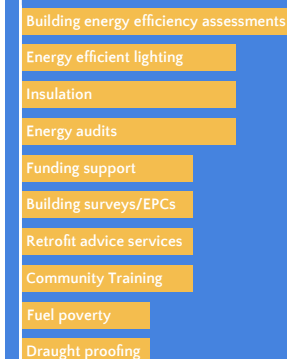
In the next few years, decarbonising the economy is going to require significant behaviour change such as switching to heat pumps and retrofitting our homes. Community energy organisations are trusted and recognised in their local area for prioritising the wellbeing of their community and are therefore essential in building public consent and supporting participation in the energy transition.

In 2020, 13 community energy organisations such as Y Dref Werdd and Datblygiadau Egni Gwledig (DEG) used workshops, home visits, webinars, and phone calls to connect with just under 7,000 local people to engage them in the energy transition through energy efficiency activities, empowering them to be a part of the solution to the climate and ecological emergency.

Community energy organisations are perfectly placed to work with those that need it the most, tackling fuel poverty, high energy bills and providing energy advice across Wales.

Number of groups working to engage their local community in energy efficiency improvements across Wales

Top 10 activities



£289,000 saved

on consumer energy bills through community energy action in 2020



£52,000

spent by community energy organisations in Wales on energy efficiency improvements in 2020



7,000 people

helped by the energy efficiency activities of 13 groups in Wales in 2020



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Case Study: Partneriaeth Ogwen

Partneriaeth Ogwen demonstrate that community energy action is a catalyst to develop more community projects and opportunities. The group led the development of the Ynni Ogwen community hydro scheme in 2016 and have since gone on to deliver energy efficiency, community growing, and community transport projects. They now own a sustainability hub, two community EVs and have a team of staff leading environmental projects to tackle poverty and rural isolation. The team manages the food bank which receives donations from the community including a £3,000 donation by Ynni Ogwen community energy company in 2020. The collaboration between both Partneriaeth Ogwen and Ynni Ogwen highlights how community energy organisations provide invaluable support to those in their communities.



People powered net zero:

Leave no-one behind

The data shows that there is room for improvement in the diversity of community energy organisations' members, volunteers, and directors to better reflect the diversity of the communities they serve.

However, because most of the organisations have social purpose and wider community benefit written into their constitutions, and often have contact with the hardest to reach people in our society, they are well placed to ensure no-one is left behind in the energy transition. Community energy is the social conscience of the energy sector, making it an essential component of a just transition.

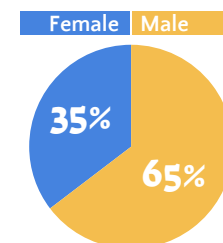
Community energy organisations across Wales are serving a valuable function for achieving a just energy transition, by providing advice services to vulnerable people and engaging the hardest to reach. In 2020, 12 organisations worked directly on fuel poverty alleviation, with [Energy Local CIC](#) and [Grannell Community Energy](#), stating this as one of their primary aims.

Community energy organisations often work hard to increase knowledge about energy use, via energy efficiency advice services. In 2020 in Wales, this included at least two organisations providing retrofit services, three participating in school events, four performing energy audits, and five delivering energy efficiency assessments. [Ynni Sir Gar](#), for example, is involved in insulation, draught-proofing, and business engagement to improve energy efficiency.

Though the sector is not always representative, three organisations indicated they have a diversity and inclusion strategy, with four additional organisations planning to develop a strategy.

Collaboration and democratic control are core principles of community energy. The sector aims to achieve its goals by working with people and although many of those served by community energy organisations may not have the time and capacity to volunteer or invest, it is essential they are engaged, supported, and their opinions reflected in the decision-making process.

Gender balance within community energy organisation members and volunteers in Wales



Diversity and inclusion strategies of community energy organisations in Wales

Survey responses indicate the sector is over 95% ethnic White British



Of those that answered the question in the survey:

3 organisations have a diversity and inclusion strategy



4 organisations are planning to develop a strategy

36 have not yet committed



Where we are now:

National overview

In this report, 60 Welsh community energy organisations have been identified. Within these organisations there were 79 FTE members of staff working with 880 volunteers who spent around 200,000 hours working on community energy projects that reached around 98,500 people.

