MOSL CEO Forum Workshops

Pre-reading material and case studies

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Introduction

We would like to explore two workshop areas at the CEO Forum on 18 January. These workshops are an extension of those planned for the November forum around the theme 'Joining the Drops' – focused on how we create a sustainable and resilient market for existing and future customers and the environment. The workshops seek to examine the barriers to the market delivering sustainable, alternative solutions for water usage and what the roadmap looks like for *all* customers to realise the full benefits of the non-household water market.

Workshop one: Unlocking the market's environmental potential

In this workshop we have set out two case studies for discussion. Both case studies look at schemes and pilots underway that provide solutions for water scarcity challenges and demand reduction. The question we are posing within this workshop is:

What is preventing the market from delivering these alternative solutions on a national/market-wide scale?

Please consider the question above in the context of four potential blockers:

- Data – what data is needed?
- Incentives – what incentives are needed?
- Funding – who funds it and how is this funding provided/delivered?
- Accountability – who is responsible for different aspects of developing alternative solutions for customers?

As well as the case studies provided it is worth thinking about your own company's initiatives in this area and any blockers you see that may not be listed above.

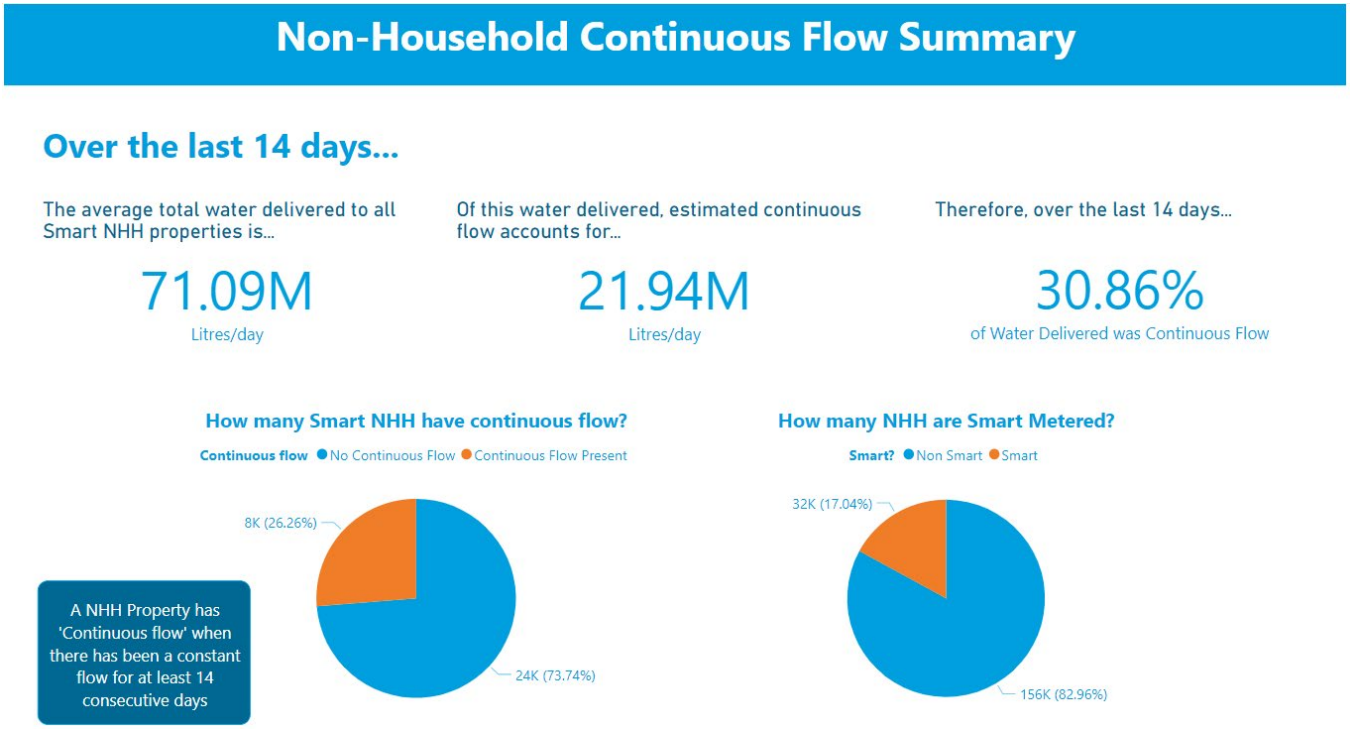
Case study one: Non-Household Smart Meter Data Insight and Continuous Flow Pilot with Retailers

