

Cornwall Council Whole House Retrofit Project

Carbon Neutral Cornwall
Thursday 8 April 2021

Summary

Cornwall is in a unique bind. We're working towards an ambitious target of being Net Zero by 2030 while being one of the poorest areas of the UK. The area is just one of four in the UK that qualifies for poverty-related grants from the European Social Fund. As such, we have to find ways of cutting our carbon footprint while improving the quality of life of our citizens - at no extra cost to them.

The whole house retrofitting model cuts emissions and lowers heating bills.

Our problem

Cornwall's existing homes make up 21% of our carbon footprint, with over 97,000 solid wall properties and 133,000 homes off-gas. We need to substantially reduce these emissions while reducing energy bills for Cornish residents on low incomes and vulnerable to the effects of living in cold homes.

Overview

The Whole House Retrofit Innovation (WHRI) project is a £4.2 million pilot scheme that will see radical improvements fitted to council-owned homes - significantly reducing the properties' emissions, heat loss and running costs.

The pilot will initially make 83 of the poorest performing homes warmer and greener through improvements such as loft, external walls and ground floor insulations, solar panels, single-room ventilation and ground source heating. The first phase will see work being done to 16 homes in Chacewater and St Agnes. Cornwall's existing homes make up 21% of our carbon footprint, with over 97,000 solid wall properties and 133,000 homes off gas. We need to substantially reduce these emissions while reducing energy bills for Cornish residents on low incomes and vulnerable to the effects of living in cold homes. As such, the Whole House Retrofit programme is a key part of the Council's response to the climate emergency and will help Cornwall strive towards becoming carbon neutral by 2030.

By adopting a fabric-first approach, the WHRI project aims to achieve an in-project cost saving of between 5%-20%, while delivering a post-retrofit energy intensity of 30 kWh/M² (often referred to as the 'Paris Proof' target).

Cornwall Council was one of three local authorities to secure BEIS funding for this project. In Summer 2019, the Government published a summary of responses to the call for evidence on building a market for energy which laid out the barriers to energy efficiency uptake in the UK. Important amongst these was the deterrent posed by

the high upfront cost of significant improvements in energy efficiency. The aim of this programme is to demonstrate how much more cost-effective the whole-house approach to retrofitting is, thanks to the economies of scale and scope.

Whole House Retrofit measures have not been previously delivered at scale, and BEIS has committed significant future investments of around £3.4bn to help provide solutions and learning for future large-scale projects. There is now a growing community of projects within Cornwall and the UK that will gather knowledge and experience of the retrofit methods, techniques and systems being applied through the BEIS Whole House Retrofit Project pilot scheme.

Timeline / project progress

We received BEIS funding in 2020. Work on the first properties was due to begin in January 2021, but was inevitably delayed because of the Covid-19 lockdown.

Stakeholders

BEIS has provided £1.051 million of funding, with another £2.28 million coming from Cornwall Council and £880,000 from SSE.

The programme will be managed by OVO-SSE Energy Solutions with support from PRP Architects LLP which designed the Whole House Retrofit system. It'll be monitored and evaluated by BRE. Cornwall Housing Ltd, a Cornwall Council-owned company that manages the Council-owned homes, is an integral part of the programme team.

Whole systems approach

Our commitment to tackling climate change will always be symbiotic with meeting the needs of our most vulnerable residents. Making energy efficiency improvements to existing properties is a key part of our response to tackling the climate emergency and committing to social justice by cutting energy bills for residents and helping to reduce fuel poverty.

Another of our key climate emergency actions is our Climate Emergency Development Plan Document (DPD) that will strengthen existing policies in Cornwall's local plan. This will promote renewable energy, environmental growth and energy-efficient homes, increasing employment opportunities and generating more of our own energy.

Impact

The homes will benefit from radical improvements such as insulation to lofts, external walls and ground floors; solar panels; single room ventilation and heat recovery and ground source heating, reducing their carbon emissions by up to 80% and heating costs by up to 50%.

The carbon-reducing programme aims to be a cost-effective model to improve the energy efficiency of Cornwall's existing homes - exploring the benefits of Whole House Retrofitting alongside the costs of replacing older houses with new green builds.

The model has been developed to be replicable; we want to see it being offered to other social landlords in Cornwall, owner-occupiers and those in the private rented sector across Cornwall. The hope is that it can then be deployed by other rural communities with similar housing stock and climate conditions across the UK.

While BEIS brings together responsibilities for business, industrial strategy, science, innovation, energy and climate change, this pilot will be particularly helpful in informing and shaping the country's post-Covid19 green recovery, which will require the creation of more green industry skills and jobs.

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Work could not begin until the BEIS funding was confirmed and announced, which was delayed a number of times. Covid-19 also delayed improvement work on the properties, which is now being carried out within social distancing safety requirements.

The pilot will influence how we go about larger-scale programmes and proposals for retrofitting our 10,000 Cornwall council homes and also for other social landlords, the private rented sector and more widely across Cornwall.

We are asking the Government to support us in providing the finance and training needed to undertake the mass housing retrofit of all Cornwall's homes rated below EPC level C. The pilot results will help to:

- Inform the details required as part of this ask
- Enable us to demonstrate how we can retrofit our own Council homes to ensure their energy performance is fit for a carbon-neutral energy system
- Provide important learnings to develop larger-scale programmes and proposals for retrofitting our 10,000 Cornwall Council homes
- Help to inform other social landlords, the private rented sector and the wider public across Cornwall.

OVO-SSE, as an energy supplier to millions of homes across the UK, will gain valuable experience for the industry in installing whole house retrofit measures.

(Image: [Unsplash/Vivint Solar](#))

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