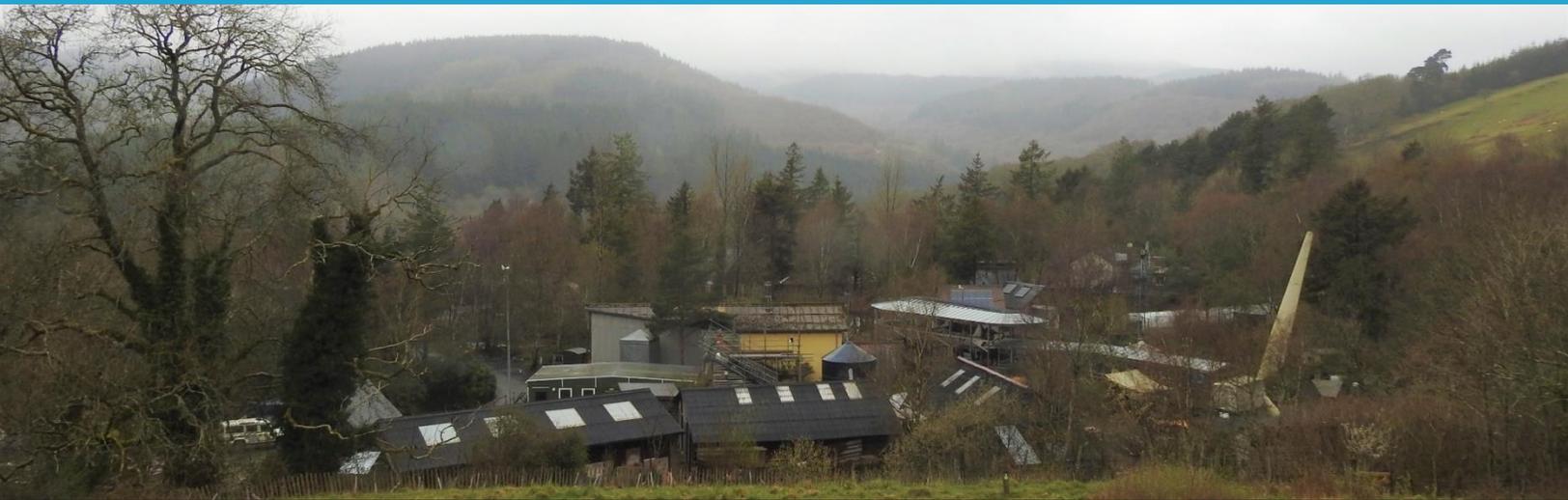




## LEAD BATTERIES: ENERGY STORAGE CASE STUDY



**HOPPECKE**

# Mini-grid System For Europe's Leading Eco-Centre

### Centre for Alternative Technology, Wales

Located in Europe's leading eco-centre is a mini-grid system supported by lead batteries.

The Centre for Alternative Technology was set up 45 years ago as a place to demonstrate more sustainable living with less wasteful use of resources and energy.

With 90 staff and a host of volunteers, CAT is an educational charity that researches and communicates practical solutions for a sustainable future including the use of renewable energy.

**"The battery system is an essential element of the CAT electrical system, providing us with a reliable back up for this busy site."**

Centre for Alternative Technology

### Technical Specification

The energy storage project utilizing lead batteries, forms a key element of the sites electrical system has been designed for low energy consumption whilst being used. Electricity comes from a range of renewable sources on site: solar PV panels, a hydro system and wind turbines.

The 30 kW backup system comprises:

- 6 x SBU-5000 Sunny Backup inverters
- Automatic switch box AS-Box-XL
- HOPPECKE lead batteries providing 2 x 57 kWh storage
- Hydro turbine and wind turbine connected via Windy Boy inverters
- 20 kW PV, 4 kW Hydro, 3.5 kW Hydro and 600 W wind connected to the mini-grid

Fitting in with the Centre's energy-efficient and sustainable ethos, the system uses low-embodied-energy materials such as sustainable limber.



In normal operation, the renewable generators provide power for the site and any excess power is exported to the national grid.

If power failure occurs, the CATs electricity system is isolated from the grid and continues to operate as an island system.

The Sunny backup inverters regulate power generation according to demand, ensuring efficient and continual operation of renewable generators and maintaining power to essential site loads.

The lead battery backup is large enough to provide at least 3 hours of power for the site, in the event of no sun, wind or biomass.

### About the Company

HOPPECKE Batteries is the largest producer of industry battery systems in European ownership.

Since 1927, the family company has been developing and producing lead acid batteries in Germany, and thanks to their own recycling plant, 99% of the used battery material can be recycled.

With the development of marketable, forward-looking energy storage solutions, HOPPECKE makes an important contribution to solve the societal challenges that result from the implementation of global climate protection goals.

**“Our products and services help contribute to the achievement of climate change objectives.”**

HOPPECKE Batteries

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