

Energy storage project to help homes be less reliant on grid

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Credit: University of Nottingham

A new project to install ground-breaking solar energy storage technology in The Meadows area of Nottingham has just been given the green light.

The European-funded project will allow participating homes to store excess solar energy in either batteries or hot water tanks for use in the evenings.

Energy storage technology means less reliance on the grid, creating more sustainable communities. The project will also research the issues and parameters of community energy schemes that sell and share self-generated energy from homes in the project.

It will use 'communal batteries' as part of this, located in the area's schools.

Some 37 homes from across the neighbourhood will take part in the project, and 22 of these will receive technology that will allow them to use significantly more of their clean green energy generated from their own solar photovoltaic (PV) panels. Installation begins early 2017.

This innovative project, SENSIBLE, which aims to show positive ways to reduce fuel poverty, is led by The University of Nottingham and MOZES, the Meadow's 'Community Energy Group'.

The Meadows is an ideal community to trial the technology as it has a large proportion of houses across different tenures, housing types and ages and socio-economic groups installed with solar PV panels following the receipt of a Department of Environment and Climate Change grant in 2010 which made it one of 11 UK Low Carbon Communities.

Its residents are therefore relatively used to 'test' initiatives regarding energy and efficiency because of this and the related work MOZES does within the community. This range of demographics relating to how and when electrical energy is used in The Meadows will go on to help the SENSIBLE researchers to draw more accurate conclusions from the gathered data.

Julian Marsh, architect and member of MOZES said: "This project is making the most of domestic solar energy generation; this means more energy will stay within the community, reducing the need to draw on energy from the grid, thus reducing household electricity bills."

Lee Empringham, Principal Research Fellow at The University of Nottingham, is leading on the monitoring side "We will monitor household energy patterns for 18 months to see what benefit there is to storing the excess energy and to see how people react to their 'free' electricity in the evenings.

"We will also be researching the storing of thermal energy (heat) produced by solar PV panels together with dual tariff systems to reduce the total energy costs".

NEP's Home Improvement Manager Darren Barker will be carrying out the technical surveys "The project will use a selection of batteries, it is important that the battery is suited to the property, the size is the main factor here. This is NEP's second energy storage project – the lessons learnt during our Essex based project will help us ensure that this project runs smoothly and efficiently".

Recently, two key partners joined the team; Queen's award-winning charity Nottingham Energy Partnership and renewable energy experts T4 Sustainability following a successful tender to deliver the [project](#) on the ground.

T4 Sustainability will start installing in January 2017. The system will be free to the householder.

John Beardmore from T4 commented that "the use of batteries to store energy helps to reduce the load on the grid at times of peak demand, which in the long run reduces costs and bills".

The SENSIBLE consortium brings together partners from six European countries: Germany, Finland, France, Portugal, Spain and the UK. There are three demonstrator sites; Évora - Portugal, Nuremberg – Germany and Nottingham – UK.

SENSIBLE will work towards achieving the 2030 target set by the European Union, namely to:

- reduce green house gas emissions by 40 per cent
- create a sustainable energy supply

Provided by University of Nottingham

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