

CASE STUDY



When solar power drives citizens out of fuel poverty!

Plymouth City Council (UK) backing up its citizens in their fight against energy poverty

The Summary

In the city of Plymouth, UK, the municipal council puts its weight behind supporting community energy projects that not only help increase the local share and consumption of renewable energy but also tackle fuel poverty in the process!

By contributing to the set-up of two community benefit societies, including one exclusively dedicated to the deployment of renewable energy installations, the local council helps its citizens “change the way they buy, use and generate energy”. The solar panels that have been installed as a result have not only helped reduce the energy bills of host schools and community buildings. In addition, feed-in tariff payments and the sale to the grid of surplus energy generated, allows Plymouth Energy Community to invest in ambitious energy advice and savings measures targeting vulnerable households. Not to mention the climate, employment and economic benefits of increased green energy supply generated in the city!

The Context

Before the 2015 elections and subsequent government change, national policy support for renewable energy installations included favourable tax relief and feed-in tariffs, leading to a boom of community energy projects in the country.

For a long time, community power schemes in the UK were mainly restricted to energy production in rural communities, independent from local authorities. In Plymouth, the decision to test such a model at an urban scale was notably motivated by political commitments.



Credits: Plymouth Energy Community

Back in May 2012, the Council made 100 pledges centred around 10 priority areas for a “Working (1), Safer (2), Young (3), Greener (4), Moving (5), Living, (6) Vibrant (7), Pride (8), Caring (9) and Open Plymouth (10)”. As part of the Green Plymouth plan, a “low-carbon city” team was set up which identified community energy as a crucial lever to empower citizens and improve energy services across the city. The City of Plymouth thus



decided to support community energy development, taking advantage of an enabling and supportive policy and legal framework at the national level.

The Model



Credits: Facebook, [Plymouth Energy Community](#)

Brixton Energy, a not-for-profit energy cooperative in South London inspired the local officials to support the launch of Plymouth Energy Community (PEC), established in June 2013. The community energy projects that followed were mainly aimed at helping residents switch suppliers to make savings on their electricity bills or improve the comfort of cold, damp homes by investing in energy efficiency measures. In a city with a largely inefficient housing stock and where some 13.4% households live in fuel poverty, PEC had a clear mandate for action. The services provided notably include free or affordable insulation or boiler upgrade services, fuel debt advice, a home energy team, training programmes, etc.

In a second step, Plymouth Energy Community set up a sister company (“PEC Renewables”) in 2014 with the objective to take advantage of investment opportunities by funding and building community-owned renewable energy installations across the city.

PEC Renewables first share offer was launched in 2014, starting at only £50 and thus opening up opportunities to a large spectrum of Plymouth citizens, not only to own energy installations but also to have a say on how they are run. In the span of just seven weeks, the target amount was reached and all shares had been sold. This allowed PEC to raise £600 000 which, combined with a £500 000 loan from the city council, led to the free installation of solar panels on 21 schools and

community buildings, the equivalent needed to power 250 homes. Local specialists were contracted to install the panels, providing a boost to city-established businesses. This increased Plymouth’s solar PV generation by 6% in just one year!

The following year, the interest kept mounting and the Community Benefit Society raised an even greater amount (£850,000, alongside another £500,000 from the council) meaning solar roofs continued mushrooming in the city, and the largest of all was installed on the Plymouth Life Centre leisure hub.

Later in 2015, PEC Renewables joined efforts with a local economic development trust to build a large solar array on a former landfill site, again with the support of the city council. In March 2016, a 4.1MW ground-mounted solar field was completed, generating enough green energy to meet the yearly demand of 1 000 households! A short-term construction loan allowed the array to be built in advance of looming cuts to subsidies and a retrospective community share offer was raised to repay the loan. In terms of capital raised and regardless of the removal of tax relief for investments of this type, interest from the local community remained and nearly £1m was raised in community shares!

According to PEC’s community benefit business model, the schools and community buildings supplied by the organisation pay a reduced rate for the solar electricity that they use. Income generated from energy sales and the feed-in tariff are used to pay members a return on their investment and cover ongoing management and maintenance costs. Surplus funds are reinvested by PEC to tackle fuel poverty challenges.

