



KEEPING THE WATER HOT IN THE LAKES

A building management system is contributing to a 20 per cent cut in gas consumption for a guesthouse in the heart of the Lake District

With fuel prices rocketing, the need to control energy consumption is becoming more urgent.

For larger houses and small hotels, energy management systems have traditionally been beyond reach because of their price. Today, though, a number of products are available that suit the smaller installation – and for small hotels and restaurants there is the added advantage that some of these systems qualify for tax relief.

Elder Grove is an established guesthouse at the heart of the Lake District. Run by husband and wife team Paul and Vicky McDougall, it is just five minutes walk from the centre of Ambleside. Customers expect heating and plenty of hot water on demand – which can cause problems if the energy systems are not flexible enough to deal with rapid changes in requirements.

The building itself was constructed in the 1880s of solid lakeland stone which, as Paul McDougall points out, “can be quite draughty when the wind gets up”. It has ten ensuite bedrooms as well as Paul and Vicky’s three-bedroom flat. With increasing business through the year, the existing boiler was having difficulty keeping up with demand, especially for hot water. “We were having a particular issue on winter evenings,” recalls Paul, “with many of the guests getting back from walks around the same time and all wanting hot baths and showers. Our existing boiler was struggling to provide enough hot water to everyone at the same time.” Steeply rising fuel bills were another problem, one that most people will recognise today.

Need for more efficient boiler

Discussions with South Cumbria Construction Ltd focussed on the need for a new, more efficient boiler. However, this was only part of the overall package eventually chosen.



‘THE SOLUTION ADOPTED INCLUDED A SOPHISTICATED BUT EASY-TO-USE ENERGY MANAGEMENT SYSTEM WHICH CONTROLS BOTH SPACE HEATING AND HOT WATER’

Following further meetings with local heating and electrical contractor, Chris Bowker Ltd trading as RM Robinson, the solution adopted included a sophisticated but easy-to-use energy management system which monitors and controls both space heating and hot water supply. “We recommended an Ambiflex controller, the MF820, as it seemed to meet Paul and Vicky’s requirements for something relatively small and easy-to-program but which would effectively reduce their energy consumption,” explains Design Engineer Steve Barclay.

“Using the Ambiflex system also offered another important financial benefit. It is one of just a few on the Energy Technology List of the Government’s Enhanced Capital Allowance scheme. This allowed Elder Grove to claim back the total capital outlay against tax in the first year. For small companies this can represent a significant financial saving,” he adds.

The Ambiflex MF820 is a micro-

processor-based building management system controller capable of operating as a standalone or in data-sharing configuration as part of a network. On larger sites where networking and data sharing is required, up to 32 MF620 and MF820 controllers can be connected together. It can accommodate analogue or digital inputs and outputs and is designed so that non-specialists can adjust the settings.

Ease of use requirement

For Paul McDougall, this ease of operation is important. “With the old set of heating and hot water controls, it could take me up to 20 minutes to reset all the devices. When discussing the new equipment, I said that I wanted something much easier to use but also something that would provide better environmental control. This single, small Ambiflex controller does all that I need.”

The Ambiflex system allows Paul to set separate temperature and time

strategies for each of the four floors at Elder Grove, so he can match the heating load to the number of guests. In addition, the system also controls the hot water supply. Under the previous arrangements, any shortfall in hot water had to be made up using the expensive option of an electric immersion heater, but now the hotel has a standby unit which the controller brings online when it senses the main hot water store running down.

Energy management system

The Ambiflex unit was installed in tandem with a new, more efficient boiler but Paul has been able to identify savings that are due solely to the energy management system. “Once I knew that the existing boiler would have to be replaced, I started keeping a close check on consumption so that I could see what impact the new boiler and controller would have,” he explains. “I kept daily readings for the whole of October 2006 and compared this with October 2007, when the new boiler was in. We were probably slightly busier than the previous year but the weather was similar. We noticed a significant drop in gas consumption for the boiler, down from about 11,500kWh in October 2006 to just over 9,300kWh a year later.”

There was a short period after installation when the Ambiflex unit had not been fully commissioned. Paul was therefore able to compare the operation of the boilers without the control system. “While there was a small saving, it was not on the scale we experienced when the Ambiflex was working,” he says. He concludes that most of the savings are due to the way the controller ensures that the energy is being used as efficiently as possible. ■

ENQUIRY No. 116
www.ambiflex.com