

How Bio-Solar systems promote sustainability and efficiency



Project Overview

Battersea Dogs and Cats Home has completed one of the most significant redevelopments in its 154-year history, a £5 million transformation led by Sir Robert McAlpine that has modernised facilities and created a state-of-the-art veterinary hospital. A standout feature of the upgrade was the installation of a full environmental roofing package using the Proteus Pro-Living® Bio-Solar System, which seamlessly combines advanced liquid-applied waterproofing, a biodiverse green roof and an integrated solar photovoltaic array.

What is a Bio-Solar Roof?

A bio-solar roof merges solar PV panels with living vegetation planted on a specialised waterproofing and drainage layer. The panels sit above the greenery, allowing sunlight to reach both elements. This synergy delivers multiple benefits where the plants naturally cool the panels via evapotranspiration, boosting their efficiency by up to 15%, while the greenery supports biodiversity, enhances stormwater management and improves thermal insulation. The system uses sustainable, low-maintenance materials to create a resilient urban ecosystem, making it ideal for projects prioritising environmental performance.

Project Delivery

Over 1,200m² of Proteus Cold-Melt® liquid waterproofing membrane, the heart of the Pro-Living® system, was applied by a Proteus Approved Contractor as part of a five-layer build-up designed around the charity's operational and budget requirements. The installation included Cold-Melt®, Pro-Therm XPS insulation, a Proteus Low-K separation layer and attenuation components, finished with paving, decking and an extensive biodiverse green roof.

Bio-Solar Benefits in Action

The integrated PV panels generate renewable energy, reducing reliance on the grid and lowering carbon emissions, while the green roof

promotes wildlife habitats and combats the urban heat island effect. Rainwater is absorbed and attenuated, reducing runoff by up to 70%, while the combined layers improve thermal performance, helping cut heating and cooling costs. Cold-applied, low-odour Cold-Melt® ensures safe installation for staff and animals, eliminating fire hazards sometimes associated with hot works.

With its BBA certification, elastomeric, seamless structure, and sustainable materials, the Pro-Living® Bio-Solar system delivers a durable, energy-efficient, and environmentally positive solution that will protect Battersea Dogs and Cats Home for decades, supporting both its operations and its green ambitions.

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