In terms of governance models, both organisations abide by the cooperative values and principles and are registered as “Community Benefit Societies”. They belong to and are managed by their members, each being granted one vote independently of the number of shares owned and are subject to legislation under the UK’s Cooperative and Community Benefit Act 2014. The city council holds one director on the Board while the others are elected by the members themselves. Through a “shared services agreement”, PEC buys expertise from the city



council's low-carbon, finance, legal and human resources teams directly to complement the volunteers.

The People Behind



Credits: Facebook, [Plymouth Energy Community](#)

Launched by some 100 visionary founding members, the two organisations have grown to include over 1 900 enthusiasts committed to a local energy revolution through collective grassroots action. Since the very start and throughout project, the involvement of the city council was a key success factor. The local authority indeed provided access to public land and roofs, but also crucial staff expertise and last but not least, considerable financial loan and grant support in getting the project off the ground. This very unique and successful partnership, “one of Plymouth great local success stories” according to Councillor Michael Leaves, Cabinet Member for Strategic Streetscene and Environment, led to the city council being awarded national recognition in 2016. During the award ceremony, the Chief Executive of PEC, who himself was crowned national community energy champion, said he was “hugely indebted” to Plymouth City Council who have “backed us from the beginning, and continues to do so.”

The Figures

Over **1900** members (**540** investor members)

Earning up to **6%** return on their capital for 20 years

2014 and 2015 investors received up to **30%** of their initial investment back as tax relief or savings (prior to policy changes)

Anyone 16 years or over could invest between **£50** and **£100 000**

£2.5 million raised in community shares

6.1 MW solar power installed (equivalent to powering 1500 homes)

33 schools and community organisations benefitting

Equivalent of **8 football pitches** of surface area used for the installations

Enough energy generated to make over **1 billion** cups of tea! :-)

50+ partner organisations

Over **£264 000** cleared in fuel debt

13 000 households reached, **1 100 supported** one to one

Over **£300 000** household savings

£430 000 savings to community organisations by energy generation and efficiency

5 500 t CO₂ emissions reduced through renewables generation & energy efficiency installations (non-domestic)

84 volunteers trained

£1 million loan provided from Plymouth City Council

Over **£6.5 million** investments attracted to the city

The Replication Potential

Pre-development work, including a sound business plan taking the seasonality of investments into account was an important success prerequisite. Early community engagement through dedicated channels,



including local press and social media, was also crucial in getting the critical involvement required.

Obviously, the cooperation with the local authority was at the core of the project success, and quite unique compared to other national examples. Central at the beginning, the role of the local authority later consisted in leading both organisations towards full autonomy.

The Impact

- ✓ Contracts for the installations of solar panels were given in priority to local businesses, contributing to the city's economic development
- ✓ Income in the city was also boosted thanks to the savings made by the households benefiting from the energy services provided and the schools and community buildings getting free PV installations and cheaper electricity
- ✓ Training and job opportunities improved employment prospects in the city, also supporting local economic development
- ✓ Derelict land was put back into positive economic use
- ✓ An educational dimension was also part of the projects, with classroom pupils getting to see the energy generated from their school buildings thanks to digital displays and learning the corresponding environmental benefits
- ✓ According to a local ownership model, share offers in the solar installations were given in priority to citizens with Plymouth postcodes, meaning many investors are local residents, increasing awareness for sustainable energy in the city
- ✓ The branding and visibility of the city was enhanced through the awarding of numerous national recognitions, with many other UK cities now planning to copy the Plymouth model

"We set out to create a community of like-minded people who are committed to helping transform all things energy-related for the benefit of the local community and we are doing just that!"

Dave Garland, founder and Director of PEC and present PEC Renewables Chairman.

The Next Steps

Plymouth Energy Community has had to adapt its original business models in light of government changes to the national policy framework, which has cut the level of Feed-In Tariffs and tax relief for community power projects. It is now adapting to these challenges by testing new grounds and working with industry partners, notably looking into storage solutions for community energy projects, subsidy free solar installations and also assessing the potential for investing in biomass energy.

As eloquently indicated on its website, Plymouth Energy Community is always "on the lookout for new partnerships and funding opportunities, to ensure our long-term vision to help Plymouth transition to a fair, affordable, low-carbon energy system with local people at its heart."

Contact

Alistair Macpherson
CEO Plymouth Energy Community
alistair.macpherson@plymouth.gov.uk

