

## Using energy monitoring to save costs and get ahead of legislation

Leading high street chain Yorkshire Building Society is pioneering a new centralised controller as part of its drive to measure and reduce energy consumption.

The company's Chelsea Building Society branch in Watford has undergone replacement of its old R22 air conditioning equipment in line with the outright ban on the use of the refrigerant from January 2015.

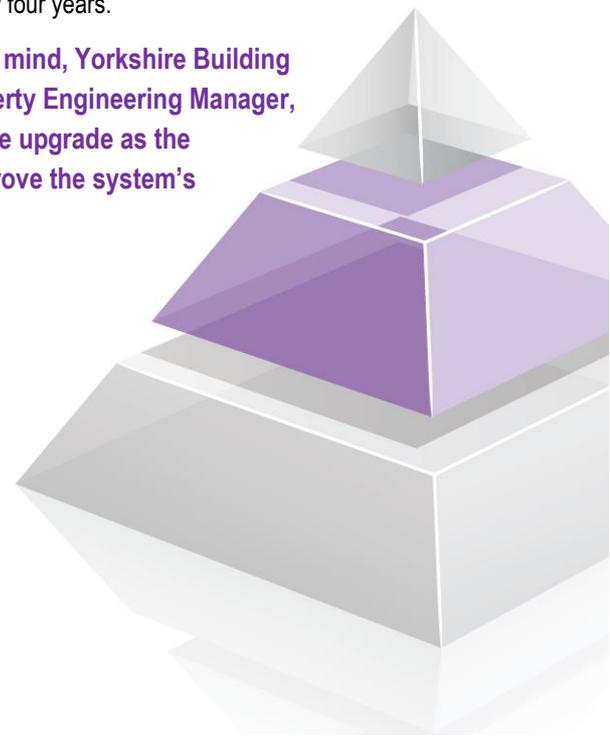
Air conditioning systems will also be subject to greater checks under new F-Gas legislation that comes into force in January 2015.

In addition, the government is introducing the Energy Savings Opportunity Scheme (ESOS), which requires companies over a certain size to assess energy use in their buildings every four years.

**With these changes in mind, Yorkshire Building Society's Senior Property Engineering Manager, Nigel Twemlow saw the upgrade as the perfect chance to improve the system's controls.**



Air Conditioning | Heating  
Ventilation | Controls





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## Installation Summary

The old systems were replaced with a single outdoor City Multi R410a VRF unit serving six ceiling cassettes.

The air conditioning works in conjunction with a Lossnay heat recovery system which can be utilised virtually anywhere to extract stale air and then recover the heating or cooling energy to either warm or cool incoming fresh air.

“As part of our R22 phase out commitment, the decision was taken to replace the equipment at Watford. However, in addition, it also gave us an opportunity to review the on-site controls philosophy and remote access capability utilising the Mitsubishi Electric’s AE200.”

The AE200 is a new touch screen centralised controller complete with Ethernet port to allow monitoring and control via a PC and Webpages without the need for any additional software. It also allows the AE200 to connect to a wide range of BEMS interfaces.

**“A principle aim of the project is to gain a greater understanding of our energy use and any associated potential energy reductions, with a mindful eye on obligations for ESOS, which will require the first assessments to be undertaken by December 2015.**

“From an organisational perspective we need to understand the amount of energy we are using, where and when. Currently the only method we have of monitoring in our retail branches is via smart meters at the incoming supply. This new solution gives us the opportunity to drill into the distribution system and scrutinise consumption in detail.”

The AE200 Centralised controller energy management module has the capacity to control and monitor up to 50 units (up to 200 with expansion modules). At the same time, it also displays the indoor units visually within the building floor plan on its larger 10.4inch touch screen. The crucial function for Yorkshire Building Society is its ability to map energy consumption, visualise individual consumers and compare current consumption data with historical data based on units and/or groups. This data can also be displayed on a web screen, tablet or PC at no extra cost.

“What the AE200 has enabled us to do for the first time as a company with our retail portfolio is formulate and deliver a structured metering strategy, so we can clearly establish and evaluate consumption,” explains Nigel.

“Without the ability to measure and monitor consumption, we can’t target where we need to make changes or identify where energy is being wasted with the consequential financial implications in terms of energy costs and carbon emissions. As such, we believe the use of the AE200 will give us the visibility required to make informed decisions. It’s also a huge advantage to be able to upload historical data such that year on year comparisons can also be carried out.

“Our energy management strategies are developing through a natural process, so the ability to monitor and interrogate such devices remotely is something that is vital in our overall programme. Whether we are looking at our data internally or via a third party, we’ve now got access to detailed real-time information. “This pilot is a great opportunity to learn and develop. Where appropriate the intent is that it will become the default product for plant control and energy monitoring for the retail estate.”

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