



**Discover how customers impact the
water cycle**

Key:

C = Caecilie Hougaard Pedersen

S = Stuart Moss

E = Elettra Pellanda

M = Michael Taylor

O = Oli Shelley

L = Liz Alcock

C = Chris Jones

C: Okay, let's get started. So welcome everyone to this seventh webinar of the Water Discovery Challenge Series and welcome back to all of our regulars and welcome to anyone who is joining us for the first time. If you are joining us for the first time, don't forget that you can access all of the webinars in the series on our website.

Also a really big welcome to our host today, Stuart Moss, from Isle Utilities, and a big welcome to all of our external guests. Welcome to discover how customers impact the water cycle.

So do feel free to introduce yourself in the chat, who you are, your organisation, where you're joining from, so that everyone can get to know each other. And just before we get properly started there's just a little bit of housekeeping, so if you have any issues doing the webinar do feel free to use the chat, we have a team there who's ready to help you, and they'll also be sharing lots of relevant links and materials throughout the presentation that you can use for further research.

At the end of the webinar there's going to be plenty of time for a Q&A. So for the Q&A we will be using the platform Slido, the platform is live already. You can use the QR code that you can see on the screen, or you can use the link that's being posted in the chat to access the Q&A and then add any questions that you might have. You can add questions throughout the presentation and also during the live Q&A at the end. We hope to get through all of the questions but do email us directly if there's any questions at the end of the webinar that is still unanswered.

If you have a question for a particular speaker you can add that when you ask the webinar and otherwise we'll, kind of, open it up to the full panel. So, without taking up any more time, I will handover to Stuart Moss, who will get us kicked off.

S: Thank you, Cecilia. As you heard this week we are focusing on the impact customers have on the water cycle. In previous webinars we discussed water sources, treatment and distribution, usage by customer and wastewater produced by customers, more to come on this during this topic.

Wastewater treatment was also discussed, as was resource recovery. So let's talk about the customers, the people and businesses that this sector serves. There are broadly two types of customers, household domestic customers like you and I and non-household businesses, like hairdressers, pubs, and manufacturing plants. Around two-thirds of water is consumed by domestic household customers and one third by industrial users. Household customers interact with water broadly on two levels, when they open their taps to get water out for drinking or cleaning, and when they flush the toilets and empty the baths.

The water sector has been seen and positioned itself as a silent service over decades, almost not wanting to engage with the customers. I think there are novel customer engagement experiences that can be transferred from other sectors into the water sector.

Non-household customers vary massively in their interaction with water, it can be very similar to domestic households, like hairdressers and cafes; but on the other end of the spectrum can be part of the product that is being manufactured, such as the water within beer in the brewing industry or water can be integral to the process, say in textiles and paper manufacturing where you need a lot of water to produce the product, and it produces a lot of waste water in the process as well. Vast amounts of this industrial wastewater is produced and it is discharged into the public sewer and blended with that domestic wastewater and delivered to the water company treatment facility.

We have two main service providers in the sector, wholesale and retail. The water companies, like Northumbrian Water and Bristol Water, are wholesalers, they produce the water. They also play a role of a retailer for the domestic household customers like you and I, we cannot choose who we receive our water bill from. Then we have the retailers, these are currently only providing a service to the non-household customers, the businesses, the likes of Wave Utilities providing billing services to the businesses, but also additional services like water efficiency audits and leakage surveys.

Wholesalers need to match the water demand from customers to the supply of water being produced at that treatment centres. Wholesalers need to invest in the management of the assets to ensure the water reaches the customer at the required quality and pressure. This is a challenging operation due to the ageing asset base and the costs of energy and chemicals.

In order to ensure the customers gain a quality service there are a number of regulators, let's start with the Environment Agency. The EA sets compliance thresholds to ensure that water companies do not harm the environment, and if they do, they usually receive a fine. We have seen this a lot in the press recently with spills from sewer networks.

Then the DWI or the Drinking Water Inspectorate, this independent body checks the quality of the water as it reaches the customers tap, they regulate the chemicals and products used within the water process or the water distribution network to ensure they do not harm the quality of the water.

Now to Ofwat and price setting off. Ofwat is the financial regulator setting the price that water companies can charge customers. The revenues that water companies receive from customers allows the water companies to operate the processes, but also maintain assets and build new assets.

Water companies put forward a business plan to Ofwat requesting a certain level of investment for these activities with a bit of back and forth, there is an agreement on that business plan which in turn sets the price we all pay for our water bill. These regulators are all in place to ensure that customers get a good level of service.

There are other customers, of course, than the ones we have previously mentioned. For example, the fire service, there are hydrants dotted around the network. This image is not a UK hydrant, ours are typically under the ground.

These above ground ones are the types you see in the Hollywood movies, where the New York taxi cabs smash them down in some sort of car chase, resulting in a fountain of water shooting out from the hydrant. I think it's best to keep them underground. But we need to be conscious of these other users of the water system and prioritise that use.

Perhaps the biggest interaction customers have with the industry is opening the tap and drinking the water, or taking a shower or watering their garden. Consumption is around 140 litres per person per day, or PCC, per capita consumption. This demand needs to be matched with the supply from the water companies.

We are getting into a bit of a crisis in the UK with demand outstripping supply due to growth and water consumption so we, as customers, need to take this seriously and be more efficient with our use of the water.

The other main interaction is on sewage. We discharge loads of random things down our sinks and toilets and abuse the sewer, this causes operational problems for the water companies, but also for society. We put oil and nappies and wipes down the drain, and this is causing blockages and spills to our neighbours and our communities. There's plenty of room for innovation in this area.

