



Batwind Energy Storage

Peterhead, Scotland

Batwind is the first energy storage system to be connected to an offshore floating wind farm.

The 1.3 megawatt-hours (MWh) battery stores excess electricity generated from the world's first commercial floating windfarm, the 30MW Hywind Scotland.

Both Batwind and Hywind Scotland are owned by Masdar and Equinor (formerly Statoil). Batwind was officially launched on June 27, 2018.

Using sophisticated data-analysis algorithms, Batwind will determine when to store and release electricity with the aim of increasing the economic value of the battery. The algorithm, which will rely on multiple data sources (weather & performance forecasts, market prices, maintenance schedules, consumption patterns and grid services) will "teach" the battery how to best stack different operational modes together so the utility and revenue is maximised.

The smart energy system is located at an onshore substation in Peterhead, Scotland. Batwind will rely on electricity produced by the Hywind floating offshore wind farm.

Energy storage is key to unlocking the full potential of renewable energy by addressing the variability of solar and

QUICK FACTS

- Storage capacity of 1.3MWh, equivalent to about 100,000 iPhones
- Battery operation and analysis expected to last till autumn 2020
- The energy storage system is provided by German specialist company Younicos, and augmented with smart functionality under development by Masdar and Equinor

wind. Electricity grids are real-time systems and have to continuously match supply and demand to ensure smooth operation. Therefore, the variation of energy from the sun and the wind can be a challenge. Storage solutions address this challenge by allowing operators to obtain electricity from solar and wind on demand.

Batwind is helping us to understand how storage technologies can improve the operational and cost efficiency of renewable energy power plants.