

Local energy case studies from South Wales and further afield



A quick look at some of the exciting local energy projects going on in
and around South Wales.



Bridgend County Energy Challenge

www.bridgendenergy.co.uk

Let's get Bridgend County involved in local energy!



“Local energy” covers all sorts of different projects run in different communities. Sometimes, people get together to install renewable energy technologies like wind turbines or solar panels. But in other cases people work together to help out those living in fuel poverty in their area, or experiment with new technologies and ideas to reduce the costs of heating their homes.

The Bridgend County Energy Challenge is part of the Rural Development Programme for Wales which runs from 2014 to 2020. The challenge aims to get people in Bridgend thinking and acting on energy issues through doing things like seeking help with their energy bills, making their home more energy efficient or getting together with their community to set up a local energy project in their area.

Through the Bridgend County Energy Challenge the Centre for Sustainable Energy, an independent energy charity, will support a group in rural Bridgend County to set up and run a local energy project.

We can provide help with:

- Engaging your community
- Exploring your ideas
- Technical advice
- Getting others on board
- Organising a group
- Looking for funding
- Project management
- Publicising your project

The form your project takes and what you plan on doing are completely up to you. It can be big (e.g. a renewables scheme or a complex retrofit), small (e.g. a draught proofing project or lightbulb swap), or somewhere in the middle (e.g. a bulk buy club or a solar roof), and you don't need to have any previous experience in the energy sector.

We've put this booklet together to give you an idea of some of the exciting projects that are already going on in the local area.

You can apply to take part in the project at www.bridgendenergy.co.uk. Applications open in Spring 2018.

Ellie Stevens, Project Officer at Centre for Sustainable Energy



Name: Gower Regeneration

Project type: solar farm

Location: Dunvant, Swansea

The Gower Regeneration solar farm is Wales' first community owned solar farm. Situated on an old coal mine in Killan Farm, Dunvant, its 3568 solar panels started generating electricity on 31 March 2017. The site produces enough electricity to power over 300 average households in Swansea!

The project was started by Y Felin Ddwr Charitable Trust and Gower Power Co-op CIC, a cooperative of local people who founded a company, Gower Regeneration Limited, to fund and manage the solar farm.

In January 2017, the Welsh government's Local Energy service, Ynni Lleol, provided a loan of £992,000 to enable construction of the solar farm. In May 2017 a community share offer was launched. The response to the community share offer was huge, with loads of people getting involved, raising £905,640 in total.

Any profits generated from the sale of electricity from the panels will go into a community benefit fund, which will reinvest the money in local social enterprises.

The project won the 2017 Community Renewable Energy Project Award due to its success in terms of investment for local social enterprises and high carbon savings (over 11,500 tonnes of carbon throughout the project's lifetime).



The Gower Regeneration solar farm in action!

Name: Bro Dyfi

Project type: wind turbines

Location: Machynlleth, Powys

Bro Dyfi Community Renewables (BDCR) is a co-operative which owns two wind turbines in the Dulas Valley. The first wind turbine started operating in 2003. A second turbine, known as 'Nora', started generating in 2010.

The project began way back in 2001 when a couple of local residents got together and began talking about energy and climate change. They got help from two professional organisations Ecodyfi, a local regeneration organisation, and Severn Wye Energy Agency, an independent energy charity to put together an application for grant funding.

They successfully applied for funding, which meant they could begin the process of putting up their first wind turbine. Fast forward to today and...

The electricity generated from the turbines powers the nearby Centre for Alternative Technology and any profits are held in a community benefit fund, managed by local residents and organisations.

On their website Bro Dyfi explain their motivation for starting on such a challenging project - "We care about the environment, we care about people, and we care about our lives now and in the future. BDCR is a direct product of a local community's collective will to help the planet and our community. On top of carbon free and renewable generation in the locality is that we as a community benefit from its financial returns."



Local energy projects can be funded in many different ways. Two increasingly popular ways to raise the money needed to get a project off the ground are crowd funding and community shares.



Bridgend County Energy Challenge | Local energy projects

Name: Awel Aman Tawe

Project type: Thermafleece insulation

Location: Ammanford, Carmarthenshire

Awel Aman Tawe (AAT) are an award winning community energy group established in 1998. Based at the top of the Swansea and Amman Valleys, its projects are aimed at protecting the area's natural environment, raising awareness of the importance of clean energy and tackling climate change through a programme of education and arts activities.

Back in 2003, AAT ran a project which aimed to raise awareness of a locally produced sustainable sheep's wool insulation product, Thermafleece. The other aims of the project were to promote and install the insulation in buildings in the local area and encourage farmers to contribute to the local economy by producing and selling this product.

AAT supported a local cinema, Brynamman Cinema, to apply for grant funding of £10,462 to insulate the cinema using Thermafleece. The grant funding came from the Community Chest Capital Scheme 2003/2004, a Carmarthenshire County Council and European Regional Development Fund funded programme, and from the lottery funded grants programme "Awards for All Wales".

Installing the insulation meant the cinema could cut down on heating costs and cinema users benefited from the cosy environment when watching films!



Local sheep admiring their homegrown insulation

Name: Gamblesby Village Hall

Project type: ground source heat pump

Location: Penrith, Cumbria

In 2003, local residents installed a ground source heat pump and insulation in Gamblesby Village Hall like many village halls a cold, draughty and unused community space in Penrith, Cumbria. The project was driven forward by Gamblesby Village Hall Committee and the village's residents with the help of the Countryside Agency.

Because the competition for grants for community building renovations was so fierce at the time, the committee came up with an idea on how to make Gamblesby Hall stand out – they decided to make the building as environmentally friendly as possible by renewably generating heat, and using natural locally-sourced materials such as sheep wool insulation to make the building more efficient.

