

## **CREGGAN COUNTRY PARK – Harnessing and Optimising Renewable Energy**

Creggan Country Park Enterprises is a Derry based social enterprise which offers a full range of water sports, outdoor pursuits, walking and angling facilities. All income generated by the Park contributes towards improving the local economy through the provision of employment opportunities and facilities for use by local residents, school children and tourists.

Part of Creggan's ethos is sustainability and it has invested heavily in a number of renewable energy conversion technologies for the supply of heat and power at the 100 acre park, including a 75kW Hydro scheme, a conference centre with a turf roof and a wind turbine.

Having committed substantial resources to the technology, Creggan were unsure how to tie the current technologies together to provide the maximum economic return for the park. In particular the renewable energy conversion systems have all had operational problems and the hot water storage tank cannot meet visitor demand.

Having sought the required skills and expertise, the Park was awarded an Invest Northern Ireland Innovation Voucher and was matched to Dr David Redpath from the University's School of the Built Environment.

Dr Redpath initially installed a flow meter and data logger to ascertain the current state of the centre's energy conversion devices. He then analysed the hot water usage patterns, hydro plant and wind turbine power outputs and made recommendations for a new size of hot water tank. Finally a proposal was put forward for a suitable wireless GSM based monitoring system based on the analysis of collected data.

Ultimately with the University's support the potential now exists to correct any identified deficiencies and to harness the generated energy in a more optimized manner. This should help Creggan Country park to become self sufficient in sustainable energy and enable the export of energy, earning the centre a valuable revenue stream.

Gerry Quinn, Manager at Creggan Country Park Enterprises was delighted with the skills and expertise of the University;

*"Having invested in a range of renewables over a number of years on an ad hoc basis, we felt we needed assistance to map a way forward whereby we got the best return. Going forward we now have a range of useful suggestions from the University as well as ideas for taking things to the next level. The innovation voucher was extremely useful and we have gained a valuable insight into how we can better develop our economic and environmental sustainability."*