

## Information Paper

# Delivering water efficiency in commercial buildings

A guide for facilities managers

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This Information Paper provides targeted guidance on how to deliver water efficiency savings through improved facilities management. It is the latest in a series of BRE publications providing guidance for facilities managers, maintenance contractors and building owners on a number of issues relating to the operation and management of commercial buildings.

Whilst often seen as secondary to energy efficiency, the importance of improving water efficiency should not be underestimated, particularly with water shortages on the increase due to the growing demand for fresh water supplies and the increasing variability of weather patterns as a result of climate change. In addition to alleviating pressure on water resources, reducing demand through improving water efficiency and (where possible) sourcing water from alternative supplies will also help to improve resilience by making a building less susceptible to water shortages, and help to cut running costs by reducing water, waste water and energy bills.

This publication will provide the reader with an overview of how to determine water consumption and establish a building's water efficiency performance. It provides guidance on how to ensure that all water systems are operating as intended and how to identify causes of poor water efficiency. As a result of reading this Information Paper, the reader will gain an understanding of some of the key issues that impact on water efficiency and be able to identify opportunities for making water efficiency savings.

## Water consumption monitoring and benchmarking

### Monitoring

The first step towards improving water efficiency is to understand existing water use by establishing overall consumption and identifying any areas or equipment with



**Figure 1:** Washing dishes could account for water consumption peaks in the afternoon

significant demand. Most non-domestic buildings have a single, metered, incoming mains water supply, which makes determining total water consumption over a set period relatively straightforward. The water meter will generally be located in a ground-mounted meter chamber close to the property boundary or inside the building at a point close to where the supply enters the building. UK water meters display water consumption in cubic metres (m<sup>3</sup>), where 1 m<sup>3</sup> is the equivalent of 1000 litres.

The yearly, monthly or weekly water consumption can be calculated by keeping a log of meter readings at the necessary intervals and calculating the difference between readings. Alternatively, water meters with pulsed outputs can be connected to a building management system (BMS) or automatic meter-reading system (AMRS) to automatically collect consumption data, enabling the user to undertake more detailed analysis of water consumption patterns through studying data collected at much more regular intervals.

Daily consumption data can highlight how water use varies between weekdays and weekends. This can in turn help to identify leaks if, for example, consumption is expected to be zero