Through this strategy, a variety of grants were secured. These grants were added to the villager's own fundraising activities including auctions and carol singing. In total the project costs came to £42,016. The village kept costs to a minimum by undertaking much of the work themselves. Local farmers lent the village their diggers and other machinery and mucked in digging trenches for the heat pump pipes.

The efficiency measures and heat pump meant that the hall has reduced its heating costs by 75%! The project has therefore enabled the local community to enjoy the hall all year around (even through the very cold winters), as well as raise awareness on how insulation and renewable energy technologies can make buildings easier and cheaper to heat. Now, the hall is used to show films - an activity that would have been far too chilly before!



Local fundraisers are a good way to cover costs of relatively small projects, and can kick start bigger projects by creating a buzz and getting more people involved.



The refurbished community centre and sometime cinema in Gablesby

Name: REV Cymru

Project type: electric car club

Location, Cilgwyn, Pembrokeshire

In March 2013, Cilgwyn Community Group near Newport, Pembrokeshire, helped by a Big Lottery Fund Village SOS grant of £25,000, bought an electric vehicle and established a new community electric transport club.

The electric car club aims to alleviate the need for second or unused cars whilst offering local residents a zero-carbon alternative transport system. Local residents can easily book an electric car online or by the phone for £2.50 per hour. The car, a Nissan Leaf, can be charged from a domestic plug and also has a solar panel on the roof.

The car can also be charged with renewable energy produced from local wind turbines and solar panels to ensure that the car club is zero-carbon. In Cilgwyn, the car can be charged using spare wind power from a turbine, and in Newport, from spare solar power generated by panels on the roof of the Memorial Hall.

The enterprise generates income from membership fees and mileage charges which are then reinvested into the project.



Energy projects can be run by small groups that are unincorporated (do not have a formal legal structure), but for bigger projects - and to secure funding - you may need to become incorporated.

There are various structures you can use, including becoming a Community Interest Company, a Co-operative Society, or a Community Benefit Society.



A local energy group in Somerset planning their project in the church hall



Name: Swansea Community Energy and Enterprise Scheme

Project type: community-owned solar

Location: Swansea

Swansea Community Energy and Enterprise Scheme (SCEES) was set up in September 2015 to develop community-owned solar projects to regenerate deprived wards in the city.

In September 2016, 1440 solar PV panels forming a total of 360kW (enough energy to power about 100 homes based on annual average electricity usage) were installed by SCEES on the roofs of nine schools and one care home in and around Townhill and Penderry.

Funding from the project was made up of loans and grants. The Welsh Government's Local Energy service (Ynni Lleol) provided grant funding to pay for initial legal work and structural surveys whilst Robert Owen Community Banking provided a loan for the installation and legal work. In November 2016, a community share offer was launched to enable local people to invest in the scheme. From

this, £467,000 was raised by 170 people in just seven weeks.

The scheme is projected to generate £500,000 of surplus profits from the sale of the electricity which will be placed into a community development fund. These funds are likely to be put towards new renewable energy projects, energy efficiency improvements, low carbon transport and other projects to help the community.



There's lots of services in Wales that can give grants or professional support for local energy projects. Find out about them at: www.bridgendenergy.co.uk/local-energy





Name: Bethesda Energy Local

Project type: hydro power purchasing

Location: Bethesda, Gwynedd

Hydro projects in the Ogwen Valley in North Wales sell the power they generate at a low price to the national grid. Local residents then pay twice this price when they use energy at home, buying it back from their energy supplier. 100 households in Bethesda have formed a local energy club where participants purchase power directly from where it is generated - Afon Berthan hydro, owned by National Trust.

Working with Cooperative Energy, each participant receives a smart meter to show them how much electricity they are using at any given time. With this data, participants can use an online tool to compare their energy use with how much energy is being generated at the hydro plant. Members of the club are encouraged to match their domestic use of electricity to times when hydro power is being generated.

Participating households can save money on their energy bills by purchasing directly from the energy source, and coordinating their usage with times when more energy is being generated. So far the pilot scheme has been successful: between November 2016 and July 2017, the majority of people involved were able to save an average of 24% on their energy bills and locally generated hydro power accounted for 50% of their electricity use.



Name: Burford Oil Syndicate

Project type: oil buying club

Location: Burford, Oxfordshire

Different sized oil buying groups exist across the UK from neighbours joining together to form a small club to national groups. The Burford Oil Syndicate is an example of a local oil buying group, set up by five volunteers in 2008. Working in partnership with Cottsway Housing, a local housing association, it covers four villages in the area and is open to residents, businesses, churches and other groups.

Local residents join by completing an application form and paying an annual fee to cover running costs. Members can then choose a delivery slot from the syndicate's calendar, and coordinators contact the suppliers to find the best oil price at the time. They place a bulk order and let members know the price, so that they can pay their share directly to the oil supplier.

Since the syndicate started, they have saved their members over £32,000. On average each household saves £45 per delivery. Due to the coordination of oil deliveries, the CO2 emission savings from fewer truck journeys equate to four family cars taken off the road for a year!



Have these examples got you thinking about setting up a project of your own? Through the Bridgend County Energy Challenge the Centre for Sustainable Energy (CSE) will support a group in Bridgend County to set up a project by providing expert mentoring and practical assistance. You don't need to have any previous experience - just an enthusiasm for working on a challenging project to benefit your community. Find out more at: www.bridgendenergy.co.uk

If you'd like to find out more about other local energy projects in Wales, visit communityenergywales.org.uk



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