

how the building works

photovoltaics (PVs)

The blue PV panels on the front of the building and on the roof make electricity from daylight. These can generate up to 50% of the electricity supply for the whole building. The meter at the entrance measures the amount of electricity since November 2005.

insulation

The building has extra thick insulation in the walls and on the roof to stop heat being lost on cold days.

air-tightness

The 'air-tight' test gives a rating far in excess of the Building Regulations. This stops heat being lost through air leakage out of gaps and holes in the building.

underfloor heating

The heating is provided from hot water tubes encased in the floor. This provides even heat distribution and low maintenance in the future. It makes the floors nice to sit on too!

thermal mass

Exposing the concrete columns and floors allows heat to be absorbed into the structure. Heat can be used in the winter or released in summer and helps to reduce temperature extremes.

passive ventilation

Fresh air flows across the building through opening windows on the courtyard side and is drawn out of the high-level louvres by the 'stack effect'. This has removed the need for air-conditioning which uses artificial cooling and chemical refrigerants.

natural daylight

We are all programmed to react to daylight. A bright day can improve our mood and give a sense of well-being. The building allows natural light into almost 100% of all rooms. Beautiful sunsets over the city can be seen from the top floor.

solar panels

Up on the roof there is an array of solar panels that provide heat to the hot water system. Less energy is then required from the boilers because the water is pre-heated.

rainwater harvesting

Set underground in the garden is a large reservoir tank that holds rainwater collected from the roof and recycles it as a water supply for the building's flushing cisterns in the toilets.

windcatchers

Three large 'windcatchers' are located at roof level over the main entrance which help natural ventilation by pulling air through the building.

BMS

The fresh air supply, air temperature and electric lighting are controlled by the BMS (Building Management System) which responds to changes in the external climate and internal environment. The system will be used to maintain the preferred 'comfort zone'.