Wales has a higher number of community energy organisations per head of the population than any other nation and reported the greatest increase in electricity generation capacity in 2020, with an additional 4.25 MW commissioned compared to 0.18 MW in Scotland and 3.8 MW in England. However, the total installed capacity for renewable projects reported was 22.6 MW, considerably lower than England and Scotland, which both reported over 100 MW of community electricity projects.

The Welsh Government Energy Service (WGES) provided support to the development of the 900 kW turbine at Prouts Park, established by Community Energy in Pembrokeshire, the only new community wind project reported in 2020.

Energy efficiency work was delivered by 13 community energy organisations in 2020, the same as in 2019. Almost 7,000 people were helped through energy efficiency activities, with £288,600 saved for individuals and communities. Although Welsh community energy organisations reported less impact on energy bills than other nations, they also reported engaging around twice as many people from the wider community compared to the UK average.

There was continued financial support for energy efficiency improvements, with organisations including Bro Dyfi Community Renewables and Awel Co-op providing £52,000 of energy efficiency funding to 133 people. An additional two organisations became involved in insulation work compared to 2019, but no energy cafés happened due to covid restrictions.

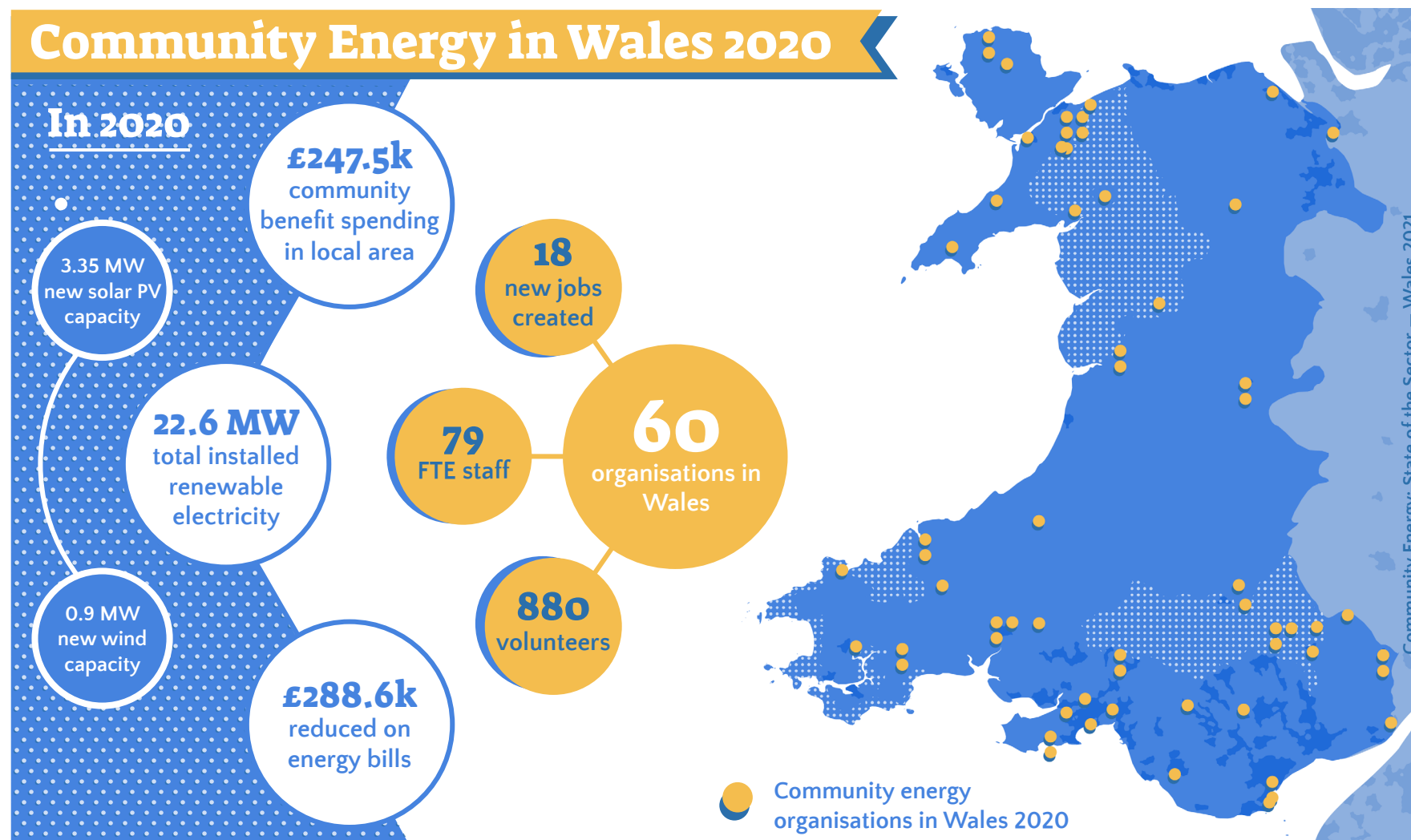
As with the other nations, Welsh communities have continued to shift their focus away from renewable electricity generation, towards low carbon heat, transport, fuel poverty, and energy efficiency, with a small increase in the number of organisations reporting activity in these areas. In particular, Wales has the largest proportion of organisations involved in low carbon transport, with 34% of organizations involved, compare to 14% in England and 24% in Scotland. On the other hand, there were no new renewable heat projects commissioned in 2020 in Wales, reflecting the longer lead time and challenging nature of these projects.



