

CASE STUDY

Fox ESS enables energy independence
for a Pembrokeshire home!





Broad Haven, Pembrokeshire
National Park, West Wakes



Residential Hybrid Renewable &
Smart Energy Storage System

Project Overview:

When homeowners Mike Morgan and Helen Davis set out to reduce their carbon footprint and address their rising energy bills at their coastal property in Pembrokeshire National Park, they turned to a complete renewable energy overhaul. To supplement an existing wind generation system, they required a robust PV, storage, and emergency power backup setup that could handle severe coastal weather while integrating seamlessly into the grid.



The Challenge:

Located in an exposed coastal region prone to frequent power cuts, the homeowners needed a system that provided continuous, uninterrupted digital connectivity for working from home. Additionally, the solution needed to seamlessly blend existing wind generation with new solar input, store excess power effectively, and perform smoothly in an externally mounted setup exposed to harsh natural elements.

The Fox ESS Solution:

To meet these requirements, the homeowners installed a high-capacity Fox ESS system coupled with a preexisting PV setup. The installation features a Fox KH 8kW hybrid inverter paired with three Fox EP11 batteries, providing 32kW of energy storage. A Fox EPS (Emergency Power Supply) unit was integrated to ensure full whole-home backup during grid outages. Furthermore, the system incorporates an Axle Virtual Power Plant (VPP), automatically exporting stored energy to the grid during peak demand times for enhanced financial return.

The Result:

The comprehensive Fox setup transformed the property into a virtually off-grid, self-sustaining home. Energy bills have gone down to nothing, while VPP grid exports generate an estimated £200–£300 per year, significantly shortening the payback period. The homeowners benefit from full energy independence, seamless app monitoring, and uninterrupted backup power.

Products Used:

- 1 x FOX ESS KH 8kW Hybrid Inverter
- 3 x FOX ESS EP11 Batteries (32kW total capacity)
- 1 x FOX ESS EPS (Emergency Power Supply) Unit
- 10–12kW Solar PV Array (~20+ panels)
- Pre-existing Wind Turbine Generation System

