

Off Grid Solar Power Supply The Wild Waste Show – EcoBus



The Wild Waste Show is fully funded by Oxfordshire's District and County Councils and is a free road show visiting schools and community groups. It aims to raise awareness of the problems caused by waste. The bus provides lectures and education to schools and requires a mains power supply to energise displays and visual aids to help education. Ardenham Energy was asked to provide a solution to the challenge of providing power in areas where there is no access to mains power.

Using 128Wp solar laminates and a battery based storage system, the bus can now provide 2500Wh from a full battery even in winter, and more in summer, when the energy collected from the sun can recharge the batteries. This energy will power the fans, and some lighting as well as laptops and display equipment. The technology chosen was selected to be robust and to perform well in winter as well as summer. In winter after a full day in the field, there is facility to boost the batteries from the grid ready for the next day's outing.

The system comprises:

- 2 x Unisolar PVL 128 Triple Junction PV Laminates
- Steca 30A microprocessor controller charge regulator
- Studer 1000W 24V DC to 240pV AC Inverter
- 24 V Battery Charger (to recharge batteries in evening in poor weather)
- 2 x 120AH 12V Leisure Batteries

Ardenham Energy Ltd is an engineering contractor certified under the UKMCS Low Carbon Buildings Scheme for grant aided projects (www.lowcarbonbuildings.org.uk). The company has extensive renewable energy engineering project experience and can provide a full service for wind systems, solar PV (electric), solar hot water systems, ground and air source heat pumps and backup power systems. These can be for domestic, governmental and commercial and non commercial buildings in the Home Counties and London region.

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