Where we are now:

National overview

Across Wales, organisations have been working in their local areas to develop local ownership of energy, reduce fuel poverty, and build skills and expertise.



Where we are now:

Future innovation and new areas

Community energy organisations continually adapt and innovate to deliver their mission of a fairer, more localised energy system to tackle climate change and ensure energy justice.

The types of projects communities are working on is shifting away from small scale electricity generation, which was underpinned by the Feed-in Tariff, towards a whole energy system approach and a greater scale of generation projects.

As generation business models remain challenging for the sector, organisations are either turning to more on-site use of energy, or looking to scale up, as in the case of Ynni Teg, to achieve economies of scale comparable with the commercial renewable energy sector. Power Purchase Agreements (PPAs) continue to be used to make projects financially viable, for example, Egni Co-op whose rooftop solar projects are supported by onsite consumption and a PPA. Local supply continues to be explored in Wales, with innovative projects such as Gower Power and Energy Local Bethesda pioneering this model.

There is currently a pipeline of over 54 MW of community owned renewable energy projects identified through the survey including a 30 MW and an 11 MW project.

However, in general, the sector is moving away from renewable generation to focus more on transport, energy efficiency, and low carbon heat. Since 2019, six more organisations have identified themselves as being involved in transport, two more organisations are involved in energy efficiency, and one more in low carbon heat.

In Wales, over a third of community energy organisations (20) took part in low carbon transport projects in 2020. Across Wales, communities now own or manage 16 electric vehicles, an increase of two from 2019, and have installed at least 36 vehicle charge points. Plans in this area include working with local DNOs to develop infrastructure, creating and expanding car clubs, and installing more charge points.

Flexibility is defined as modifying generation and/or consumption patterns in reaction to an external signal for a financial reward. In 2020, two community energy organisations reported that they are taking part in flexibility projects or trials, and one has successfully completed a project. A further eight community energy organisations indicated that they wanted to do innovation projects and be involved in shaping the energy system.

Case Study: Gower Power

Gower Power is leading the way in Wales in producing and supplying renewable electricity, with all profits going back into the local community. In 2020, they attached 228 kW storage to their existing Gower Regeneration solar farm and started a local supply partnership with Ecotricity. This enables local homes and businesses who switch to Gower Power to use electricity produced by the community-owned solar farm and storage. Any extra electricity needed will be renewable and provided by Ecotricity.

