GreenHealthcare

HOW TO GUIDE

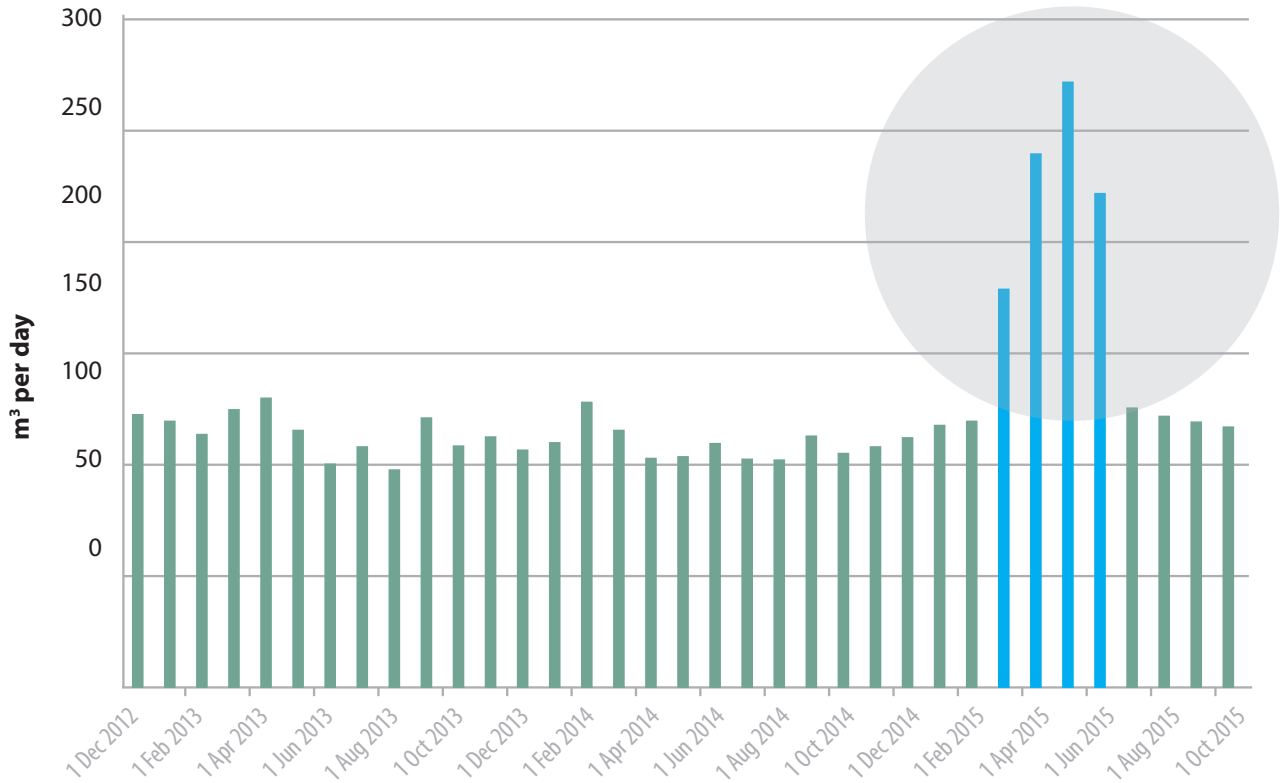
Leak Identification

Leaks in a hospital equate to money down the drain. Significant leaks can have long-term structural impacts as well as affecting the quality of water supplied, reducing hours of water storage capacity and impacting on water pressure throughout a hospital.

Water wasted due to leaks can be difficult to address. While a leaking tap is visible, most water leaks are not. Leaking pipes underground, faulty ballcocks and hidden overflows all contribute to making water leaks difficult to find.

Once a leak has been identified it is important to repair it straight away. Leaks never get smaller and continue to cost money every hour they are left unrepaired. Also, where water leaks out, dirt and bacteria can get in. This is of particular importance in a healthcare setting where the prevention of infection is paramount.

This profile shows the water use data from a large Irish hospital campus over a three year period. A leak started in March 2015 and by the time it had been identified, investigated and repaired almost four months had passed. This significant leak involved a loss of 80m^3 per day and cost almost €31,000.



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

HBS Health Business Services

How to carry out leak identification

If starting from scratch there are 4 main stages in carrying out leak detection.

1 Historical Data

By examining historical water use data* for a hospital, and comparing this with the number of bed-days provided annually, a water use benchmark can be generated for any hospital. If the benchmark value is much higher than the national average (see our Water Benchmark Fact Sheet) it is a strong indication of leaking water. However, even if a hospital's benchmark is lower than the national average, there may still be leaks.

2 Online Data Logging

Using a data logger on the mains water meter is the best and most effective way to monitor background water use in a hospital. These loggers can be installed permanently (recommended) or on a temporary basis. Costing less than €1,000, they can be used to show the costs associated with existing leaks as well as monitor for new leaks. still be leaks.

