

Winner: University of Sheffield - Benefits Flow From A Water Minimisation Strategy

Key Points

- Water costs at Western Bank have been cut by over £100,000 a year, with a payback of under four months
- The University worked closely with Yorkshire Water
- The initiative is now being rolled out to other buildings

When its water costs began to exceed heating costs, the Energy and Environment Team began a detailed analysis, using benchmark data from the Watermark project (www.watermark.gov.uk) to understand the reasons, and to identify opportunities for improvement. This identified the main science-based site, Western Bank, as the priority area, with consumption more than double recommended levels, mainly because of a huge baseload.

Working with Yorkshire Water, an improvement plan – based on detailed site surveys and discussions with numerous building users and maintenance staff – was developed. The actions included mapping the underground pipework, installation of over 900 fast payback water saving devices - urinal controls, tap regulators, self-closing taps, and cistern volume reducers - and installation of sub-metering with remote monitoring facilities.

The exercise also revealed that some water conservation techniques had been introduced in the past, but no longer functioned effectively. A maintenance regime was therefore implemented to ensure that water-saving equipment continues to operate as designed.

The improvement plan was completed by late 2002 – little over a year after the exercise began - and over the next year consumption fell by 30%, and costs by more than £100,000. The investment costs were around £40,000, and had a simple payback of under four months. The original intention of quickly initiating a second stage at Western Bank (and of closely tracking changes in consumption) was delayed by unanticipated refurbishments but has now begun.

Another unexpected benefit of the plan was first revealing - and then, through the reduction of demand, solving - problems of low water pressure in some zones. Publicity about the scheme and its successes have also raised awareness of water issues across the University.

In 2004 the same approach was adopted for the University's next largest water-consuming area, the St. George's complex. This is expected to produce a 26% reduction in consumption and annual financial savings of £27,000. It will also incorporate learning from Western Bank. The work will be broken down into smaller tranches, involving fewer departments, to allow better management of contractors and improved liaison with users. This will also make it easier to co-ordinate energy and water efficiency measures, for example, by linking urinal controls with toilet lighting and ventilation.

Phil Riley, Energy Manager, University of Sheffield

"This project proves that water conservation needn't be complex, and that the introduction of simple tried and tested techniques can often achieve paybacks of less than 12 months."

