

How the Greenshop Group's ethos integrates into our award winning building

Green roof

The main south facing roof of the new building is a "green roof" which is planted with a sedum mix of plants. These plants will survive in harsh conditions. These roofs give a degree of storm water attenuation (they will absorb water and release it slowly) to help to prevent flooding.

Brown roofs

The entrance canopy and the stair link blocks are "brown roofs" comprising of impoverished soil, stone and fallen timber. This will make interesting viewing with its range of wildlife habitats. We will be keeping a close eye on this area to see what flora and fauna takes up residence.

The Raindrop Pond

The Raindrop Pond, although a visual feature also provides a wildlife habitat, and has the added benefit of reflecting extra winter light into the back of the shop. The pond is part of the water management on the site retaining rainwater from the old Greenshop building and the entrance canopy of the new building.

The New Building...

The Greenshop Group building was designed by award winning architects 'Architype' to meet the needs of a growing business and to provide a showcase for the group's products and systems. The brief was also to design a building that required as little off site support or services as possible in order to minimise energy needs and running costs.

Photovoltaic Panels

Solar PV panels are fitted at an angle of 30° to maximize the annual total of electricity output. These PV panels are connected to the National Grid via the inverters to manage their energy output. The inverters monitor and display the energy generated.

Passive Solar Gain

The insulation in the external walls and roof of the new Green Shop building is Warmcel, which is made in the UK from recycled newspapers. This was installed by being 'blown in' to the spaces between the timber frame after it was erected. Warmcel and Thermafleece are two of the most sustainable insulation products available. Examples of both can be seen in the Green Shop.

Rainwater Harvesting System

We have our own rainharvesting installed. Rainwater is collected from the roof, filtered and stored in underground storage tanks behind the building. This supplies up to 50% of our overall water consumption. The north roof is a collecting area and rainwater is used throughout the building for toilet flushing and vehicle washing. The chlorine-free water is ideal for topping up our pond.

Solar collectors

Evacuated tube solar thermal collectors are fitted to the east and south facing walls to take maximum advantage of the low winter sun and to reduce the gain from high summer sun. As these supply both hot water and space heating, demand is better served during the winter and less during the summer when there is no need to heat the building.

The Wood Boiler

This boiler is fuelled by logs, supplied from management of the site, and waste wood (old pallets etc) from the business activity. The boiler is "fired" intermittently as the heat energy is required. It is charged with about two barrow loads of wood. This burns for about four hours charging the thermal store with around 160kwhrs of heat energy, this supplies the building's heating and hot water.

Glass

All the windows and doors were selected on their energy efficiency and were positioned to maximise the solar gain. The building is designed with large overhanging eaves to shade the south windows from the high summer sun. "brie soleil" is fitted to shade some ground floor windows. All windows have a "U" value of 1.1W/m²/K, the best available at the time of design.

