

Robur gas absorption heat pumps work very effectively, contributing to the University's carbon reduction strategy.



SCHOOL BUILDING

Heating system with gas absorption heat pumps

Fired by gas and ground source renewable energy

Open University

Milton Keynes, United Kingdom

Customer requirements

The education sector is championing the uptake of heat pumps in the UK, providing an important showcase for the fast growth of heat pump market. This is the successful case of

the Open University.

The Open University in Milton Keynes is a 2000 sq metre sustainable new-build development that forms part of the Walton Hall campus. Sustainability and carbon

reduction were the core

requirements of the customer. The new building, which opened in early 2011, is targeting a BREEAM Outstanding rating. It incorporates natural ventilation, night time cooling, solar

chimneys, automatic lighting controls, a green roof, solar water heating and PV panels.

The heating system

13 boreholes have been drilled to a depth of 100+ metres to install a ground loop system feeding 4 Robur gas absorption heat pumps + ground source renewable energy GAHP GS with a capacity of 140 kWheat output, providing heating and domestic hot water as well. The operation of Robur ground source gas absorption heat pumps is very simple and reliable: the thermal energy absorbed by the earth is enhanced by the refrigeration cycle.

Advantages

The 4 Robur ground source gas absorption heat pumps GAHP GS provide up to 40.9% utilisation of ground source renewable energy, exceeding peak efficiencies of 169% and 40.9% reductions in

annual heating costs and in CO2 emissions compared to condensing boilers. Every year the 4 Robur GAHP GS installed at the Open University save 20.4 Tons of CO2 emissions, equivalent to those absorbed by 2,856 trees or those produced by 8 green cars; every year 8.8 TOE are saved. Legislative benefits include cost savings relating to the Carbon Reduction Commitment Energy Efficiency Scheme and improved Building Energy Certificate ratings. Additionally, gas absorption heat pump enables points for BREEAM assessment as a result of low emissions. Robur gas absorption heat pumps work very effectively to deliver reliable and affordable low carbon heat, contributing to the University's carbon reduction strategy.



Credits Energ



Advantages for school buildings

- Easy retrofitting into existing buildings
- 20.4 Tons of CO2 emissions saved every year

Units installed	Nr. 4 GAHP GS Absorption heat pump fired by gas + ground source renewable energy
Heating capacity	140.0 kW
Type of building	University