



## Bwlch Nant Yr Arian Visitor Centre

Bwlch Nant Yr Arian in Ceredigion, Wales, attracts over 100,000 visitors a year. Visitors come to marvel at spectacular views across the Melindwr valley, hike through wooded hillsides, ride one of the hair-raising mountain bike trails or simply relax by the lake. Once the site of an old lead and silver mine, Nant Yr Arian has now been sensitively restored to its former natural glory, and voted category finalist in the Best Open Space in Britain. One of the biggest attractions in recent years has been the red kite conservation programme, which has seen the bird population increase from two pairs to 80 pairs. Feeding time at Nant Yr Arian is quite a spectacle! With the site's growing popularity new facilities were urgently required to replace the tired 1970's visitor centre. EU 'Objective 1' funding enabled the Forestry Commission to build a new £500,000 visitor centre that would encompass sustainable design and construction principles and resource efficiency. The centre opened in 2005 to regional and national acclaim, winning environmental awards and demonstrating significant energy, waste and water savings.



At the heart of a popular beauty spot, the award-winning Visitor Centre at Bwlch Nant yr Arian showcases a locally-sourced timber building and a range of sustainable features exemplifying the growing trend towards green tourism in Wales



The visitor centre is a one-and-a-half storey timber framed structure, housing a café, classroom/meeting room, toilets and shower facilities. Wood has been used throughout the complex, much of it locally sourced and milled: western red cedar decking and balustrades and larch and Douglas fir cladding – untreated for a natural weathered look. The inside flooring is a mixture of local ash, oak and beech, with an area of durable end-grain softwood tiles in the classroom. The café's vaulted ceiling with exposed timber beams and double-height glass wall give the central area a spacious feel, and let in plenty of light. Outside an elevated timber decking area with timber benches and tables gives panoramic views of the lake below. Access from the car park is via steps made from western red cedar with two timber viewing platforms and interpretation panels, or by an access ramp.

## Insulation

The centre is insulated using cellulose fibre made from recycled newspaper and windows and doors are double-glazed, reducing heat loss by 50%. The glass wall allows heat from the sun into the building and roof windows provide ventilation on hot days. A roof overhang provides shade indoors, and an outdoor shelter on rainy days.

## Green roof

The roof is a green roof system featuring a 'sedum landscaping layer'. Sedum is particularly hardy – able to withstand drought, high winds and sun. It slows down rainwater runoff to prevent flooding, and naturally filters rainwater which collects in a gully and travels down pipes to a water tank for use in the visitor centre.

## Water

A rainwater harvesting system channels water from the roof to a 10,000 litre tank for flushing the toilets and the bike wash, reducing mains water consumption by 25%.

Dual flush cisterns in the toilets, push taps in the basins and other efficient plumbing fittings, equipment and controls have further reduced water consumption by 10%.

## Lighting

An infrared sensor lighting system automatically adjusts according to the level of natural daylight, keeping the need for artificial lighting to a minimum. Installation of energy-efficient electrical fittings reduces energy consumption.

## Woodfuel heating system

A woodfuel boiler provides heating and hot water. The 35 kilowatt system was supplied and fitted by a local Energy Supply Company who offer a complete heating service, including delivery of locally-sourced woodchips, boiler maintenance and servicing. The Forestry Commission has benefited through this scheme from the installation of an expensive system without the capital costs, paying a charge per kilowatt hour of energy used. The woodfuel heating system has reduced energy consumption from non-renewable sources by 75%.

## Waste management system

The centre has an award-winning waste management system. Recycling bins are provided for staff and visitors, and waste generated by the café has been significantly reduced. Packaging is recycled, raw food composted and around 40 litres of used vegetable oil is collected by a local company and converted to biofuel. 75% of waste produced onsite is recycled, saving around £1500 in disposal charges per year – over a busy summer only one wheelie bin of waste per week is collected. As the site is not on the mains sewerage system a composting system has been installed. Using normal flushing toilets, the solids are separated by an Aquatron centrifugal unit and composted which is then used as fertiliser. Removal of sewage from the site has been reduced by 80%.



### Our advice

Before installing a rainwater harvesting system and a sedum roof bear in mind that as the sedum soaks up the water there is less rainwater entering the harvesting tank to service the toilets. One system may be adequate.



### Achievements

- Green Dragon Environmental Standard@ Level Two.
- Winner of the Arena Network Business and Sustainability Awards 2006, Waste Management category.
- Ceredigion Business Award 2006 (joint winner).

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