

# Giant UK battery launched to tackle challenges in energy storage

March 17 2016, by Kirsty Bowen

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One of the UK's largest battery-based energy storage facilities has been connected to the grid as part of new research led by the University of Sheffield on the growing area of energy storage.

The £4m facility was officially launched today (Thursday 17 March 2016) with the announcement of a new innovation project with energy companies E.ON and Uniper looking at future possibilities for large-scale [energy storage](#) and how to overcome the challenges associated with connecting such technologies to the grid.

The lithium titanate battery was chosen because it is fast to charge and discharge, has a long lifetime and is arguably safer than alternatives such as lithium ion.

The UK Government's Department of Energy and Climate Change has identified energy storage as a key priority and is expected to launch a new policy later this year. Many countries will need energy storage technologies to balance the sometimes unpredictable supply of renewable energy and demand.

A recent report by the National Infrastructure Commission has suggested that energy storage could contribute to innovations that could save consumers £8 billion a year by 2030 as well as securing the UK's energy supply for generations.

Based at the Willenhall substation near Wolverhampton in the West

Midlands, part of the Western Power Distribution Network, the facility is owned and operated by the energy storage research team at the University of Sheffield as part of the Energy2050 initiative, in conjunction with partners at Aston University and the University of Southampton.

Professor David Stone, Director of the Willenhall Facility and the Centre for Electrical Energy Storage at the University of Sheffield said: "As the demand for energy increases in the UK, storage systems are needed to balance supply. The first commercial projects are coming on line, but there are still many technical issues to be explored in order to maximise the potential of these technologies and to reduce costs.

"This dedicated national research facility has been designed to offer enhanced frequency response to peaks in demand and is available to be used by other academic and industrial projects for their research and to test new technologies.

"I am also delighted to announce a new innovation project with E.ON and Uniper, in which we will be using the facility to help develop their understanding of operating a lithium titanate battery".

Arne Hauner, Head of Innovation Economics from Uniper said: "E.ON and Uniper will use the Willenhall battery system to provide ancillary services to the electricity network. The reason for doing this is to test the operation of a battery in a new market and to gain operational experience of a different battery storage technology compared to those which we currently operate."

The University of Sheffield team, with their partners from Aston and Southampton, are already planning the next stage of research including looking at how used electric vehicle [battery packs](#) could test the viability for domestic or industrial electricity storage. This 'second life' system is

due to go online later this year, aiming to combine the energy from the battery packs so that it functions together as a single larger [battery](#) unit.

Provided by University of Sheffield

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