

Project: Careers in Construction
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A green light for eco builds

Increasing demand for sustainable development is creating exciting challenges, both in the construction of new buildings and refurbishment projects, says **Gabrielle Collett-White**

Construction is going green and the UK's eco-building boom is well under way. Earlier this month, more than 1,000 exhibitors showed their wares at Ecobuild, the world's biggest event for sustainable design and construction, held at London's Earls Court.

Paul Morrell, the government's chief construction adviser, says the UK's commitment to make a transition to a low-carbon economy is the "greatest opportunity" for the construction sector. "The plan for this requires us to come up with a new approach to building design, and to re-engineer the existing stock of some 28 million buildings in the country, to enable their occupiers to lead more energy-efficient lives."

No wonder everyone – from politicians to CEOs of major contractors – is keen to underline their environmental credentials. "Sustainable development is the best opportunity construction has had for a long time," says Dr Paul Toynce, head of sustainability at Bovis Lend Lease UK.

"Clients looking to 'future-proof' their investments are demanding energy efficient solutions, and, as the economy regains its strength, sustainability is going to rise even higher up the agenda."

The main spur for environmental construction is likely to come from ambitious and legally binding government targets that require all new homes to be "zero-carbon" from 2016 – through cutting fuel consumption with low-energy lighting and super-insulation, for example, and by creating green spaces to offset emissions. All commercial properties must meet these standards from 2019.

Also crucial is environmental awareness among the public, as more than 40 per cent of all UK carbon emissions come from the built environment. "Both companies and individuals are more aware of the issues and are starting to accept higher costs for greener buildings," says John Alker, head of advocacy at the UK Green Building Council.

"Large companies in the UK will not commission a new building without meeting high environmental standards. Corporate social responsibility is a major factor but this is also driven by a demand for quality. A sustainable building is a better building."

Luka Vukotic is a 25-year-old graduate engineer at Arup (a global engineering company), who recently worked on the Barratt Green House at the BRE Innovation Park in Watford



Above, Barratt Green House; left, plan for a Bovis Lend Lease school, Birmingham

"There were enormous challenges and frustrations," says Vukotic. "But a project like this can change legislation as policy-makers see what is possible."

While the outlook for new projects looks positive, it's hard to predict what will happen to existing structures not built with the environment in mind: the so-called refurbishment market.

Poppy Ross, 23, assistant sustainability manager with Bovis Lend Lease, is familiar with the challenges of refurbishment. She is working on the Birmingham Building Schools for the Future project, part of a nationwide programme set to last until 2020. It involves the construction, remodelling or refurbishment of 89 schools serving more than 150,000 of the city's youth.

Ross's role is to monitor and record

everything that may have an effect on the environment, including waste, water usage and CO₂ emissions.

"I want to do practical things to make a difference," says Ross.

Inclusions at the schools include biomass boilers, solar panels, small wind turbines, rainwater harvesting, wildlife areas and vegetable patches.

Expertise in green building is going to be a major plus for young people looking to get into the construction industry as the sector grows. "Despite the economic climate, sustainability has remained high on the construction industry's agenda," says John Alker. "A career in this sector increasingly requires a firm grasp of sustainability, both to meet the challenges of making construction green, and to be able to take the opportunities this entails."

PLANET-FRIENDLY UK INNOVATIONS

Nano Emulsion

● These paints are made from naturally sourced materials and are free from harmful solvents. The nano particles are water repellent, so they protect the paint from moisture and extend its lifespan, as well as reflecting thermal radiation to increase building energy efficiency.
● Developed by Nutshell Natural Paints (www.nutshellpaints.co.uk)



Blodiverse Green Roof Mat

● Roofing material made of wild flowers, sedum, herbs and flowering perennials. Can help to minimise the effects of pollution and absorbs rainfall to reduce the risk of flooding, as well as creating an attractive wildlife habitat.
● Launched on March 2, 2010, by lawn turf specialist Lindum (www.turf.co.uk)



Eco Modular Living

● Formed from an insulated shell made out of recycled materials, these houses are cheap to run, environmentally friendly (they also incorporate green roofing and rainwater harvesting) and affordable.
● Created by Eco Modular Living (www.ecomodularliving.co.uk)

PaperStone

● A green building material used for surfaces, panelling and furniture. This sustainable product is made from 100 per cent post-consumer waste paper. It is highly durable and fire resistant, as well as being extremely resilient to abrasion.
● Available from UCM Timber (www.ucmtimber.com)