

Universal Metering Programme

as its pioneering programme to install nearly 500,000 water meters draws to a close, Southern Water reports substantial benefits for company and customers

by Darren Simmons

With water resources in its service area under increasing pressure from population growth and changing weather patterns, in 2010 Southern Water embarked on the UK's first ever universal water metering programme. Its aims were to help drive down demand and make the most of available water in a region officially designated by the Government as 'seriously water-stressed'. Five years later work to install nearly 500,000 new meters and replace 100,000 old meters across Kent, Sussex and Hampshire is almost complete. Results are confirming that customers are saving significantly more water than originally estimated, making this pioneering programme a resounding success.



Automated meter reading (AMR) meter installed in pit - Courtesy of Southern Water

Background

Southern Water opted for universal metering because it has been proved that on average in the UK providing households with a meter generally results in customers reducing their water use by around 10% as they become more water efficient once they have to pay for every unit they use.

It was decided to take customers whose homes are about to be metered on a specific 'journey' to help them make the best use of their water meters, which has resulted in even greater water savings being achieved.

The customer journey

A key focus of the five-year programme has been communicating and engaging with customers before, during and after their meter installations. This ensures they are fully informed throughout the process and understand why meters are being installed, what it means for them and how to make the best use of their meters.

Before the installation teams even moved into an area, the company took each customer on a 'journey' which was put together after detailed research with customers.

The first step in the *customer journey* came in the form of a hand-delivered information pack entitled 'Your water meter is coming'. This pack was delivered approximately four weeks before a meter was installed and included information on why meters were being introduced universally, the installation process and charges.

Three weeks before installation eye-catching signs were attached to lampposts to let residents know that meters will soon be installed in their area. These signs announced the date of installation.

On the day of installation itself, meter fitters advised customers' that their meter was being fitted. The customer was also given a 'Your water meter is here' pack of information, detailing the change-over, the tariffs and support available and confirming that meters would not be switched on for three months. Advice on how to make best water-efficient use of meters was also provided. If a customer was not at home, the pack was hand-delivered through letterboxes.

In addition, on the day of installation, a mobile exhibition unit was positioned in populated areas so customers could ask questions about their new water meters and take away free water-saving devices such as *Save-a-Flush* bags.



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Green Doctors have visited more than 51,000 households & distributed 187,000 water-saving products, resulting in a predicted average saving of 500 litres a day - Courtesy of Southern Water



The meter Southern Water installed, is the fastest, most advanced drive-by AMR meter in the world. It also boasts a leak-alarm which is unique in Britain - Courtesy of Southern Water



Richard Benyon MP gave an interview about the metering programme following a site visit - Courtesy of Southern Water

Southern Water introduced new tariffs to help customers:

- **Changeover Tariff:** This is available to the minority of customers whose bills increase. This tariff phases in the price rise over a three-year period, giving customers time to manage their water use.
- **Support Tariff:** This is available to customers who are in financial hardship. Before being placed on this tariff, the customer must first undergo a free Home Saver Check carried out by a Green Doctor who fits free water efficiency devices such as tap aerators and low consumption shower heads

The Essentials Tariff is now available instead of the Support Tariff:

- **Essentials Tariff:** Where charges represent 5% or more of a household's income (after deductions for housing costs) customers may be eligible for this tariff which gives a discount on future bills. Those with a greater bill-to-income ratio will be given the most support.

Since 2010, Green Doctors have visited more than 51,000 households and distributed 187,000 water-saving products, resulting in a predicted average saving of 500,000 litres of water per day.

Green Doctors are also able to arrange for customers in hardship to receive advice from IncomeMAX – an independent organisation which advises customers what benefits they are entitled to. They were set a £1m target but since 2010 IncomeMAX has helped customers secure more than £3.1m in benefits.

The company also introduced a dedicated metering call centre so that expert staff could respond quickly to customers' enquiries. An interactive metering website was designed to include a postcode checker and water-efficiency films and allows each customer to conduct a water audit of their home.

Through a partnership with B&Q, the Southern Water could provide a discount-voucher scheme for water-efficient products and redesigned their bills to make them easier to understand.

But before the *customer journey* began its engaged with stakeholders to prepare the way.

Nationally, Ofwat and the Consumer Council for Water were consulted about the strategy for shaping and delivering the metering programme. Naturally, Southern Water received intense scrutiny from both organisations as the first water company in the UK to implement a compulsory metering programme. Therefore, any failures could impinge on future metering schemes. This meant the industry's eyes were on Southern Water.