Thames Water is utilising smart meter data to identify potential leakage and/or water wastage with over 32,000 non-household (NHH) meters fitted with AMI smart meter installations. This enables all NHH usage and Continuous Flow (CF) data to be displayed in a Power BI dashboard. Insight from Thames Water's Smarter Business Visit (SBV) programme suggests that the majority of CF is likely to be internal 'wastage', for example,

leaky-loos and uncontrolled urinals. It also evidences the need to utilise the increasing volume of smart meter data to target CF and reduce water loss, as smart meter data is showing that continuous flow is happening across every business category.

The data shows:

- Approx 8,000 NHH smart metered sites (c.25% of smart metered NHH sites) are showing continuous flow
- Currently c.30% of the total water delivered to NHH sites with smart meters is registering as CF
- Cumulative CF water loss on the 8,000 NHH sites is approximately 22 Ml/d (25% of total NHH water use could be around 140 Ml/d)



Thames Water is keen to quantify what percentage of the continuous flow is genuine customer-side leakage / wastage versus genuine usage. NHH Continuous Flow could prove to be a full-time and cost-effective water efficiency activity.

Pilot with retailers

Thames Water is working with several retailers, sharing smart meter data to trial various engagement and wastage fix offers, monitoring all NHH smart meter data and flagging where continuous flow (CF) is present.

Objectives include:

a) To test various engagement methods with businesses (retailer only letter, dual branded letter, Thames branded letter, outbound call etc.)

b) To quantify what percentage of the CF is genuine customer-side leakage / wastage versus usage

c) To quantify how much CF litres/day is fixed through all intervention types

d) To develop recommendations for the sector on the best methods for using smart meter data to deliver measurable CF reduction.

Continuous flow data sharing started in early 2022 through regular account meetings with retailers. Thames Water asked retailers to engage their customers with CF, to investigate the source and fix any customer-side leakage / wastage, and report back. Working with retailers to letter all customers with a CF above a threshold of 240l/day to encourage self-fix and to flag meters showing regular usage on vacant sites.

Trials with retailers

Thames Water is working with several retailers to test the following methods. These trials are in early stages and will continue into 2023.

Trial 1 - Retailer-led communications: letters/emails sent directly from and to the retailer with no involvement from Thames Water. Thames Water only supplied the data to the retailer. Using this approach, the retailer can embed these communications into their existing relationships and ensure the conversation is had with the relevant people within a business to take action. The downside is that the wholesaler does not have sight of any interventions taken and therefore difficult to successfully track the associated water savings.

Trial 2 - **Dual branding letters sent via the retailer:** Thames Water worked with one retailer to send CF fix offers to customers. CF fix interventions were sent either via the retailer or through Thames' Smarter Business Visit programme. Uptake from first tranche of letter has been low (~1% conversion into CF fix action)

Trial 3 – Wholesaler letters: Thames Water lettered all businesses (within trial boundaries) with continuous flow of >240l/day. Letters were Thames Water only or dual branded with the retailer. The letter highlighted impact on water bills and encouraged businesses to self-fix. There is no support offered other than direction

to retailer resources or approved plumbers to carry out any investigation work (via Thames or retailer website). In total circa 4,000 letters were sent jointly branded with the retailer.

