Could a green energy audit be right for your business?

W&F GREEN ENTERPRISE HUB

Impartial Advice Helps With a Tricky Decision

Freshwater Biological Association, Far Sawrey

The Freshwater Biological Association (FBA) has had a base at Far Sawrey on the shore of Lake Windermere for decades. This used to be their main office and laboratory, sitting alongside holiday accommodation.

Many years ago, they installed a central biomass heating system that supplied heat to the whole site. Recently, however, they sold the main buildings and moved to rented accommodation. The holiday lets are still owned by the FBA and a new heating system for these is needed urgently as the new site owners plan to remove the biomass system.

The FBA aims to become as carbon neutral as possible; this was an important consideration in deciding on the new heating system.

Decisions Made

A heating options report from an independent energy advisor provided impartial, clear and objective advice. It allowed the FBA to narrow down the options for a new heating system to a water source heat pump or an electric boiler.

A water source heat pump initially seemed to be the most promising route given the lakeside location. With the cottages occupied by holiday makers, however, and no staff regularly on site there were concerns about how easy the system would be to operate.

The final decision was a shared electric boiler that can supply heat to the existing radiators in the seven holiday lets. The plan is to fit an Elektrostore boiler system. This contains a “heat battery” that is heated up by electricity and then stores the heat using phase change materials.

Phase change materials absorb or release heat as they change phase, by thawing or freezing, between their solid and liquid phases. In this system Sodium Acetate is the material used and heat will be stored at 58°C. The system will also provide hot water to the taps at mains pressure and is compatible with any future solar system.

The key advantages of the electric boiler are that it should be relatively quick and easy to install as it uses the existing radiators and requires no more space than the previous system.

It should be long lasting and need minimal maintenance and operation. An all-electric system avoids burning fossil fuels on site and will result in steadily reducing carbon emissions as the UK national electricity supply decarbonises.

Plans for the future

- ***We will add in solar back-up when funds allow.***
- ***We hope to install EV chargers in future.***

Business Manager, Lesley Hadwin

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