



WATER TURBINES FOR ENERGY SAVING

CATEGORY: ENERGY

CASE STUDY YEAR: 2007

**Path Head Watermill,
Blaydon,
Northumberland**



<http://www.gatesheadmill.co.uk>

Description:

Gateshead mill has been a restoration project to develop a working visitor attraction involving the community to provide educational experiences linked to practical vocations associated with renewable energy use. The site has mini wind turbines and a number of practical demonstrations of water use such as water wheels a hydraulic ram pump and a new water turbine. The site also has a wind pump. The attraction provides practical work experiences for mental health and special needs projects and is planning further development s related to ecological themes including school allotments. The latest project is to install a 360 watt water turbine to meet onsite lighting and appliance needs.



Economic

The installation of water turbines will help the economy be more self sufficient in terms of energy and make use of the likely increases in rainfall. It is estimated that about 2% of the UK's energy needs could be provided through micro and mini hydro electricity projects. The 360 Watt unit will generate up to 3000kWh per annum equivalent to about £300 per annum.



Environmental

The environmental benefits of hydro and wind power are extensive. In this micro situation 3000 kWh represents about 150kg CO₂ per annum. As Hydroelectric power can be produced with sensitivity to the landscape and has in many situations been a historical producer of energy it has significant advantages to other forms of renewables.



Social

The social benefits of this project are significant not only does the demonstration educate local people about the practical possibilities of renewables but it can also act as a catalyst to encourage local communities to consider similar projects.

WEB

Hydro Energy: <http://www.british-hydro.org/mini-hydro/index.asp>
 Energy Systems: <http://www.boost-energy.com>
 Centre for Alternative technology: <http://www.cat.org.uk>