Summer Heatwave: During the summer months Thames Water trialled targeting with CF directly (businesses in most water stressed areas) with an offer of investigation and fix. 22 businesses contacted directly (outbound call) by Thames' Smarter Business Visit programme. This resulted in access to 15 businesses (68% conversion). CF fixes took place on seven sites and the others have been referred for external leakage investigation. This activity resulted in a saving of 10,000 litres/day against an original CF of 18,000 litres per day.

Case study two: Pennon Water Services Water Attenuation Tanks

In September 2021, the Strategic Panel established a Market Improvement Fund to encourage the delivery of innovative projects that will benefit the non-household market and its customers.

Pennon Water Services (PWS) applied for funding of £150k to deliver reductions in portable water use through the retrofitting of underground water attenuation tanks to redirect rainwater for non-potable use. Rainwater from attenuation tanks currently empties into the public sewer. PWS was successful in its application for funding and partnered with SDS to deliver a pilot in the South West area. A summary of the pilot is provided below:

Purpose

Taking steps to develop reliable rainwater management systems with the dual benefit of reducing potable water use, lowering costs whilst improving the insight and efficiency from existing assets to reduce the risk of sewer flooding.

Problem

On current levels of water usage and climate change trajectories, much of England will be facing water shortages within 25 years. According to the Environment Agency's national framework for water resources, if no action is taken between 2025 and 2050, around 3,435 million litres per day (Ml/d) extra capacity is likely to be needed in England by 2050 to meet future pressures on public water supply.

Solution

The same report urges the water industry and the business sector to consider novel solutions such as "using water from sustainable drainage systems as a resource" (p48). The PWS pilot is about building our capacity to do this.

A large, untapped source of water is stored in the rainwater attenuation tanks installed below ground in thousands of business locations across the UK. SDS Ltd alone has installed over 20,000 tanks, with an average size of nearly 300m3. Tanks are generally oversized by 40% for climate change; but even at 60% full, that equates to a total of 3.6 billion litres of unused rainwater. Other companies have installed many more tanks, so this is just a fraction of the storage available. PWS and SDS aim to identify the potential to access this significant volume of water by intercepting and directing it back into non-potable business use.

The project

Eight business customers are taking part in the pilot.

The first installation was completed and commissioned in December for Plymouth Argyle football club. For this installation the existing attenuation tank was not used, due to the size of the catchpit under the manhole it was simpler to intercept the rainwater prior to entry into the tank, avoiding the need to excavate and to cut into the tank itself.

This was the best solution for this particular setup and suggests the approach will need to be bespoke on most other sites. In most cases, depending upon the non-potable demand and space on the site, above ground storage can be used.

In the case of Plymouth Argyle, four storage containers were installed which take the feed from the catchpit which in turn feeds the large irrigation tank Plymouth Argyle has on site, currently filled with potable water only. These can contain 40,000 litres.

