

Water efficiency case study

Greene King pubs

7,700m³ a year identified savings

£33,360 per annum potential savings

Usage reduction of 64 per cent



GREENE KING
BURY ST EDMUNDS

Background

During July and August 2014, we carried out water efficiency audits at three of Greene King's London pubs. The aim was to look at the current water use at each site and investigate whether there was a possibility of reducing consumption without impacting on the day-to-day business.

The pubs all vary in size, are open between five and seven days a week and all serve food and drink. The three pubs' combined use was approximately 11,900m³ of water per year, costing £24,700. Greene King welcomed the opportunity to investigate its water use and try to improve the management of its water consumption.

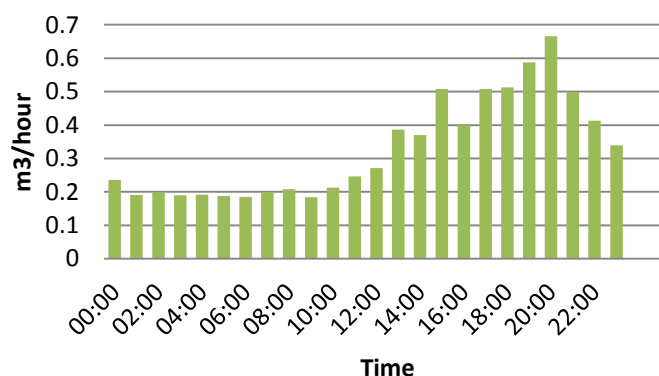
Meter Analysis

We installed Automatic Meter Reading (AMR) equipment on the main supply meter for each of the pubs surveyed. This allowed us to examine the water use data at 15-minute, giving a better understanding of the water use on site.

The AMR equipment also gives an indication of peak demand and allows the analysis of water use data for continuous flow, highlighted as constant consumption, which may mean there is a leak.

This graph shows an example of a meter reading at one of the pubs, where it was observed that the water consumption was never at zero. Even in the early hours of the morning, when no water use would be expected, there was still a flow of 0.167m³ per hour. Another of the pubs had a similar pattern, with a continuous flow of at least 0.665m³ per hour. This indicated that there may be an underlying issue within these two pubs and highlighted a key area for investigation.

Water Consumption Over a 24 Hour Period



Identified opportunities for water efficiency

Toilets

Dual-flush toilets use an average of 4.5 litres per flush. The toilets in the three different pubs varied in design; some areas had six-litre, single flush toilets installed and others had 7.5-litre, single flush toilets. If the pubs were to convert these to dual-flush toilets in the next refurbishment, they could reduce the water used for flushing toilets by 2.5 to 3.5 litres per flush.

Taps

A tap flow rate of four litres per minute is adequate for hand washing and food preparation purposes. The results of the audit indicated an average flow rate of 10.1 litres per minute across the three pubs, with some individual taps exceeding this figure significantly.

Making sure that the flow through the taps doesn't exceed four litres per minute - by replacing the tap or installing restrictors or aerators - would see the pub chain save 276m³ per year, which is a reduction of £574 on its water bill.

Ice machines

There were a number of ice machines installed across the three properties, some of which had a constant overflow issue, meaning wasted water was going straight down the drain. These ranged from three litres to nearly eight litres per hour wasted.

These types of wastage can often go unnoticed, so it is always worth checking ice machines regularly. This can be shown through the production of slushy ice but it is not always this obvious. It was recommended that these faulty machines were either repaired and/or replaced as soon as possible.

Underlying leaks or unaccounted water use

Two of the pubs had water flow occurring when no required water use was taking place. Combined, this volume was approximately 0.832m³ per hour, or 7,288m³ per year. During the audits, two toilets were found to be overflowing constantly, with the auditor witnessing water continually trickling into the pan. These instances may seem like they are only wasting a small amount of water, but in this case they amounted to approximately 1,300m³ per year, which is more than £2,500 extra on annual bills.

Investigation into the rest of the unaccounted volumes of water was needed to see if there were further leakages but, if resolved, this could save Greene King a further £12,500 per year on its water bills.

By engaging with us to investigate its current water use and getting advice on how to improve it, Greene King identified potential water savings of more than **7,700m³ a year**, saving in excess of **£16,000** on bills if all recommendations were followed. This would mean a reduction on its current water use by a massive **64 per cent**.