

Making intelligent retreats from premium energy bills

Potential annual savings of £920,000

Wyboston Lakes Resort near Cambridge is considered to be one of the UK's leading business and leisure destination. Nestled in the stunning surroundings of the Bedfordshire countryside, Wyboston Lakes Resort offers everything you could want from large conference and meeting facilities, with 2 residential business venues to a great staycation, with Hotel, spa and golf.

Not only do the team at the Resort promise to make everyone's experience a relaxing and enjoyable one, they guarantee to do so with sustainability and a strict corporate responsibility in mind. In 2020 the Resort received 3 gold awards for sustainability. The Resort has built a reputation as an organisation with a conscience.

This commitment to energy conservation and green initiatives makes the resort the perfect partner for The Energy Check. We first began our relationship in early 2020. What started with the identification of substantial cost savings through competitive energy procurement quickly extended to include ambitious energy efficiency improvement programmes. To date, The Energy Check's

experienced team have estimated over £920,000 in potential savings per year. An incredible sum that is perhaps more valuable in 2020 than in any other year in recent memory. This figure is achieved through direct energy savings from reduced electricity consumption, elimination of gas consumption, renewable heat incentive grants and better controls and monitoring for energy efficiency.

Energy efficient and renewable generation systems such as heat pumps, solar panels, wind turbines, battery storage and energy monitoring were included in the investment analysis that result in such a potential positive financial outcome for the Resort.

We have commenced work on a variety of projects at the Wyboston Lakes Resort, having delivered substantial cost savings on procurement and kVA usage, we are also providing project management for their energy efficiency improvement programmes, energy audits and feasibility studies, monitoring equipment to help identify and reduce usage. The partnership also provides fully installed and configured Electric Vehicle charging points, as part of the Resort's commitment to lowering carbon emissions and preparing for a greener future once normal business resumes. As a large site featuring over 20 buildings with multiple uses,

there are many factors to consider when looking at energy saving opportunities for a business like Wyboston Lakes Resort. Negotiating better energy contracts and establishing kVA usage to amend the site's agreed supply capacity was the team's first priority.

In conjunction with these steps, our energy saving specialists undertook a number of energy efficiency improvement programmes, based on the completion of energy audits and feasibility studies. A review of all the electrical and LPG consumption across Wyboston Lakes Resort was completed for the period between January 19 to December 19 (excluding mains and water data). In addition to this, site surveys were completed across the 3 largest consuming buildings:

- The Willows Training Centre
- The Woodlands Event Centre
- The Waterfront Hotel, Spa & Golf

By using the latest monitoring equipment, the team were also able to identify and reduce usage in several areas of the resort, with a particular focus on lighting, heating and training & behaviour:

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Lighting

Lighting was estimated to account for 10-20% of the estate's energy consumption. It was found that LED lighting had been adopted throughout some of the areas surveyed. However, there was still an opportunity to upgrade some areas.

Similarly, very few controls were previously installed to prevent wastage and lights in communal and reception areas were typically left on 24 hours a day. Replacing older lighting with energy efficient LEDs and introducing motion sensors to control lights in communal areas was identified as a way to improve quality of light and reduce energy consumption.

Heating & cooling systems

A combination of heating and cooling units were identified across the the Resort. A number of improvements were identified in this area:

- The upgrading of dated, inefficient systems
- The introduction of intelligent electric radiators
- The improvement of heating temperatures and timers
- The introduction smart meters to ensure efficient energy usage and accurate billing
- A review of the current heat exchanger within the Spa

Site insulation

It was identified that the introduction of cavity wall insulation in a number of buildings could help to reduce energy consumption and improve efficiency in these areas.

The table below demonstrates both the financial and carbon emission savings possible through the introduction of new technologies.

Staff Engagement & Training

The value of staff engagement and training is often overlooked when businesses consider green initiatives or sustainability programmes. However, the differences that energy efficiency best practice can make are substantial. This includes turning room lights off when exiting, shutting down computers at the end of the day, unplugging energy-sapping equipment and dialling down heating systems when appropriate.

Although the challenges presented by the Coronavirus pandemic have made it difficult to implement all of these changes, The Energy Check will be working closely with Wyboston Lake Resorts Green Team, once restrictions have been lifted, to educate team members on energy efficiency measures. Setting emissions targets and implementing incentive schemes such as "rising stars" awards will also be considered to drive adherence from team members.



Working with The Energy Check, a programme of projects and training has been developed to prioritise the capital investment projects and appropriate training of staff to maximise the energy efficiency and reduction in carbon footprint. Each system has a different payback and return on investment profile from 2 years to 8 years.

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Electric Vehicle Charging

The Energy Check have installed two Rolec EV chargers onsite. These chargers are powered by 100% renewable energy sources. This brings Wyboston Lakes Resorts total EV chargers across the resort to 26.



Water Source Heat Pump

An outline programme has been developed. This should have all the gas heating changed and as much of the electric heating added to maximise the renewable heat incentive grant.

Wind Turbines

Wind Turbines were included in the capital investment analysis that results in such a potential positive financial outcome.



Solar Panel

A detailed review for the development of solar across The Waterfront Hotel, The Willows and The Woodlands has been completed, with an estimated payback of 6 years. These solar panels could provide up to 15% of the base electricity demand.

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CO2 Reductions

The carbon emission reductions for electricity are based on carbon reporting numbers for relative comparison, however as the Resort is already on Green energy contracts, the carbon footprint from electricity consumption is already zero!

The carbon emission savings are also significant at a little over 1,500 tonnes of CO2 equivalent per year.

As the Resort is closed, energy use that would otherwise be masked by much larger normal operation, is clearly visible. Understanding this baseline energy use, together with team members training on energy efficiency, will bring real cost savings.



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