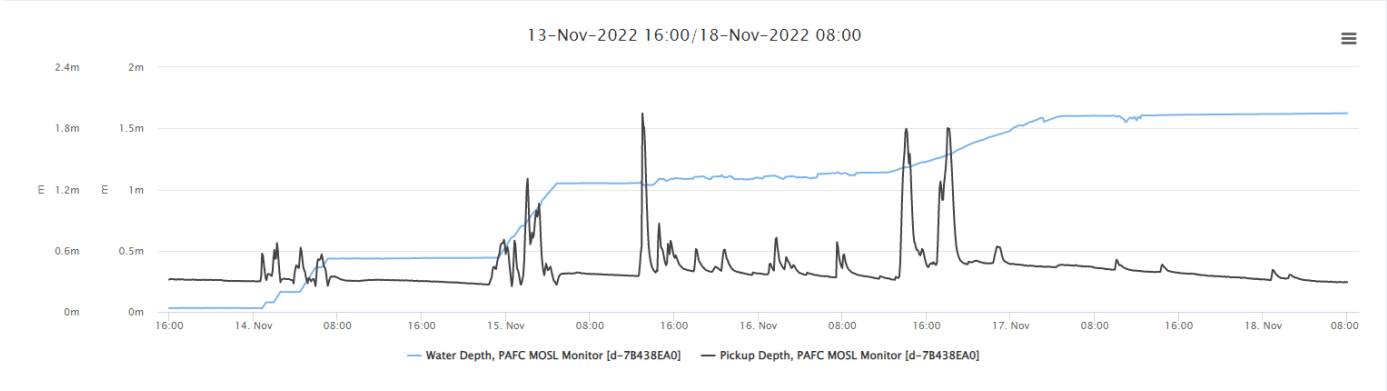
Businesses could add more storage to maximise the benefit from periods of heavy rainfall and this may be an option for this site with further investment or other customers depending upon the cost and available space. Some of the fittings were also non-standard and needed to be machined by SDS in its factory.

The findings – Plymouth Argyle

The pilot findings are in the very early stages but in the first few days alone were positive:

- From the graph (PAFC first four days image) you can see the water level in the above-ground storage tanks (blue line) increasing steeply in the initial stages
- The black line is rainfall incoming. According to the Met Office radar and rainfall data the area was experiencing 4-16mm per hour rainfall, and in this period, it appears that the tanks filled within three days
- The graph also captures where there were operational challenges, for example, Catchpit to above ground storage transfers level off during 15-16 November despite evidence of rainfall incoming,

indicating possible blockages on the filters. This was cleared with good water transfer again on 16-17 November. This was due to the velocity of the water pouring into the manhole, stirring up silt in the bottom which then became suspended and sucked into the pumps filtration system. This would indicate that customers would also need an ongoing maintenance contract to service the equipment, which would need to factor in any cost benefit.



PWS will continue to analyse the effectiveness of the system in capturing rainfall but also the output through the club's usage.

Like most rainwater harvesting systems, the payback is probably somewhere between two-three years, which can be monitored and calculated over time with usage. As a very rough estimate in the South West area for a customer of Plymouth Argyle's size it costs c. £1.90 per cubic meter of water so filling and emptying the tanks 250 times will equal the investment cost (£20k). There are lots of variables at play in this calculation and across the pilot. The cost of this job is likely to be nearly double the others within the pilot, and it will depend upon the return to sewer calculations to understand the full savings in the long run.

The pilot will not conclude until the summer of 2023. The early findings noted above have generated significant learnings into the potential to access and capture the value of rainwater from underground unused assets.

Summary

The pilot has provided significant learnings into the challenges behind the opportunity, some of which are detailed below:

- It is not clear who is legally responsible for underground assets like attenuation tanks. There is no national register and sites do not seemingly have corresponding paperwork, making it difficult to obtain permission to retrofit

- Site solutions are bespoke and require full site surveys. Low-cost desktop profiling is possible but requires highly engaged and knowledgeable customers
- Installation costs may be prohibitive. Tanks are often a significant distance from business premises requiring pumping and extensive trenches for pipework. It is likely retrieval of rainwater from tanks will be a more expensive solution to that of collection from roofs and downpipes. However, it could be part of a toolkit of measures behind other lower cost alternative water sources i.e., boreholes
- Aesthetics – Customer reticence to abundant above ground storage. To take advantage of periods of rainfall additional storage to the underground tank is needed. The more storage the better but above ground storage can be deemed unsightly and site space may be an issue
- Treatment – Some treatment may be required even for non-potable use i.e., laundry
- Tank Design – Tanks have never been considered for this purpose, so retrofitting is invasive. Recommendations into future tank design could make future installations simpler
- Customer Education and Engagement – Even engagement for the installation or free solutions under a pilot have been slow with one customer being ruled out for not supporting project timescales.

