

Case Study: 75kW Turgo Hydropower Scheme

Location: Blaen Y Coed, Ysbyty Ifan, North Wales

Installed: April 2013

Total Fall (Gross Head): 91m

Design Flow: 109 litres/second

Turbine Type: 2 jet Turgo, Direct Drive

Generator: 75kW Induction, 6-pole, Three Phase

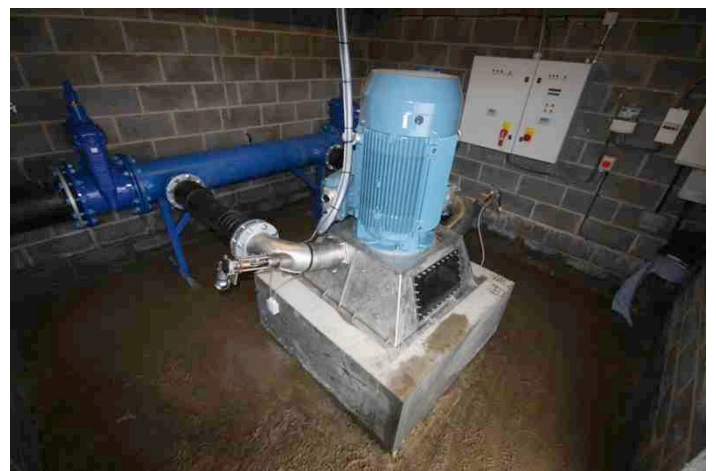
Penstock: 588m of 315mm HPPE Pipe



The powerhouse with the penstock entering on the left



The intake weir during construction



The layout of the powerhouse

This scheme is an excellent site, with a rapidly falling stream. It will produce 170 MWh per year, enough to supply 43 typical UK homes, and saving around 89 tonnes of carbon dioxide from being released into the atmosphere each year. The scheme provides an alternative revenue stream for the farmer worth around £38,000 / year. This is index-linked so that it will increase each year in line with inflation, and the scheme should pay for itself in 4-5 years.