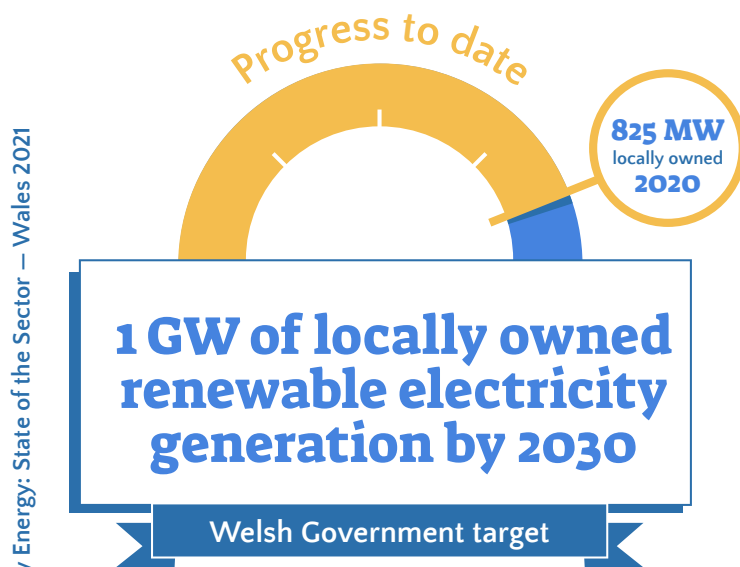


Meeting our potential:

The Welsh policy landscape

A supportive landscape with room for improvement.

The Welsh Government has created a supportive policy environment for community energy with targets for 1 GW of renewable electricity generation capacity to be locally owned by 2030, and for all new renewable energy projects to have an element of local ownership by 2020, although policy details to support this are still in development.



As part of the ambition for local ownership, this survey identified community energy organisations in Wales own 22.6 MW of renewable electricity generation.

The Wellbeing of Future Generations Act (2015) has been fundamental for the development of Wales' ambitious targets, requiring public bodies to consider the long-term impacts of their decisions, to involve communities and collaborate, and to tackle issues such as poverty, health inequalities, and climate change.

The Welsh Government Energy Service has supported the sector since 2018, but this support ends in 2021 and there is uncertainty about what will happen next. Community energy needs to be more competitive to deliver increasingly large, complex, and ambitious projects and will need continued loan and grant support to ensure communities have a genuine stake in a low-carbon future.

Despite this support, community energy in Wales is not immune to the challenges following the removal of the Feed-in Tariff. Support from local authorities in Wales who retain control of key public assets and land necessary for energy generation is needed. Communities also need stronger rights to own and control buildings and local land. This could be done through introducing new legislation based on the 2015 Scottish Community Empowerment Act, which has worked well in Scotland.

The public sector in Wales has committed to decarbonise by 2030, and community energy organisations want to support this transition. This ties into the foundational economy approach Wales is taking to reduce the amount of money that leaves the local economy, improve working conditions, and reduce environmental damage through extended supply chains.



Meeting our potential:

What community energy can achieve at scale

At scale, community energy can achieve meaningful carbon reduction alongside additional local economic and social benefits that could support a green recovery. With the right policy and regulatory support, community energy has the potential to grow significantly.

Since the end of the Feed-in Tariff, small-scale projects have become broadly unviable in Wales. The pipeline of projects is now dominated by large-scale projects which are much more likely to succeed if supported by paid staff, as demonstrated by [Ynni Teg](#).

Welsh organisations are also looking to examples such as [Devon Energy CIC](#), to achieve economies of scale. Devon Energy CIC was formed by 23 local energy organisations to develop community owned renewable projects at scale. They currently have a development pipeline of 100 MW of solar PV projects and 70 MW of wind.

Survey responses identified that seven organisations have started projects that they were unable to complete, with the most cited barriers being insufficient PPA prices and smart export guarantee rates being too low to ensure project viability.

If the public sector committed to buying energy from local energy organisations, then community energy organisations could overcome this barrier and install generation at scale. This would support the Welsh Government's foundational economy approach which encourages procuring locally and from co-ops.

According to [WPI Economics and the Institute of Welsh Affairs](#), if Welsh community energy organisations installed 5,270 MW of renewable capacity, 3,850 jobs over a 15-year period could be created.

Case Study: [Egni Co-op](#)

Egni Co-op demonstrate what can be achieved through collaboration with community energy organisations, the public sector, other community organisations, and private businesses. Through engaging with local councils and finance from onsite consumption PPAs, Feed-in Tariff generation, and metered or deemed export, the co-op has installed over 3.8 MW of solar on school roofs. The group now plan to continue the development of viable subsidy-free sites through existing and new partnerships with 2.4 MW of solar in the pipeline.