3 Background water use

As hospitals operate 24 hours a day there will always be some water being used. Measuring the background water use overnight, is a great way to assess if there are any significant leaks.

Checking the mains meter in the evening (after the kitchen closes) and again first thing the next morning (before kitchen service starts) will provide information on the background water use. If there is a significant difference in the meter readings, then water is being used in the background and this usually indicates leaks.

4 Leak detection companies

Once the existence of leaks has been confirmed, the next job is to find and fix them. Some are easy to track down (e.g. faulty ballcocks) but most are not. There are a number of leak detection companies throughout the country who will assist hospitals pinpoint leaks, even if they are underground.

If the cost associated with leaks has already been estimated, then the cost benefit of the leak repair work can be calculated. Remember, leaks will never fix themselves and will continue to cost a hospital money every hour of every day until repaired.

* If you don't have access to historical data contact Irish Water

Calculation for background water use

Below you can see two tables. The blank table, provides a template for a hospital to calculate its annual costs of background water use. All that is needed to fill this out this are 2 meter readings (evening and following morning) as well as the cost of water (per m^3) for the hospital*. The second sample table shows how it would typically look when completed, and how the data from a background water check can be used to estimate the cost of water wasted annually in a hospital.

* The current cost of water (per m^3) in different local authority areas is shown in the graph at the bottom of page.

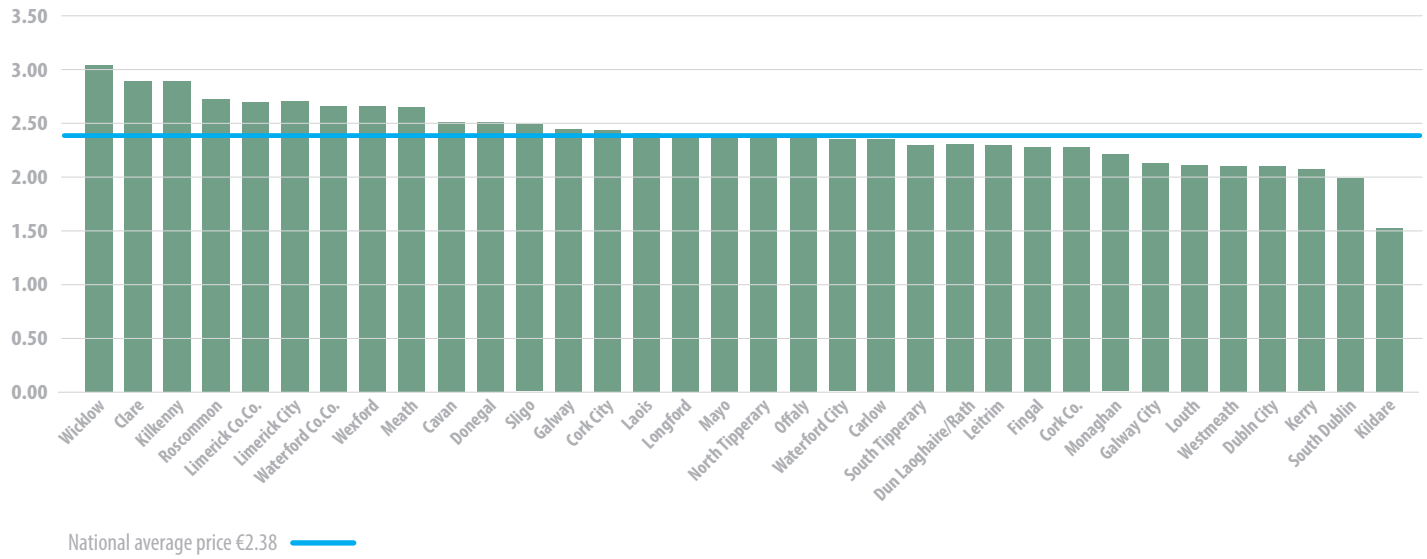
Sample Table

METER READING 1	9pm Tuesday – 34566 m^3
METER READING 2	7am Wednesday – 34584 m^3
THE DIFFERENCE This is your background water use	= 18 m^3
COST OF WATER (PER M^3)	x €2.50
COST OF WATER PER NIGHT	= €45.00 x 365
COST OF NIGHT TIME WATER USE EACH YEAR	= €16,425

Template for calculating costs of background water use

METER READING 1	
METER READING 2	
THE DIFFERENCE This is your background water use	
COST OF WATER (PER M^3)	
COST OF WATER PER NIGHT	
COST OF NIGHT TIME WATER USE EACH YEAR	

Irish Local Authority Water Rates 2017 (€ per m^3)



For more information contact Green Healthcare (www.greenhealthcare.ie)
or the National Health Sustainability Office (www.hse.ie/sustainability)