Workshop two: Roadmap to a flourishing competitive market

As well as the environmental challenges we have faced in 2022 and the introduction of demand reduction targets for the non-household market, a number of regulatory reviews have taken place. Ofwat has consulted on its Price Review (PR24) and the Retail Exit Code (REC) Review. Water companies have drafted their Water Resource Management Plan (WRMP) submissions and are developing their PR24 plans.

These reviews and their outcomes will determine the level of ambition, investment, and the direction of the market for the next three years and beyond. Whilst there are still opportunities to influence in areas such as metering, for example, through the responses to regional and water companies' WRMPs, we must consider the final determinations of the performance commitments and REC as the framework within which we operate the market for the coming years.

With this information in mind, we are proposing four areas for discussion in workshop two. The topics relate to the current challenges and opportunities in the market in the context of recent regulatory decisions and plans.

We are not proposing to cover all four topics at the CEO Forum but will be asking attendees to vote on their two preferred topics on the day. We will set out further prompt questions during the workshops.

Topic 1: Retailer Exit Code and price caps

Introduction: On 15 December Ofwat published a final decision on changes to the Retail Exit Code (REC) price caps. The REC protects those business customers who have not engaged in the market since it opened in 2017. The REC sets out requirements for price and non-price terms in the default tariffs offered to these customers.

The REC price caps have now been confirmed for the next three to five years. Revisions to the REC and associated protections for business customers will take effect from 1 April 2023.

Notable outcomes from the final REC:

- Retained price protections for Group One customers (consuming up to 0.5Ml per year) and Group Two customers (consuming more than 0.5Ml per year but less than 50Ml)
- Small increase in the allowed cost to serve (now includes meter reading and customer bad debt costs and MOSL, CCW and Ofwat fees) – up to £43.91 (from £35.80 in the September consultation)
- Allowed net margin remains unchanged from consultation at 2% (2.5% in current REC)
- Move to a single, England-wide, REC price cap for Group One customers, away from regional price caps.

Question: Ofwat will monitor how the market develops to determine when it would be most appropriate to conduct another review. What should Ofwat take into account when deciding this and should it set out any principles now for how future price caps will be approached?

Suggested pre-reading material:

- Review of Retail Exit Codes Decision document (December 2022)
- Ofwat press notice (December 2022)
- MOSL response to September REC consultation (October 2022)

Topic 2: Supplier of Last Resort

Introduction: In the event of an unplanned retailer exit from the market, the reallocation of customers to new retailers is performed under the 'Interim Supplier Allocation' (ISA) process, with customers allocated to retailers that 'opt in'. Each wholesale supply region has an allocated Supplier of Last Resort (SoLR) that takes on any customers not allocated through the ISA process – this is typically the regional incumbent retailer.

However, under the current market codes, there is no SoLR should the regional incumbent retailer itself fail. Should an incumbent retailer fail, there are a number of risk factors that could deter other retailers from wanting to take on customers. These include:

- The cost and availability of finance to ensure sufficient credit and working capital to take the customers on
- The additional transition costs for onboarding new customers and providing the initial service
- The quality and availability of customer billing data, particularly if there are issues in accessing legacy billing systems or data
- Low profitability/loss making profile for certain customer types due to high levels of complexity increasing the cost to serve
- Operational capacity to take on very large volumes of customers

These and other risk factors could lead to large volumes of stranded customers, where no retailer comes forward to take them on.

This is the highest risk on MOSL's Corporate Risk Register and was identified as a key priority for Defra in its Strategic Policy Statement. Ofwat and MOSL are working on a programme of work to assess and mitigate the risk, with a code change proposal being brought forward on the risk of customer billing data loss, which goes to the Code Change Committee for initial consideration on 12 January. Further changes will be assessed, in particular, in respect of dealing with exceptional transition costs, with a potential consultation later in 2023. In the longer term, Defra is also considering potential legislative changes that could be required.

