

10 West: Sustainability

The new £28 million 10 West building houses the Department of Psychology and the Institute for Policy Research, whilst providing postgraduate study space on its upper two floors.

10 West has been designed from the outset with sustainability and energy efficiency in mind and we have used the BREEAM (Building Research Establishment Environmental Assessment Method) 'eco-design' standard for buildings to guide this process. This method assesses the design and construction for a range of aspects including water and energy efficiency, the type of materials used in construction, the health and wellbeing of the occupants, the management of the construction site and the minimisation of waste. We have also followed a sector-leading best practice approach regarding the handover of buildings, following 'Soft Landings' principles.

The fabric of the building has been constructed to exacting standards, with walls, floor, roof and windows having excellent insulation properties. In addition to this careful construction has achieved an air tightness rate 4 times better than that required by building regulations. The heating system has the latest high-efficiency boilers, with the whole building closely controlled by our central Building Management System for the campus.

The building uses a 'mixed mode' ventilation and heating strategy, designed to minimise the energy consumption while maintaining high levels of comfort. Air handling units supply tempered air to the building, with occupiers able to control their local environment with openable window louvres, and with automatically opening windows in some areas. The building has also been designed with high thermal mass and exposed concrete slab to help maintain a consistent temperature and minimise the need for cooling in summer.

All the lighting in 10 West is provided by state of the art LED lighting systems, with full automatic control to switch off unrequired lights or to dim where natural light is present. Each individual lamp and sensor is set to the correct output, but can also be centrally adjusted if required as the whole building is on our central lighting control system. Water efficient fittings are used throughout with low flush toilets and sophisticated urinal controls, and recycling facilities are provided throughout the building.

In addition to this 10 West is equipped with a large rooftop solar photovoltaic (PV) array of just under 22kWp made up of some 84 high performance PV panels. This PV system is expected to provide nearly 20,000kWh of electricity every year, and a live display showing the output is in the foyer of the building.



10 West rooftop solar panels and display



In order to monitor the energy consumption of the building more than 60 energy meters have been installed. These will not only monitor the main utilities - electricity, gas and water – but will also monitor the heat supplied to the domestic hot water and heating systems. All these meters are connected to the University's Automatic Meter Reading (AMR) system that collects data readings every 30 minutes that will enable, not only monitoring of the building energy performance but also close analysis of the usage patterns.

This is just one aspect of our sustainability approach at the University, where we have cut our carbon footprint and our energy use significantly over the last 10 years despite significant growth, with our carbon emissions per student or per building floor area reduced by 30%. For further details of our activities see <http://www.bath.ac.uk/estates/energy-sustainability-environment/>