

LOW-ENERGY BUILDING OF THE YEAR WINNER THE ZUCKERMAN INSTITUTE

ENTERED BY **THE UNIVERSITY OF EAST ANGLIA**
SPONSORED BY **THE CARBON TRUST**

The University of East Anglia's Zuckerman Institute really impressed our judges as the client set itself the tough target of beating the benchmark for natural ventilation – its own award-winning Elisabeth Fry Building. The Zuckerman Institute for connective environmental research keeps cool by circulating night air through its hollow Termodeck floor slabs. It is also better insulated and 40% more airtight than the Elisabeth Fry Building, plus it has a very efficient heat recovery system to recover the heat from expelled air. There is a photovoltaic array and care was taken to minimise the amount of concrete needed for the building's construction. After a year the building has hit its target for the amount of energy needed for heating and is approaching the targets for other energy use.

► The Zuckerman Institute is 40% more airtight than the neighbouring, and award-winning, Elisabeth Fry building



RUNNERS UP

THE NATIONAL MARITIME COLLEGE OF IRELAND, ENTERED BY BDP

The client wanted its new education training facility in Cork to use just half the energy of a typical building of the same type. As BDP was architect and engineer it was easier to adopt the holistic design approach essential to minimise energy use in a building with three distinct areas including heat-producing computer rooms. Most of the building is naturally ventilated and lit, except the computer rooms, but even these aren't mechanically cooled.

COILLTE HEADQUARTERS, ENTERED BY BURO HAPPOLD

The judges were particularly taken by the zero carbon emissions aspiration for this project in Newtownmountkennedy, Ireland. Buro Happold was responsible for the energy strategy of the second phase of this all timber office complex. It features thermal solar collectors that heat the water in a large buffer vessel – this is topped up by the first large-scale wood-pellet-fired boiler in Ireland. This saves approximately 160 tonnes of CO₂ generation a year.

GIFFORD STUDIOS, ENTERED BY GIFFORD

Multidisciplinary consultant Gifford seized the opportunity to develop a "commercially green" building when it had to build itself an office at its New Forest headquarters. It has low-energy mechanical ventilation – the fans consume a total of just 192 W – with user-controlled additional natural ventilation. After just a year in operation Gifford says the building will consume less than half the power needed for a standard air-conditioned office for the same money – clients please take note.

CIPD HEADQUARTERS, ENTERED BY RYBKA/ GMW ARCHITECTS

This building in Wimbledon, south London, had to generate 10% of its energy needs from renewable sources to get planning permission, which is tough for a city office building. The building form minimises solar gain and is very airtight. Thermal solar panels provide 4% of the energy requirement and the building's exposed concrete soffits make use of summer night cooling. All told, the building uses less than half the power consumed by a typical air-conditioned office.