

Case Study

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The facts:

Property Type:

New build, zero carbon

Property size:
Approx. 8,000 m²
Product supplied:
300kW Kensa Plant
Model Heat Pump with
Reverse Cooling.
Application:
100% space heating
within the property,
complementing under-
floor heating.
100% cooling using
Chilled water fan coils
Installation:
Pond mat arrays floated
to the centre of the lake
and sunk
Cost Savings:
Complete sustainability
and zero energy,
removing energy costs
totally and allowing for
revenue generation via
energy payback from the
National Grid.
Fuel Displaced:

Oil

CO₂ Reduction :
Carbon neutral due to
holistic use of renewable
technologies

Cotswold Water Park, Gateway Visitors Centre, 300kW with cooling



Carbon neutral centre uses lake system to heat & cool building

Cotswold Water Park is located in an area of natural beauty, boasting 140 lakes and offering an extensive range of leisure activities. The Gateway Visitors Centre is designed to be the main visitor focus and information point for the whole park.

This spectacular building is constructed from sustainable green oak and is a beacon for sustainable, rural development in the South West. The centre embodies sustainability and energy efficiency boasting an effective combination of solar and water sourced energy.

Project assessment

Kensa Engineering was selected for their technical expertise and product and application superiority. The team of engineers worked closely with all parties involved in the development, delivering technical advice and a detailed proposal.

The latter followed a comprehensive assessment of the building and site potential, heat loss calculations and energy source in line with total project objectives and the high standards expected by the Cotswold Water Park.

View from inside the Gateway Centre,
overlooking the lake.



£Grants

for details contact:

Kensa Engineering Ltd
Mount Wellington
Chacewater, Truro
Cornwall, TR4 8RJ.
Sales: 01392 826021/22
Fax: 01872 862440

info@kensaengineering.com
www.kensaengineering.com

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Project partners

BP Solar
Solar design and installation

AB Construction
main contractor



Cotswold Water Park, Gateway Visitors Centre

An impressive water sourced energy system

Kensa's 300kW plant room heat pump system sources heat from the lake to deliver 100% space heating to all buildings in the Gateway Centre. In addition, the centre also benefits from a system which comfortably switches to cooling mode during the summer months, dissipating heat back into the lake.

The solar PV roofs are one of the largest in the South West providing power to the centre and will also meet the electrical power requirements of Kensa's plant room heating and cooling system.



The heat pumps connected are to the buildings heating and cooling distribution system, which consists of underfloor heating in winter and chilled water fan coils for cooling in summer.

With a total heating and cooling capacity in excess of 300 kW, this is one of Europe's largest pond heating/cooling heat pump systems. All the components were specified, designed, manufactured and installed by Kensa Heat Pumps. Carbon savings over traditional air conditioning/boiler combinations have been estimated at around 50 tonnes per year.



For full details of the Kensa product range and what a heat pump can do for your project please contact Kensa Engineering on the number below.

Kensa Engineering Ltd

Sales: 01392 826021

Fax: 01872 862440

info@kensaengineering.com
www.kensaengineering.com

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The project team are specifically impressed with the technical expertise of Kensa, the quality of service and their products.