

Europe's First 'True' Zero Carbon In-Use School Scoops CIBSE Award for HamsonJPA

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Leading Building Services Engineering Consultants and Chartered Building Surveyors, HamsonJPA, has been presented with the prestigious New Build Project of the Year (value up to £10million) Award at the 2014 Chartered Institution of Building Services Engineers (CIBSE) Building Performance Awards in recognition of recent works on the Montgomery Primary School, Exeter. Built to stringent energy performance principles and proven as zero carbon in-use after a year of operation, the school boasts extensive sustainable design features.

Jim Quay, Director and Head of Building Services Engineering at HamsonJPA commented, "We are thrilled to have been presented with such a prestigious award. The project has become a statement of sustainability and innovation and we are proud to stand as a key member of the project delivery team."

Now one of the first Passivhaus schools in the UK and the first 'true' zero carbon in-use school in Europe, the Montgomery Primary School in Exeter uses Passivhaus energy management principles along with heat from the pupils and an innovative building construction to minimise energy usage.

Additional key features of the building included orientation of the building to maximise on-site photovoltaics generation, use of materials from sustainable sources, and creation of a suitable thermal environment for the lifetime of the building.

"In order for the building to achieve 'zero carbon in use', all CO2 emissions related to energy consumed within the building had to be offset by energy from a renewable source. After the first year of operation, careful monitoring confirms that the building is zero carbon in-use. It has been a challenging project, but serves as a statement against which future sustainable building designs will be benchmarked."

The CIBSE Building Performance Awards recognise the businesses, teams, products and projects that demonstrate engineering excellence in the built environment. Judged by a panel of distinguished industry leaders, the awards are acknowledged as best in class.

The 2014 New Build Project of the Year Award is presented to the building project that most effectively demonstrates the achievement of high levels of user satisfaction and comfort, and delivers outstanding measured building performance, energy efficiency and reduced carbon emissions.

HamsonJPA's Sustainable Design Consultants worked closely with Devon County Council and University of Exeter on the design for the school in order for it to meet the exacting Passivhaus standards. The project team included NPS Group Exeter as quantity surveyor and architect, Bam Construction for construction works and WT Hills as project managers.

The awards ceremony took place on February 11th 2014 at Grosvenor House Hotel, London.

For more information, visit <http://www.hamsonjpa.co.uk>

Additional Project Facts

- The £9million school was built alongside the existing 1920s building, since demolished, and now accommodates up to 420 students in addition to a nursery.
- Stringent Passivhaus standards require buildings to have extremely low energy usage whilst providing excellent comfort conditions in both winter and summer.
- The Passivhaus design approach has a successful track record in mainland Europe and has been used for the construction of 25 schools in Germany and Austria.
- A modular building design approach was developed where all the classrooms were designed as identical units incorporating toilets, cloakrooms and stores between. This also allowed the provision of a draught lobby to maintain air temperature and control air leakage whilst providing direct access to outside.
- Adoption of the Passivhaus standard set a limit of 15 kWh/m2/yr for heating, compared to the current demand of between 113 – 164 kWh/m2/yr for a school built to current Building Regulations.
- The high thermal mass and airtightness of the precast concrete panels means that no traditional boiler is required. Instead, the body of the 'heat source' is generated from pupils and teaching staff.

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