

# Royal Academy of Engineering Centres of Excellence in Sustainable Building Design

With the UK setting ambitious carbon targets for the year 2050 – committing to reducing greenhouse emissions by at least 80% from 1990 levels – the need to reduce carbon emissions of the built environment, which contributes around 45% of UK CO<sub>2</sub> emissions, is more pressing than ever. Four University Centres of Excellence have been set up to support the construction industry through a period of rapid change and to strengthen the UK's leading position in low carbon construction.

The Royal Academy of Engineering highlighted sustainable building design as a key theme in its 2012 report: *The Case for Centres of Excellence in Sustainable Building Design*. In order to implement the Government's Green Deal by 2030, the UK workforce urgently needs a dramatic increase in people skilled in sustainable design. The report thus called for the establishment of Centres of Excellence in Sustainable Building Design, "...to attract the brightest and best of our young people to become engineers and architects with a sound knowledge of low carbon design and so bring about the required revolution in the construction industry." The Centres link up with industry, professional institutions, and



Directors of the four Centres met with representatives from industry, the professional institutions and the Royal Academy of Engineering at UCL earlier this year to sign a concordat to cement the network

**Royal Academy of Engineering**

**Centres of Excellence in Sustainable Building Design**

Working as one team to demonstrate and share best practice in teaching and research.

Government to collaboratively address the skills shortage across the sector, and the pressing need to recruit and retain more students to meet the shortfall.

The Centres were established in 2013 at the Universities: Heriot Watt, Loughborough, Sheffield and UCL, and between them deliver excellence in teaching and research in low-carbon and sustainable building design. The vision of the Centres of Excellence is no less than to create the world's best architectural and engineering practitioners, who are expert in the theoretical and practical application of sustainable building design and equipped to challenge the current status quo in design practice.

The four Centres of Excellence offer programs at undergraduate and postgraduate levels across the range of civil, architectural, environmental, and structural engineering; construction project management; and numerous specialist postgraduate courses related to sustainable built environment and design. Across the network, the Centres of Excellence work collaboratively to develop a common technical language. The ambition is that social engagement, interdisciplinary design, holistic and collaborative problem solving and embedding sustainability and low carbon design will represent the norm in built environment education.

Between them the Centres have

several doctoral training centres and knowledge exchange programmes with industry, and offer CPD, and public engagement activities. The Centres are promoting awareness of the sustainability challenges and their solutions by acting as regional hubs for knowledge, providing an interface between research and teaching and expanding research and knowledge transfer to industry.

In the context of rapid changes in the built environment in the UK and around the globe – due to urbanisation, climate change, natural disasters and political instability – the centres are producing graduates with the desire to change the world: to provide a better, equitable and sustainable quality of life for the future.

For further information please visit the websites of the four centres:



- <http://www.hw.ac.uk/schools/energy-geoscience-infrastructure-society/research/cesbd.htm>
- <https://www.ucl.ac.uk/sustainable-building-design>
- <https://www.sheffield.ac.uk/sustainable-building-design>
- <http://www.lboro.ac.uk/news-events/news/2013/may/86sustainable-building-design.html>