

County Durham Tourism Partnership

Durham, Co Durham



ECO DESIGN OFFICE UNITS

CATEGORY: GENERAL CASE STUDY YEAR: 2007



Description:

County Durham Tourism Partnership recently moved to eco friendly offices at Rivergreen. Their unit consists of a number of eco friendly features, which were incorporated into to design, and management of the business, which helped them, gain a GOLD award. The building project was undertaken as a high quality eco friendly office development. The construction includes a number of key eco features. Rammed earth construction (this is a low embodied energy construction avoiding the need of high-energy materials such as concrete and steel frames) uses local earth products, which are compressed to produce a strong versatile building material. The wall has been constructed in six separate panels inside the atrium of the 3,700sq m, two-storey, timber-framed building. Being south-facing and subject to direct solar gain, the wall absorbs the sun's energy during the day and releases it at night and early morning to preheat the adjacent offices prior to occupation. The rammed earth wall is the most innovative of the building's sustainable features, which include space heating provided by a biomass boiler fed with wood pellets, and collecting rainwater for toilet flushing and irrigating the building's sedum roof. Approximately 80% of the material used in the wall's construction is fine sand obtained from the basement excavation. The remainder consists of gravels and clay from local quarries. The success of the method depends upon the proportions of the mix and the overall moisture content, which will be unique to every wall. Since there is no firing process and no toxic emissions, the amount of CO2 emitted depends solely on the transport requirements for additional materials, such as clay and chemical stabilisers. The Aykley Heads wall used 60% site material, with the remaining 40% transported in.



Economic

The construction was able to attract over £800,000 in European grant funding and as a high quality ecofriendly design the eco chic offices are able to attract progressive and higher value small businesses into the area.



Environmental

Ventilation is achieved passively and through sensitive design and wind catchers are used for the conference rooms. Offices feature rammed earth walls, sedum roofs, ground source heat pumps, solar panels and grey water collection and recycling with and the development achieved an "excellent" BREEAM rating (UK rating for Ecodesign). The development was able to attract a GOLD GTBS award through the combination of good design and infrastructure together with practical and efficient maintenance and operation procedures such as eco friendly products available through the café and a comprehensive recycling service for clients.



Social

The office provision is specifically for small businesses and business start ups and has a significant number of socially related enterprises using the facilities

WEB

One North East: <http://www.onenortheast.co.uk/page/environment/aykleyheads.cfm>
 Centre of Alternative Technology: <http://www.cat.org.uk>
 Monodraught: <http://www.sunpipe.co.uk/windcatcher/index.php>