

Background

In 2008, BSkyB decided to develop office and studio space at their site in Brentford, west London. Due to the nature of the business the campus would require more energy than a typical office complex and more cooling than heating. BSkyB have a strong allegiance to all aspects of sustainability and in close consultation with the Greater London Authority (GLA) made a commitment under a Section 106 Planning Agreement to achieve a 20% reduction in carbon emissions through the use of onsite renewable energy. Ultimately BSkyB decided to install a trigeneration plant, also known as a Combined Cooling and Heating Plant (CCHP), to provide electricity, heating and cooling. The chosen technology was an Organic Rankine Cycle (ORC) and to further improve carbon reductions it was decided that it would be fuelled by recycled woodchip. When implemented it would be the UK's first biomass CCHP.



BSkyB CCHP building

The Clearpower Solution

Clearpower was selected as principal contractor, PM Group provided the detailed design, the biomass boiler was manufactured by VAS and the ORC by Turboden. The furnace has a thermal output of 5.2MW. This in turn delivers 2.3MW of cooling, 1.8MW of heating, and 1MW of electrical power. The installation is housed in a purpose built 16,000m² energy centre. The project was commissioned in 2011 and handed over to the client in February 2012. Upon handover Clearpower commenced supply of 13,000 tonnes/annum of Grade A recycled wood chip and provision of operation and maintenance services.

Benefits

- Significant carbon reductions
- Compliance with planning
- Short payback period as it qualified for 1.5 ROCs
- Sustainable, local fuel supply
- The installation meets 20% of the buildings electrical load and 100% of the heating and cooling loads.
- Substantial ongoing savings on heat and electricity



Ash skips