CASE STUDY: EDUCATION
ENERGY & FABRICATION CENTRE

AINSLEY GOMMON ARCHITECTS

GROUND FLOOR PLAN

FIRST FLOOR PLAN

WORKSHOPS

CLASSROOMS

STAFF

CIRCULATION / AUXILLARY

PLANT

Sustainability Strategy

The Client requested that the new building should aspire to be as low energy as possible and achieve a BREEAM Excellent rating. The first stage of the sustainability strategy was to reduce the energy consumption as far as possible by implementing passive sustainable design strategies, such as maximising daylight levels and controlling summer overheating. This was combined with high levels of thermal insulation and reduced air leakage. Resource usage was minimised with high efficiency fittings and water consumption reduced due to rainwater harvesting and low water consumption sanitary fittings.

Renewable technologies were then included with the use of ground source heat pumps to provide heating and cooling, and solar thermal panels to produce domestic hot water. Close consultation with the BREEAM assessor was undertaken throughout the detailed design and construction stage resulting in the final building actually achieving a higher BREEAM mark than anticipated at the design stage.

Sustainability Overview

- Solar Hot Water Panels
- Ground Source Heat Pumps
- Passive Solar Design
- Overheating prevented by tinted glass & internal blinds
- BRE Green Guide 'A' rated materials
- Natural Ventilation and avoidance of air conditioning
- Rainwater Harvesting
- High thermal performance through the building fabric
- Energy Efficient Lighting
- Enhanced Ecology and planting of new species

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Name of Building
Energy and Fabrication Centre
Coleg Menai

Date Completed
March 2011

Project Cost
Approx. £3 million

Building Type
Education

Location
Llangefni, Anglesey

Client
Coleg Menai

Main Contractor
Anwyl Construction Ltd.

Environmental Performance
BREEAM Education Excellent

Awards
Welsh BREEAM Award 2011

Building Overview

Ainsley Gommon Architects worked alongside Anwyl Construction on this BREEAM Excellent rated project at Coleg Menai's Llangefni Campus. Appointed as Contractor's Architects on a Design and Build Contract, Ainsley Gommon became involved with the scheme following planning approval and provided architects services from a technical design stage through to completion on site.

The Energy and Fabrication Centre offers a range of specialist training and education facilities aimed at preparing students for employment within the energy sector. The two storey, steel framed building incorporates a range of workshops, teaching areas, offices, stores, circulation areas and welfare facilities.

Flexible classroom and workshop spaces are provided and include specialist facilities for training in engineering and fabrication skills, with courses at the College tailored to meet the needs of the nuclear industry due to the proximity of the nearby Wylfa Nuclear Power Station. Additional workshop spaces are provided with an emphasis towards the green energy sector with facilities to train students in a range of renewable and sustainable energy technologies.

Following completion of the centre it was then extended to provide additional educational and social facilities. The building has sustainability at its core with the latest in low carbon technologies utilised in its construction, with the aim of championing the use of environmental and sustainable technologies.

The building is one of 7 projects to be awarded a Welsh BREEAM Award in 2011, recognising the highest scoring buildings in Wales under BREEAM.