



<i>Pico Energy Ltd</i>	Case Study 002	<i>Site name:</i>	Currypool Mill
			
System type:	Overshot Waterwheel	Power output:	6.5 kW 3 phase
Manufacturer:	HydroWatt GmbH	Typical Generation:	30 MWh p.a.
Client:	Mr and Mrs Taylor	Design conditions:	H = 3.20 m Q = 0.35 m ³ /s
Location:	Cannington, Somerset	Commissioned:	November 2006

Project description:

A sawmill in a previous life, Currypool Mill was renovated by its new owners and converted into the family home. Options for power generation including a crossflow turbine and an overshot waterwheel were compared in terms of cost, power output and suitability for integration with the surrounding buildings. The simplicity, overall efficiency and lack of screening required favoured reinstatement of a waterwheel.

An old and badly broken 'Armfield' turbine was removed and a new launder was installed along with an overshot wheel made from Corten steel which was carefully dimensioned to fit the existing wheelpit.

The system operates without active flow regulation under normal generating conditions. During shutdown the flow is diverted behind the wheel via a trap door sluice in the launder. The power is interrupted, the hydraulic circuit which normally holds the sluice shut is de-energised and the door opens under its own weight. This provides a failsafe means of controlling the system.

The power produced is exported to the grid on a net metering basis. This enables the power to be consumed in the building if sufficient demand exists and otherwise exported. The system has been registered with Ofgem for award of ROCs since 2006