



PRODUCT OR INNOVATION – THERMAL COMFORT



Product or Innovation of the Year – Thermal comfort

Recognising products or innovations that make a significant contribution to the thermal comfort element of building performance, including in the areas of heating, ventilation, cooling and humidification.

Winner: VirtuPVT – Naked Energy

In a category that attracted a wide range of solutions, covering both products and services, Naked Energy's VirtuPVT stood 'head and shoulders above the rest', said the judges.

The product is well thought through, they added, and achieves cleaner integration of renewable technologies in buildings to meet 21st-century energy needs.

The judges also commented on the strength of Naked Energy's submission, which they said was supported by very detailed research and development information, plus well-considered methods of installation and optimisation.

With more than half of the UK's carbon emissions attributed to heat and power generation for buildings, a key challenge is to reduce these emissions while maintaining or improving user comfort.

VirtuPVT combines thermal and solar PV, and allows buildings to offset gas and electricity consumption. Its unique vacuum-tube PVT design means it can deliver heat up to 70°C, so can contribute to domestic hot water, space heating and process heat, while simultaneously producing electricity for onsite consumption or export.

The tubes can be mounted vertically or horizontally, and their very low profile means they are optimised for visual impact and wind loading. Small enough to be carried by hand, they are designed to be self-ballasting and have integral reflectors to minimise shading.

Each tube can deliver a maximum of 275kW thermal and 70kW electrical, and – in the UK – typical yield is expected to be around 213kWhth and 60kWhc per tube.

By adding the 20% efficiency of PV cells to the 60% efficiency of a solar thermal collector, VirtuPVT can achieve total efficiencies of up to 80%, making it the highest energy-density solar technology in the world. The product has been awarded a Solar Impulse Efficiency Award and is listed as 'one of the 100 to watch' by CleanTech Global.

Shortlist

Artus – Arup
City Multi R32 VRF air conditioning - Mitsubishi Electric
Demand Logic's building analytics platform - Demand Logic
MasterLine SoftTone - Reynaers Aluminium in partnership with Arup