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What's that chimney?

It is the flue for the efficient biomass boiler. Biomass boilers burn wood chips to heat the building. It is a renewable source of energy. This boiler produces 550kW of power and uses locally-sourced wood chips.



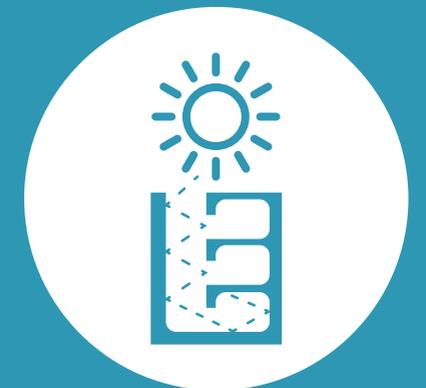
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2

Why this shape?

Each of the cones that make up the roof is a source of daylight and natural ventilation. The central atrium allows sunlight to reach the lower floors, so we don't need to switch the lights on, which reduces energy use. Most of The Hive is naturally ventilated, to reduce the carbon footprint. The cone shape encourages warm air to rise so that cooler air can enter through the windows, cooling the building down.



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3

Underground... Is that important too?



While The Hive was being built, Roman remains were found. This limited how deep the building foundations could go, and extra supports were needed to spread the weight. The Hive draws air through an underground tunnel to aid cooling in the summer. The tunnel entrance faces the river to make use of the prevailing winds blowing from the Malvern Hills.



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Worcestershire Archive and Archaeology Service are saving water too!

To reduce mains water use, a rainwater collection system is used. Once the water is collected from the roof, it is stored in a 70 m³ storage system. This water is used to flush the toilets and to wash archaeological finds.

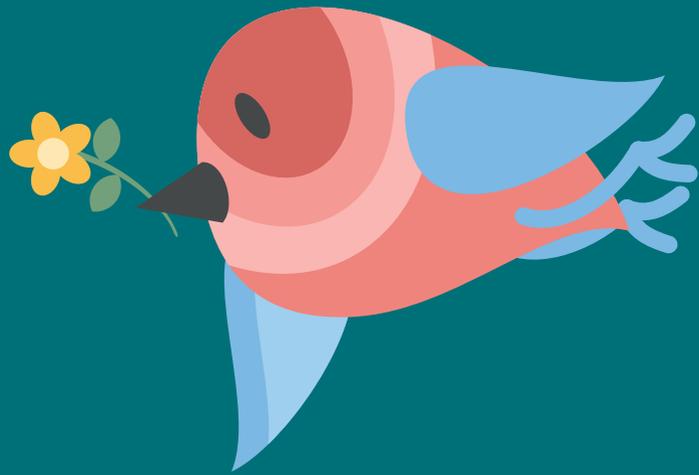


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Eco-friendly ways to get to The Hive

It is easy to get to The Hive via public transport and there is secure bicycle storage for staff and the public to use.



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Our building knows...

The Hive is controlled by a high-tech Building Management System. It controls when the windows open and close to keep the temperature stable and to keep the air fresh, as well as controlling lighting, and lots of other equipment in the building.

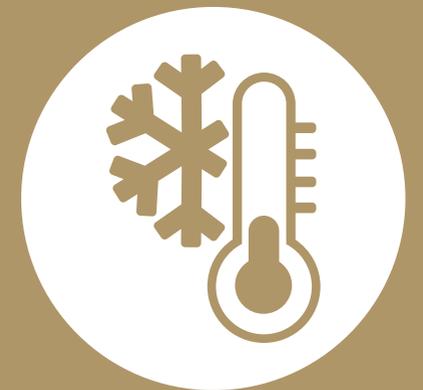


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River water cooling

Cooling is provided by natural ventilation, but also from the River Severn. Cool water is pumped through chilled beams and coils embedded in the ceiling. This saves two thirds of the energy that standard air conditioning would use per year.



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Our building materials are eco-friendly too!

Each of the roof cones are made from large, laminated panels. These panels are made from sustainably sourced softwoods. The concrete used has reduced cement content, so it has a lower environmental impact.



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We look after the River Severn

The use of river water to cool the building does not affect the temperature of the river. The Building Management System closely monitors temperatures and flow rates to ensure we operate as agreed with the Environment Agency. The pumps are in the river bank, so the flow of the river and the wildlife is not disrupted.



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We are protected from flooding

To protect The Hive, two water meadows have been planted. This, along with rainwater harvesting, attenuation basins and planting, forms part of the Sustainable Drainage System. This absorbs rain and floodwater, and prevents water levels from rising.



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Wildlife thrives at The Hive



The water meadows are planted with a range of native, traditional meadow wildflowers, including the cowslip to increase biodiversity. Worcestershire Black Pear Trees have been planted, and the western boundary of The Hive is planted with the rare Black Poplar. Features provide space for bird nests, bat roosts and stag beetle habitats.



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