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Health Board

Article written by Hywel Dda Health Board for the Governments Water Technology Enhanced Capital allowance Scheme.

Stemming the flow for the Hywel Dda Health Board

This water case study at West Wales General Hospital Carmarthen, demonstrates the cost savings and environmental benefits that can be achieved when implementing simple and affordable environmental initiatives to help reduce water, sewerage related energy (hot water) and reduction in CO₂ carbon emissions.

West Wales Hospital is only one of 17 hospitals within the Hywel Dda Health Board now completed by Water Management Solutions UK Ltd (WMS UK Ltd) that is now benefiting from this project.

The hospitals have installed flow-regulating devices to successfully reduce the amount of water used in washrooms on the site. The benefits to the Health Board for taking action to minimise water use at Glanwili Hospital include:

- Total cost savings of £21,460/year
- Annual water consumption reduced by up to 8,100m³
- Water-related cost savings of £17,626/year
- Energy-related cost savings of £3,834/year

Many of the other hospitals included in this project are showing signs of similar patterns of consumption reduction and significant savings.

The Water Technology List

Flow regulating devices are designed to produce a constant flow of water through a product, such as a tap or tap outlet, over a range of pressures.

These devices are available from the Government's Water Technology List (WTL) which promotes products that encourage sustainable water use and rewards many businesses for investing in them through the Enhanced Capital Allowance (ECA) scheme.

This scheme allows businesses to write off the whole cost of the equipment against taxable profits in the year of purchase. This can provide a cash flow boost and an incentive to invest in sustainable water products. The WTL specifies the water efficient technologies that are included in the ECA scheme.

Businesses and organisations that are not eligible to claim ECAs (such as the Health Board) can also benefit from water efficient products and can use the WTL as a sustainable procurement tool.

WMS UK can offer 3 or 5 year guaranteed finance plans with payments running quarterly in arrears. This means that hospital can firstly benefit from savings in the first 3 months and use some of this saving to offset finance payments. In many instances projects stay cash positive from the outset.

Background

The busy West Wales General Hospital, built in the 1960s, has expanded considerably over the years to cope with a growing population. With rising energy and costs, and a greater focus on its carbon footprint, Andrew Medicke Energy Officer for Hywel Dda Health Board enlisted the help of specialists Water Management Solutions UK Ltd (WMS UK Ltd) to fully survey the hospital site and suggest measures to reduce water use.

A comprehensive study found that the hospital, typical of buildings of that age, had taps averaging a flow rate of 14 litres/minute and showers using up to 18 litres/minute. WMS UK found similar levels of wastage in WC toilets and urinals.

Solution

Within a package of water and energy saving solutions, the CP961 multi-flow regulating isolation valve was the most extensive. WMS UK Ltd specified a total of 482 CP961 valves (with a 6 litres/minute flow regulating cartridge) to be fitted underneath taps and showers.

The CP961 is a simple isolation valve, but with a flow regulator in the ball. A full range of individual flow regulator cartridges can be inserted through a service port, before or after installation, without the need for system drain-down. The valve saves water by regulating the water supply to a constant flow, with the added benefit of saving energy by reducing the amount of hot water needed therefore reducing CO₂ emissions.

Cost savings

The Health Board specified that the payback period had to be 36 months to match similar requirements of corporate businesses. The success of the CP961 means that this was achieved in the first 12 months.

Table 1 Summary of costs and savings

Item	Savings (£/year)	Costs (£/year)	Payback period
Water	£7,109		
Effluent	£10,517		
Energy	£3,834		
Capital investment		£11,914	
Total	£21,460	£11,914 (inc of vat)	0.56 years

Environmental benefits

- A total reduction in mains water use of 8,100 m³/year
- A reduction in heated water use of 2,700 m³/year
- A reduction in CO₂ emissions of more than 27 tonnes/year

Hywel Dda Health Board

Hywel Dda Health Board, which serves a population of 372,320 across Carmarthenshire, Ceredigion and Pembrokeshire, provides acute, primary, community, mental health and learning disabilities services via general and community hospitals, health centres, GPs, dentists, pharmacists and optometrists, and other sites.

Comments from Hywel Dda Health Board

Water Management Solutions installed a range of water saving devices to many of our larger sites throughout the Health Board.

Installation was completed over a period of approx 18 months with West Wales General Hospital being the first.

All work was undertaken efficiently by WMS UK personnel without complaints from staff & minimal disruption to services.

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