Question: It is important that the market can continue to function in the event of a retailer failure and that customers continue to receive retail services. What factors would encourage participation in the interim supply arrangements and how should the market mitigate the risk of stranded customers in the event that retailers do not participate in this process?

Suggested pre-reading material:

- MOSL 2021/22 Annual Report (June 2022) – see section 'Principal Risks and Uncertainties' page 44
- Defra Strategic Policy Statement (March 2022)
- Code change proposal CPW127: 'Customer Data Provision' (December 2022)

Topic 3: Poor quality data

Introduction: Wholesaler owned poor data quality remains a key driver of market inefficiency and leads to a poorer service for customers. The extent of these data issues was reinforced by the findings of the Data Quality Assessment performed by Sagacity, our data services partner, which were shared in August 2022.

This work identified more than 1.1m supply point addresses that may need clarification and/or correction by wholesalers. Out of the total 2.6m, just 58 per cent of premises were able to be confidently matched (i.e., considered exact or definitive) to industry recognised address data sources (e.g., Ordnance Survey Address Base Premium (ABP) and the Postcode Address File (PAF)).

This significant amount of incorrect address data is not only muddying the water in CMOS but is increasing the associated costs for retailers to fix the data and leading to inefficiencies in the service they are able to provide to their customers. Poor quality customer and address data costs the market an estimated £6m a year in resource costs alone.

Whilst Additional Performance Indicators (APIs) on data completeness have been introduced within Holistic Reporting, current incentives on wholesalers to fix data quality issues remain low compared to incentives in the household market and there is neither the financial nor reputational driver on wholesalers to improve data for business customers.

The Market Performance Framework (MPF) Reform programme represents a major opportunity to develop and introduce effective levers and incentives that drive improvements in data quality, but there are a number of important factors to get right.

To be effective, the new MPF will need to ensure that data quality can be effectively measured on a timely basis. Penalties or other incentives will need to be sufficiently material. Options could include minimum data requirements for a supply point before it becomes subject to settlement charges. There may be an opportunity to use data quality measures within BR-MeX, although this measure does not take effect until April 2025. Interventions may also need to differ between correcting existing issues and ensuring data for new supply points is right the first time.

Question: How can we use the MPF to drive timely improvement in data quality and ensure ongoing and effective maintenance of good quality data?

Suggested pre-reading material:

- Data Assessment Findings (August 2022)
- Introduction of BR-MeX into the Business Retail Market (April 2021)

- MOSL 2023-26 Business Plan – improvement programmes MPF Reform and Central Data Cleanse Service) (January 2023)

Topic 4: Smarter metering

Introduction: In December Ofwat published the final methodology for the 2024 price review for wholesalers (PR24). This will inform the investments that wholesalers include in their business plans for the 2025-30 period which will be submitted to Ofwat in late 2023.

The methodology includes three elements of particular relevance to the non-household market: 1) commitments around metering/enhanced metering 2) the proposed business customer and retailer measure of experience (BR-MeX) incentive and 3) the performance commitments around reducing water demand.

In parallel, water companies are currently consulting on the Water Resource Management Plans which set out how they intend to achieve a secure supply of water for customers and "a protected and enhanced environment", and their water efficiency programmes and planned level of metering, including the benefits of increasing meter penetration, including the installation of smart meters.

Smart metering can be a key enabler to driving water efficiency, changes in time of use and more innovative tariffs, however, the level of ambition, investment and approaches vary significantly across wholesalers.

Question: Considering the need for more granular consumption data to support the reduction in water usage and wastage, should the market (trading parties, regulators, MOSL, government) do more to drive a wider rollout of enhanced metering, at pace?

Suggested pre-reading material:

- Ofwat PR24 Methodology (December 2022)
- MOSL Response to PR24 Methodology consultation (September 2022)
- Roles and responsibilities for metering in the NHH market report (June 2022)