



Greening an inland training centre

Renewable resources

Colwick Park Outdoor Adventure Centre, Nottingham

Colwick Park Outdoor Adventure Centre is a new training centre set within Colwick Park consisting of teaching space, changing facilities, an office and storage for boats, canoes and dinghies. The centre will be used to provide watersports facilities, promote outdoor activities and provide nature studies for local schools and community groups consisting of:

- sailing
- wind surfing
- canoeing and kayaking
- raft building
- orienteering
- mountain biking
- problem solving activities
- camping
- environmental education.



The centre has been built from new by Nottingham City Council alongside the River Trent and within the boundaries of a country park. It was important the building's energy and water supplies were generated from self sufficient sources due to the remote location of the centre and for environmental reasons. The park has a rich diversity of wildlife, from butterflies and dragonflies, to the large number of birds that visit the park, especially at migration time. This includes nationally important numbers of wildfowl that are present in the wintertime.

Energy Supplies

The centre generates all mains electrical power on site from renewable resources.

- Wind and photovoltaic cells – a 6kW wind turbine is situated about 25 metres away from the centre enclosed within a 2 metre high security fence and photovoltaic (PV) panels are on the roof. Together they generate all the electricity for the centre. The design incorporates a battery store to cope with days when generation is low, electricity then passes through an inverter to convert shared electricity to mains voltage.



- Solar panels – These are located next to the photovoltaic panels on the roof and generate heat for the first hot water tank. Both the photovoltaic and solar cells are protected against vandalism by a covering of steel mesh and polycarbonate panels.
- Wood burner - The stove is a clean-burn, high efficiency model and can operate for up to

three days between re-fuelling. Fuel is in the form of sustainable wood pellets. The heat generated is used for the second hot water tank that is fed from the first tank (heated by solar power) and for underfloor heating.

Although this provides an effective heat source, Martin Smith Outdoor Education Manager for Nottingham City Council stressed the importance of its location within a building. There has been an installed in the centre of a wall in the classroom. In hindsight, he believes this could have been better placed within the room as it takes up a significant amount of space that could otherwise be used for teaching.



Energy Efficiency

Due to the buildings complete reliance on self-generated energy supplies, it is vital that the building is energy efficient and has energy conservation measures in place. High levels of insulation minimise heating requirements, with windows orientated to provide passive solar energy. Low energy light bulbs are used and sensors in the toilets prevent lights being left on unnecessarily.

Water

Not only is the centre self-sufficient when it comes to electricity generation, it also has its own water supply and water treatment on site. Water is pumped from a borehole, filtered and treated by an ultra-violet disinfection unit. Wastewater is then drained into a cesspool tank for the foul water and soakaways for the storm water.

Environmental Education

Environmental education is a key element of the outdoor centre. The relationship between energy being generated and energy used is clearly shown by a series of gauges showing;

- Photovoltaic cells output
- Wind turbine output
- Building consumption
- Battery voltage



These demonstrate for example how much power is used each time the kettle boils or lights are turned on. On a more practical note, it also allows the Centre Manager to monitor energy output to ensure battery levels remain topped up. A diagram illustrating the processes between the energy and water inputs and outputs supports the educational message of the control panel.

Grants and Funding

The centre has been provided by Nottingham City Council with the construction value of the building being just over the half a million mark. A large proportion of this money was actually funded by grants. By installing wind, solar and other renewable energy supplies a number of awards and subsidies became available. The majority of money for the build came from the Big Lottery Fund. This was established to bring together the work of two National Lottery distributors: the Community Fund, providing funding for charities and the voluntary and community sectors, and the New Opportunities Fund, providing funding for health, education and environment projects.

The renewable resources were half funded by a Clear Skies grant, put in place to help finance solar thermal, wind, hydro, biomass and PV electricity generation installations. Clear Skies has since been closed to new grant applications but is superseded by the DTI's Low Carbon Buildings Programme (LCBP).

The project was also awarded WREN funding (Waste Recycling Environmental Limited). WREN can fund a wide range of projects under the Landfill Tax Credit Scheme. To be eligible for a grant of between £2,000 and £50,000 projects must be located within a WREN operating area and be available to the general public.

Capital One, which has its European headquarters in Nottingham, also donated a substantial sum of money towards the scheme to provide activity equipment, including all the boats and equipment required by the centre.

Further Information

For more information about Colwick Park Activity Centre, visit Nottingham City Councils outdoor education [website](#)

For details of the new Low Carbon Buildings Programme (LCBP) from the Department of Trade and Industry visit www.est.org.uk/housingbuildings/funding/lowcarbonbuildings or call 0800 915 7722. They also have an online enquiry form for advice on alternative energy supplies and funding queries.

Clear Sky grants are still available for those living in Scotland through the Scottish Community and Household Renewables Initiative (SCHRI). Visit www.est.org.uk/schri or call 0800 138 8858.

The Big Lottery Fund is frequently updating it's funding programmes so make regular visits to their website to see if there is a grant available which may help your business or organisation www.biglotteryfund.org.uk/programmes

Check online if your organisation is located in an area of the country eligible for WREN grants on their website. An online application form is also available www.wren.org.uk, or call 01953 717165.

Capital One Community Recognition awards are ideal for training centre's whose facilities will be made available to local children or community groups. Follow the link [here](#) for more information.

To find out more about this case study and The Green Blue please contact Katherine Boor, Project Co-ordinator on 023 8060 4227 or email katherine.boor@thegreenblue.org.uk