

Case Study: Camp Kernow

OutBack Off-Grid Power System Installation



Overview

Camp Kernow is a not-for-profit organization dedicated to empowering and motivating children in the United Kingdom (UK) to take action toward renewable energy adoption. Located in Cornwall, a fuel-poor area, Camp Kernow provides a practical, first-hand experience of sustainable living techniques and renewable energy technologies through outreach programs and residential camping experiences.

The goal of Camp Kernow is to immerse children in an environment where renewable energy, waste reduction and energy conservation are a way of life. The camp's co-founders designed the organization for sustainability from its first day of operation. Through its school outreach program, Camp Kernow has worked with over 7,000 children and opened its off-grid residential center in June 2012.

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Our goal was to build a green camp and educate children so they can make informed energy decisions as they grow up and later start their own families. Camp Kernow is reaching thousands of kids, and there's no way we could have achieved this without companies such as Outback Power. Its technology is helping a new generation work toward a sustainable future."

Charlie Nicholson
Co-founder, Camp Kernow

System Specifications

Location: Camp Kernow, Cornwall, United Kingdom

System Power: 63.1kW Solar System

Components: FX inverter/charger and
FLEXmax 80 charge controller





Objectives

- Demonstrate the reliability of solar power to children as part of the organization’s goal to encourage better resource consumption habits and behavioral change in the community
- Maximize solar harvesting to ensure continuous power for the camp’s water-providing borehole system, which maintains the water supply for children and staff
- Increase renewable energy yield to power the camp’s office and standby systems

Solution

Camp Kernow worked with technology integrator CleanEarth Energy in Cornwall, UK, to configure an off-grid system including an OutBack Power FX2024E inverter/charger and OutBack Power’s FLEXmax 80 charge controller. OutBack Power’s Maximum Power Point Tracking (MPPT) technology was particularly important for this application, since the hours of sunlight in the UK are seasonally limited. Future mobile designs using MPPT will train children in the process of aligning solar panels as part of their camp experience.

Since deploying its system with OutBack Power’s FLEXmax 80, Camp Kernow has successfully established its program of moving off the utility grid. The system not only powers computers in the office and lighting throughout the center, but also pumps and treats water to a potable standard for children to use.

Benefits

- Camp Kernow dramatically cut its carbon output by moving off-grid. In the first six months of using the FLEXmax charge controller, the organization generated 63.1kW of solar power that otherwise would have come from non-renewable sources
- The camp earns UK government payments for the energy it generates off the utility grid, helping fund operations
- The aesthetic qualities of the OutBack Power equipment are attractive to children and support the organization’s goal to spark enthusiasm for renewable energy technologies
- The system moves Camp Kernow forward in its plans to become a showcase for emerging sustainable technologies



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