

Energy Storage System

Energy | Manchester, UK



Photo source: Siemens

Siemens has worked with Manchester Metropolitan University (MMU) on its onsite energy system and have installed a Lithium-ion battery to integrate with current onsite generation. The Birley Campus, opened in 2014, consists of an academic building and halls of residence for 900 students. Primarily charged at night-time from the grid supply (when prices are low), the 400kWh Lithium-ion battery storage works with the 375kWh Combined Heat and Power generation, the 157kWh solar panels to supply to provide the Birley Campus with cheaper, and greener power. The battery is discharged at peak periods when the price of energy from the grid is high. The power is greener as more fossil fuels are used to generate power at times of high demand. This is all controlled by a microgrid controller with a demand side response system that actively manages generation, energy storage and flexible load assets to improve energy consumption on campus, reduces emissions and delivers cost savings. As the UK's number one green university in 2017's People and Planet University League, sustainability is a key topic in the curriculum, with students learning about the energy centre and battery storage.

Measured Impacts

Savings per annum
€34,000

project scale

Individual site

development type

New installation

Benefits

- Additional energy generation
- Carbon savings
- Enhance grid stability
- Reducing use of fossil fuel
- Reducing operational costs
- Reducing GHG emissions
- Decreasing energy consumption
- Decreasing energy costs
- Improving energy efficiency






Lessons learned

- Including the District Network Operator as a project partner could have addressed the regulatory issues

Challenges

- Obtaining regulatory approval
- Project funding structure required an asset transfer

Supporting factors

-  Grid capacity
Suitable location
infrastructural
-  Demonstrates potential of battery storage to manage peak demands
financial
-  Oxford Road Corridor
geographical
-  Contributing to MMU being one of the top sustainable campus' in the UK
Contribution to carbon reduction targets for the city
social
-  Siemens, Manchester Metropolitan University, Manchester City Council
partners

Films

<https://youtu.be/nff65-0l3kl>

Contacts

Siemens
Ivan Hewlett
Ivan.hewlett@siemens.com
www.siemens.co.uk/triangulum