

The Oxfordshire Golf Hotel & Spa

Client:



Project: BMS upgrade to support major thermal energy retrofit

CASE STUDY

An award-winning installation reducing the hotel's thermal energy demand by a massive **93%**

WINNER

Technical Innovation
of the Year



The Oxfordshire Golf Hotel & Spa

AIM: To design and install an upgraded BMS, supporting a new closed loop water-source heat pump system and integrating the controls of three legacy systems.

SOLUTION:

The Oxfordshire Golf Hotel & Spa has slashed its energy consumption thanks to a major renewable retrofit using lake water from the golf course as its main heat source. The new system is intelligently monitored and controlled by an upgraded BMS, designed and installed by BGES Group.

The new renewable system, which was designed and retrofitted by Geyser Thermal Energy, sees pipework take water from the lake to the heat pump in the main plantroom. The resort's old oil-fired boilers and chiller have been replaced with a low-energy heat pump system, linked to a 250kW solar array installed onsite.

The precise control and visibility provided by the BMS is contributing towards a vast reduction in energy input demand for the club's heating/cooling and hot water: from 1,410kW to below 100kW.



“Boost profits by up to 30%”

Ryan Bezuidenhout, Resort Manager





Innovative solution

BGES integrated the controls of three legacy heating and cooling systems along with the new closed loop water-source heat pump system. They added to this a brand new BMS installation for the new heat pump system, and upgraded the old BMS for the existing plant, into the new design using an upgraded BMS from Trend Control Systems.

The user-friendly front end of the BMS helps Oxfordshire staff to understand how the system works, as it is crucial to understanding what the loads are in the pool, spa and air conditioning. Monitoring and control has been key to the project's success as it allows for ongoing tweaking to drive further output and efficiency improvements.

Outstanding results

By allowing for continuous efficiency improvements and reducing the system's maintenance burden, the resort manager predicts it will boost profits by up to 30%. The new system will also help The Oxfordshire meet its carbon reduction and reporting goals as the BMS allows for the energy to be used as efficiently as possible. This helps make the whole system carbon neutral for large parts of the year, due to the use of heat pumps and solar PV.

"The Oxfordshire was a very complex project with three different independent heating and cooling systems with a non-working BMS. BGES integrated the controls of all the older heating systems along with a new renewable energy source and at the same time integrated the old BMS into the new design. Merging these systems was very challenging and I cannot recommend BGES Group highly enough for their commitment and resolve in making this project a success."

*Lolli Olafsson,
CEO of Geyser Thermal Energy Ltd*



BGES Group wins major industry award for hotel heat decarbonisation project

BGES Group scooped a coveted Building Controls Industry Association (BCIA) award for this complex BMS retrofit at the Oxfordshire Golf Hotel and Spa.

BGES won **Technical Innovation of the Year 2021** for the project, which integrated the controls of three legacy heating and cooling systems and a new closed loop water source heat pump system. As part of a drive to decarbonise hotel energy use, water from the golf course lake is used as the main heat source.

Smart optimisation

The new system is intelligently monitored and controlled by an upgraded BMS from Trend Control Systems, designed and installed by BGES Group. The precise control and visibility provided by the BMS is contributing towards a vast reduction in energy input demand for the club's heating/cooling and hot water: from 1,410kW to below 100kW.

Prior to the upgrade, there were 3 different independent heating and cooling systems with a non-working BMS. BGES Group upgraded the controls on the existing BMS plant and designed a new panel to control the new heat pumps; tying them in with existing boiler plant to maximise the efficiency of the heat pumps. It is this revolutionary approach which has won BGES the coveted award for 2021.



"We are thrilled to have been recognised by such a respected industry body as the BCIA with our award win. This project is a perfect example of the work we are doing to drive energy efficiency and support heat decarbonisation in buildings.

I'm also very proud that Paul Brown and Lewis Stevenson have been recognised for their individual achievements, as well as the team behind the outstanding work we are doing at Sheffield Children's Hospital.

We always strive to push the envelope and these accolades are testament to the hard work, dedication, and significant talents of our team."

Gareth Barber
Managing Director of BGES Group

Recognition of excellence

The BCIA Awards – held on 9th September 2021 – brought together manufacturers, installers and customers in a celebration of the best projects and technologies in the sector. As well as the Technical Innovation award win, BGES Group made the final shortlist in the Best Service and Maintenance Provider category for their work at Sheffield Children's NHS Foundation Trust. Two BGES Group team members – Paul Brown and Lewis Stevenson – made the final shortlist for Engineer of the Year and Young Engineer of the Year respectively.