A special advisory group was set up to meet quarterly consisting of the World Wildlife Fund (WWF), Waterwise, Citizens Advice Bureau, Energy Savings Trust and the Home Office, and all fifty-six MPs in the region were briefed.

Locally, Southern Water informed every local council and liaised with police forces to address bogus caller issues. More detailed customer research was conducted to build on its Water Resource Management Plan consultation. Focus groups and surveys revealed that 85% of people thought that metering was a fairer way to charge for the water they use. It also revealed a low level of support for seasonal tariffs, which had initially been part of the plan. Local media was also informed as metering moved from town to town.

This customer and stakeholder communications campaign has won regional and national awards for the detailed and comprehensive way in which it gets important metering messages across.

Choice of meter

Southern Water's metering programme presented not only an opportunity to help the region reduce its water consumption, but also exploit 'intelligent' water metering technology.

After a worldwide search, the meter chosen by Southern Water is a 'Gladiator' model 'P' Automated Meter Reading (AMR) meter. This is the fastest, most advanced drive-by AMR meter in the world. It also boasts a leak-alarm which is unique in Britain and is the only such model to integrate a transmitter and processor into its vacuum-sealed head which aids reliability.

Meter reading

Every 11 seconds the meter transmits a reading. This is then captured automatically on a small terminal by a meter reader who simply drives past the meter. This automatic read facility allows 3,000 readings a day to be collected by one man in a van – 12 times the volume captured conventionally by a single meter reader.

In high density areas, readings can increase to 8,000 a day. What's more, when the meter is read, ten months worth of readings and 4,000 points of data are gathered, allowing an hourly profile of water consumption to be prepared.

Leak detection

Any water meter can help customers to reduce their water consumption by putting them in control of their bills but, uniquely, this meter is also equipped with a leak alarm which activates when water runs continuously through the meter for four hours. The alarm is picked up when the meter is read (four times in the first year) so that a leak can then be identified and repaired.

The leak alarm facility means that the exact hour that a leak commences is now known, as is the customer's water consumption pre and post leak. Consequently, in this instance, a customer's bill can be accurately assessed. Previously, an amount of guesswork had to be applied to the account of an un-metered property when assigning a refund.

Since the metering programme began in 2010, nearly 7,000 leaks have been detected where this 'intelligent' meter has been installed.

Another benefit is the meter's ability to raise an alarm if it is tampered with, reporting exactly when the offence has taken place.

Installing the meters

Southern Water's main meter installation contractor was Balfour Beatty Utility Services, with a Southern Water team working with Balfour Beatty on site to manage operations and deal with any issues, particularly around customer service.

Comprehensive pre-installation surveys were carried out to inform a detailed street by street installation plan. The surveys took into account a range of factors, such as the type of pavement in the area to allow appropriate re-instatement work to be carried out, as well as the type of installation which was required.

A variety of approaches were used to install meters, with most fitted in the footpath immediately outside customers' homes. In some cases a specially designed Melco adaptor was used to install meters in existing stop tap chambers. This prevented the need to dig and eliminated the disposal of spoil.

A further innovation was to use vacuum suckers, ranging from a large lorry mounted system to one the size of a supermarket trolley, to clear spoil and sort it for recycling.

Although most meters are installed in the public footpath, it is not always possible to do this because sometimes, for example, a property shares a service pipe with neighboring properties.

As a result, a meter has to be fitted inside a customer's home. In this instance, Southern Water will hand-deliver an appointment card and ask the customer to make contact as soon as possible to arrange a convenient date and time for their meter to be fitted.

End results

Earlier this year two associate professors from Southampton University published the results of their four-year study about the impact of Southern water's metering programme. Their evidence revealed that metered households are using, on average, 60 litres per household per day less water.

This represents a 16.5% reduction – far more than the national average of 10%. This equates to a regional saving of 30 million litres of water every day across Kent, Sussex and Hampshire – which is enough to meet the daily water needs of cities the size of Brighton and Hove and Chichester combined.

This reduction in demand has also had an impact on Southern Water's customers' bills. To date, 62% of metered households are saving, on average, £162 a year. This also means that customers' energy bills are likely to fall because heating water for use in taps, baths and showers makes up around 30% of the average household's energy bill.

Southern Water would like to thank its customers for their support and efforts in reducing water usage. Many have been rewarded by a drop in their water and energy bills but saving water also helps protect our environment as the company is taking less water from rivers and using fewer chemicals to treat it – and it is the most cost-effective solution to secure future water supplies for customers.

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