Case Study: [Ynni Teg](#)

Ynni Teg show what communities can do with the right backing and support. They currently own a 900 kW wind turbine and are supporting the development of a pipeline of projects with a capacity of 41 MW across Wales. Ynni Teg secured £100,000 of funding from the Welsh Government Foundational Economy fund to establish itself as a community-owned developer, allowing them to employ two paid project managers to identify and develop this pipeline of projects, which includes a 30 MW solar farm. This will be one of the largest community energy projects in the UK.



Meeting our potential:

What do we need?

For community energy in Wales to reach its potential, there needs to be continued supportive regulation and policy, as well as some key interventions, outlined below:

1. Access to necessary support, resources, and finance.

- The government should invest in a community-owned development service to enable the community energy sector to compete with the private sector, based on the YnNi Teg model.
- The government to work with the community energy sector to review and develop the support provided through the Welsh Government Energy Service, to upscale and increase impact.
- Create access to low interest loan finance for community energy projects for renewable energy, energy efficiency, and low carbon transport projects.
- Support to access national innovation funding from government and Ofgem that is directed at large organisations.

2. Ability for generators to sell their energy locally.

- A requirement for all public sector bodies to prioritise the procurement of local community-owned energy, creating a viable route to market for more low-carbon generation.
- Support the development of further pilot projects testing peer-to-peer sales, such as Energy Local in Bethesda and Gower Power in Swansea.

- Facilitate upfront investment in the electricity grid, particularly in areas where constraints limit the development of community-based generation or decarbonisation.
- Defer costs of grid connections for community energy organisations to pay for connections over time rather than upfront, and reserve capacity for community owned projects.

3. Access to land and buildings to develop community energy projects.

- Give communities stronger rights to own and control buildings and local land, with new legislation based on the 2015 Scottish Community Empowerment Act.
- Local authority land asset reviews to be shared with local community energy organisations.
- All suitable public sector land and buildings should be allocated to develop renewable energy projects, either by the public body, or made available to community energy organisations.

4. Communities at the heart of the net zero transition.

- Funding to enable local citizens assemblies, such as GwyrddNi in Gwynedd, at each local authority level to ensure a just and fair transition to zero carbon.
- Communities leading on and involved in developing local decarbonisation plans.
- A new challenge fund to develop innovative community-led approaches to decarbonisation in Wales.

What we need to meet our potential in Wales

1

Access to necessary support, resources and finance

2

Ability for generators to sell their energy locally

3

Access to land and buildings to develop community energy projects

4

Communities at the heart of the net zero transition

Community Energy: State of the Sector – Wales 2021

Get involved in community energy

We invite community energy organisations to join us, to strengthen our collective voice, and enable us to represent you in our work to develop and support the sector. Details of how to join us can be found below.

How you can get involved in community energy

Whatever your skills and wherever you are in the UK, your time, skills, and human energy can help community energy. We encourage you to get involved with your local community energy organisation, to take direct action on climate change, and drive a just transition to net zero. We would also value your support for our work at a national level advocating on behalf of the community energy sector.

Some ways you can get involved include:

- Find your local community energy organisation and...
 - Become a member
 - Sign up to their newsletters and follow on social media
 - Volunteer your time and expertise
 - Invest financially in one of their projects
 - Make use of their energy efficiency and other services
- Suggest that your local community group gets involved with an energy project
- Start up a new community energy group
- Email your MP/AS or local councillor to tell them about community energy and ask them to back supportive policies
- Spread the word about community energy to your friends, family, and other organisations taking action on climate change or community building.

Community Energy Wales

Community Energy Wales is a not-for-profit membership organisation which provides support to community energy organisations.

Join our growing network and support the Welsh community energy sector by becoming a member. Help keep the benefits from the energy transition in Wales and our communities. We have resources to help you get involved with community energy, start a project yourself, and invest in community energy share offers. Take a look at our introductions to community energy, explore more information on our websites, and follow us social media.

Contact us for more information:

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Working together towards net zero

Front cover photo: Geraint Thomas National Velodrome of Wales, Newport International Sports Village, Egni Co-op 500kWp rooftop solar PV. Photograph by Mike Harrison Ltd
Photo credits: Many thanks to Gower Power, Egni Co-op, Ynni Teg and Partneriaeth Ogwen for kindly providing pictures of their projects.