



FACTSHEET

MARCH

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Changing the way we live

THE LIVING PLANET CENTRE

The sustainable features of our building

Design and construction

- Our ambition for the Living Planet Centre was to break new ground in carbon emissions reduction and ensure that the building was an exemplar of low-carbon office design. To do this, we needed to analyse the embodied CO₂e (carbon dioxide equivalent) emissions of all the materials used in the design and construction process and the 'whole life' emissions over a 60-year period.
- We reduced the embodied whole life carbon emissions by 42% over the duration of the building project – at no additional cost. This amounted to over 5,400 tonnes of CO₂e.
- Where possible, we achieved savings by using recycled materials or local sources. For example:
 - use of GGBS (ground granulate blast-furnace slag – a by product of iron and steel-making) and recycled aggregate in concrete
 - over 80% recycled content in aluminium
 - recycled content used in steel reinforcing
 - concrete sourced from local company Cemex.
- The roof's barrel vault design with interconnecting beams makes it very strong and the glazing allows natural light into the building. It uses less materials than conventional roof designs and these materials are lower in carbon, e.g. responsibly-sourced timber rather than concrete.
- To help regulate the temperature of the building in both summer and winter, a product called Energain (recycled aluminium and wax) was built into the roof to provide thermal mass.
- Brise soleil, external structures – made from larch – shade the building from sunlight to reduce solar gain.
- Internal automated blinds provide solar shading, important for keeping the building cool in the summer.

Electricity

- 410 solar panels on the roof (covering 510m²) provide up to 20% of the building's electricity.
- Thamesway Energy, supplies the remainder of our electricity from their combined heat and power (CHP) plant .
- Electricity generated from the solar panels, that we don't use, will be fed back to Thamesway in exchange for a payment equivalent to the feed-in tariff (FIT).

Heating and cooling

- Ground source heat pumps (GSHP) will provide both heating and cooling to the building, taking advantage of the relatively constant 12-13°C temperature below the surface of the earth.
- There are 20 bore holes going down 100m and around 400m of earth ducts underneath the building.
- GSHP are powered by electricity, we have no other energy supply to the building.
- GSHP are considered a low carbon technology because they produce more energy as heat than they use as electricity; GSHP can produce 3 to 4 units of heat for every one unit of electricity.

Ventilation

- Natural ventilation is used in the building where possible.
- Four wind cowls (each 4m tall) on the roof provide a way for air to flow out of the building.
- A green-and-red light system on the perimeter windows indicates when it's the optimum temperature to open or close them.

Building fit-out

- The carpet in the Living Planet Centre is made from 100% recycled nylon by Biosfera. The yarn used to make the carpets comes from industrial waste sources, such as recycled fishing nets and fluff from old carpets.
- Timber in the furniture comes from credibly certified sources, including with FSC Chain of Custody.
- The building is lit with energy-efficient fluorescent and LED lights. Triggered by movement sensors, they automatically switch off when not in use.
- IT infrastructure incorporates technology used in the London 2012 Olympic and Paralympics Games.

Water and drainage

- To reduce the amount of mains water we use, we're recycling greywater from hand basins and showers, and harvesting rainwater to flush our toilets and water the plants.
- Excess rainwater collected from the roof drains into the wetlands area as part of our sustainable urban drainage system (SUDS). Once full, the water will discharge into the adjacent Basingstoke Canal.
- The bike sheds and bin store have green roofs covered with sedum mats to encourage biodiversity and reduce the amount of rainwater run-off that would otherwise enter the sewer drains.

Biodiversity

- Local green spaces include the Basingstoke Canal on one side of the Living Planet Centre and Horsell Common, a Site of Special Scientific Interest (SSSI) on the other.
- We've established native plant species on the ground level and more exotic species on the podium around the building.
- There are three bat boxes, five bird boxes (including swift boxes) and two bug boxes.

Waste

- Compost waste from the building produces biogas to generate electricity and residual waste is used as a fertiliser.
- Our intention is not to send any waste to landfill. Any waste that can't be recycled or composted will be sent for incineration/energy generation.

Transport

- The building has easy access to Woking train station with regular fast services to London Waterloo.
- There is secure covered storage for 30 bikes, five showers and a drying room. We encourage staff to cycle to work or use public transport wherever possible. 56% of staff are now taking the train to work vs 21% before we moved.

BREEAM

- BREEAM is the world's leading environmental assessment method and rating system for buildings.
- The assessment scores 10 areas of the build: energy, innovation, land use and ecology, management, materials, waste, pollution, transport, water and health and well-being.
- We're aiming to achieve a BREEAM Outstanding rating for the Living Planet Centre. Only 24 buildings have reached this standard in the last six years.

