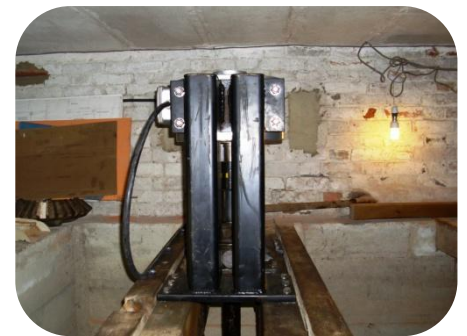
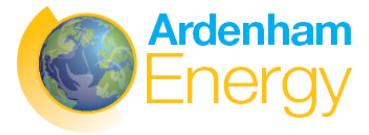


# Water Mill Hydro Electric Repowering

## Grove, near Wantage, Oxfordshire



In February 2010, Ardenham Energy grid designed, installed and commissioned a system to grid connect an historic hydro mill in Grove. The original mill was mechanically coupled to grind corn, and was superseded by electricity in 1939. It has since been refurbished and has a delta wound permanent magnet generator mechanically coupled to the original vertical shaft with a bespoke flexible coupler.

The electrical installation took one day, and will enable the owners to benefit from the forthcoming feed in Tariff.

The energy from the generator is rectified, and synchronised with the grid supply via an inverter and will be used to supply clean energy to the property. Energy not used by the property can be exported to the grid and used elsewhere. The 3.6 kW generator is expected to produce 7000 kWh per annum.

The installation comprises:

- 1 PVI Wind/Hydro Rectifier Unit
- 1 PVI 3600 Inverter with bespoke power curve.
- 1 phase pulsed kWh Meters
- DC and AC switchgear and electrical brake system

**Ardenham Energy Ltd** is an engineering contractor certified under the UKMCS Low Carbon Buildings Scheme for grant aided projects ([www.lowcarbonbuildings.org.uk](http://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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