

## Off Grid Power System For New Bike Park



Energy Solutions are delighted to be providing the off grid power system for Bike Park Wales, the UK's first full scale mountain bike park in the heart of the South Wales valleys, Gethin Forest Park.

The park officially opened on the 24th August 2013 when the public were able to experience the thrills of the trails for the first time. The Bike Park has been built to rival the best in the World and has a singletrack trail and minibus uplift service allowing mountain bikers of all abilities access to a range of trails down the Myndd Gethin mountain.

As well as a range of trails the complex offers riders a full range of additional facilities including a bike shop, bike hire and a café.

The Bike Park project was 5 years in development and cost a total of £1.5 million. Energy Solutions were contacted to assist with the off grid power requirements of the site. Being completely off grid in all respects, including power, water and phone, the site was an exciting challenge. To deliver power for heating and cooking the site installed a generator and LPG. The off grid system was needed to assist and bring power for lighting, security, additional cooking equipment and shops tills.

Two key areas the Energy Solutions Engineering Team needed to consider within their design and install were the demands the park would put upon the off grid system - the park is open 7 days a week, 52 weeks of the year - it needed to be robust and reliable. The park is also dedicated to constantly improve and update its' services to the public, so the off grid system also needed to be expandable within budget constraints. The final system delivered all of this as a modular system, using the highest quality components, with links that allow connection to solar panels and wind turbines in the future.

Explains Energy Solutions' Engineering Manager, Dan Cox:

"This has been a great project to work on, the demands of the park are high, but with the eco-design of the build it has allowed us to build a bespoke off grid system that minimises their generator and fuel usage, and can be expanded and connected to renewables as the site grows."

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**Dan Cox, Energy Solutions**

### Solution

E-Plex controlled off-grid system incorporating:

- 3 phase
- 30kW system
- 3 x 10kW Victron Quattros
- 170kWh Lead Acid Batteries
- Auto Changeover System



### Plant room

