Forestry Commission

Haf Roberts, Coed Cymru

Case Study: Mitigation – using local timber in construction, Wales

The majority of timber used within the British construction industry is imported, however, Forestry Commission Wales (FCW) have provided land for a project which aims to reverse this trend. The Ty Unnos Modular system - developed by Coed Cymru, the Welsh School of Architecture's Design Research Unit and Element's Europe – aims to maximise the use of readily available, naturally sourced and locally processed Sitka spruce to help promote Welsh timber as an environmentally friendly product.

Lynne Morris

Ty Unnos (which translates to 'A house in a night') is based on a Welsh tradition of land occupancy, whereby a person who successfully builds a house on common land in one night, then becomes the owner of that house. Using a specially designed box-beam and ladder system, factory-made 'pods' arrive on site already finished. As planning and construction has been completed prior to them leaving the factory, and with kitchen units, bathroom suites, radiators and even plastering finished, the 'pods' are quickly assembled. A house can be installed in under 5 hours.
Using this system, four affordable homes have been created in Dolwyddelan in Gwynedd on land released by FCW. The houses have been built using sustainable materials and design principles, and elements such as built-in heat recovery systems, solar panels to supplement water heating and insulation made from recycled newspaper provide a much greener living experience. The transfer sale documents drawn up by FCW included covenants which ensured the houses would be built to the highest sustainable standards.

The houses have achieved a level 4 minimum standards rating within the UK Government's Code for Sustainable Homes. This Code provides standards for determining the sustainability of new homes and includes assessments of the environmental impact of the construction materials and the future energy and water use. In Wales the achievement of level 4 rating is a planning requirement.

Benefits for our climate
Trees help to address climate change through their ability to sequester carbon by removing it from the atmosphere as they grow. Using wood in buildings is particularly beneficial as it locks the carbon in place over the long-term and is a green substitute for non-renewable materials such as steel and concrete which generate and release carbon dioxide into the atmosphere during their production.