CASE STUDY: Liverpool John Moore University

Solar thermal is first choice for University

Project Details

- *11,500m^2, 6 floor innovative learning accommodation for students.*
- *Hot water requirement throughout the day for numerous hand wash basins, showers and several small catering facilities.*

An integrated solar thermal solution has been supplied to meet the high demand for hot water at Liverpool John Moore University's new city centre Redmond Building.

Building services engineer Matt Ganley oversaw the installation: "We suggested a renewable hot water heating system to the university as the hot water load to the building was expected to be high and we needed to present an energy efficient, low NOx solution. We also wanted to ensure the system would also be resistant to legionella build-up.

Having worked with Lochinvar in the past, and always found its products to be reliable, efficient and cost effective, its integrated solar thermal solution was our first choice."

Key Equipment Supplied

- *12 x LSP20+ Flat Plate Solar Collectors*
- *1 x HSV1250 HSV Thermal Store*
- *1 x SHW145-435CE EcoShield™ Gas-Fired Condensing Water Heater*

The integrated solution included LSP20+ solar flat plate collectors; these feed the HSV Thermal Store which, in turn, provides pre-heated water to the EcoShield™ gas-fired condensing water heater.

The HSV Thermal Store is able to combine multiple heat sources for the generation of pre-heated water for DHW supply. DHW storage within the HSV is minimal and under normal operating conditions its basic design will not allow the build-up of legionella bacteria. Unlike other renewable preheat systems, HSV does not require a pasteurisation regime, which can be a highly energy intensive process.

EcoShield™ gas-fired condensing water heaters work on the principle of low hot water storage but fast recovery, this makes it particularly suitable to meet the diverse uses of the Redmond Building, reacting rapidly to the students' hot water demand.

Brief Product Specifications

LSP20+ Flat Plate Solar Collector

LSP20+

A1 Heat Loss	**W/(m2K)**	3.63
Aperture Area	**m²**	1.79
Efficiency η_o (Aperture)	**%**	81

HSV Thermal Store

HSV1250

Storage Capacity	**Litres**	1145

EcoShield™ Gas-Fired Condensing Water Heater

SHW145-435CE

Nominal Input (Gross)	**kW**	146.5
Recovery Rate 50 K Δt	**l/hr**	2436
Efficiency (Part L2 Gross CV)	**%**	97.8
Storage Capacity	**Litres**	454