The water industry and customers need to get closer. We need to move away from the silent service where the customer actively engages on where their water comes from and what happens when they flush the toilet, customer engagement is an excellent area for innovation, as current methods are failing.

Right, let's move onto the guest speakers. We have Michael Taylor, Oli Shelley, Liz Alcock and Chris Jones, a slight domination from the wholesaler here, but great to have Oli on board from a retailer perspective

Question one. What is your name? Who do you work for? And what is your role?

M: Hi, I'm Michael Taylor and I work as the Innovation Integration Manager with Anglian Water, and my role involves working with stakeholders, inside and outside of the organisation, to ensure that we are maximising value from innovation through improvements and performance and efficiency.

I've led on the engagement with the Ofwat innovation funding to date, and I also worked closely with my counterparts and other water companies on the collaborative development and implementation of the 2050 water innovation strategy. I am really excited to see what is submitted for the water discovery challenge, and I look forward to working with some of you on applying your great ideas to the water industry challenges in the future.

O: Hi, everyone. My name is Oli Shelley. I'm Head of Operations for Wave Utilities, a retailer in the non-household water market. My role at Wave is to head up our Water Efficiency Services Department. So I'm in charge of a small team that manages the upsell and delivery of water solutions to our, kind of, non-household customer base across the country. And that ranges right the way from supply, install of retrofits, smart meter devices to customer site leak detection and repair, all the way to water efficiency audits and installation of water efficient devices for customers.

L: Hello, nice to meet you. My name is Liz Alcock and I'm the Community Engagement Officer for Bristol Water. Part of my role includes going out to community events and supporting customers at these events and educating about water usage, water saving devices, and any other key messages that Bristol Water wishes to promote.

C: Hello, everyone. I'm Chris Jones, Research and Development Manager at Northumbrian Water Group. Part of our innovation team. My role is to work with colleagues at Northumbrian Water to identify challenges and opportunities that we can address through collaborative research and innovation to help frame the questions and then engage with partners that can help us to answer them. Typically, academia, water sector supply chain and research and technology organisations. It will be great to work more widely with organisations beyond the water sector, especially small and medium-sized companies.

S: Thanks all. Great to have you join us today, much appreciated. Onto question two. Tell me of the biggest challenges related to the role of customer from your perspective.

M: One of the biggest impacts that customers have on water utilities is perhaps, unsurprisingly, is the demand for water. So in the UK the current average water demand is approximately 140 litres per person per day. And demand management, so driving a reduction in the demand per customer, coupled with wider efficiency, improvements and leak introduction efforts is a key part of ensuring the sustainability of the water sector.

This challenge is particularly apparent in regions with limited water resources and high population growth. So when we experience growth in an area the water demand will increase unless the average household or non-household demand decreases within that area.

This increased demand for water has a double impact on water utilities, so every additional litre demand we have increases pressure on abstraction and treatment of the potable water, but also increases the volume of wastewater which must be collect and treated. This makes the demand manager a really critical point of engagement with customers, so that the water industry can enable sustainable growth and economic and environmental prosperity to the region served.

O: Yeah, and that is a really fantastic question in terms of where do we start in terms of challenges around the water cycle for customers, I think the biggest challenge for non-household customers is effectively, how can they reduce their consumption? And how can they take a part, play a part in doing that? A third of all the water that's in the public water supply is being used by non-household customers, so they've got a big role to play. But what exactly do we want them to do? And how do they know if they are being efficient? And crucially, what can they, kind of, do about it is one of the biggest challenges.

Especially, when I suppose there is a lot of other noise around what is going on, and I am not talking about energy and utilities, but also the fact that at some point they need to run their businesses. So when they live in a world where, I suppose, if they've thought about water for five minutes, that's probably five minutes more than they thought they should do that day.

How do we make things simple for them and make it clear and easy for them around what we want them to do to reduce their consumption and play a part in preserving that, that water for future generations.

L: So I think there's two things that are the biggest impact to customers at the moment when it comes to the water industry and supply, and I think that is the cost of living crisis and the potential increase in the cost of water usage. And also, things like sustainability and climate change, and the impact that things like droughts could have on restrictions to supply, such as hosepipe bans.

C: You asked for an example of how customers impact the water cycle, it's important to say first that water is a service sector, and we're here to provide water and waste water services which must be both sustainable and affordable. We must also deliver the experience our customers expect, and water companies actively engage with their customers to better understand their needs and expectations. In this way water companies reflecting their activities, what customers value, allowing them to positively impact water and waste water services.

However, customers do, of course, impact the water cycle more directly. Water consumption is an obvious area, it's important to use water responsibly and sustainably, especially when resources are under pressure. We saw last summer how sometimes it's necessary to change our behaviours and expectations to ensure that there's enough water to meet everyone's essential needs.

Home improvement is another area that you might not expect to impact the water cycle, but seemingly harmless actions like paving over front gardens, building patios, connecting a bathroom extension to the nearest drain can cause flooding for neighbours and pollution for the nearest water course.

One of the most significant ways that we see our customers impacting the water cycle is through what we call sewer abuse; that is treating their kitchen sink or the toilet as a bin, to dispose of unwanted materials or objects. The vast majority of which will cause some sort of problem to either the sewer network, the sewage treatment works, or worse, the environment.

The biggest culprit by far is wipes, baby wipes, wet wipes, make up removers, surface cleaning wipes; you name it. Most contain plastic fibres; that means that unlike toilet paper wipes don't break down in water, they snag the inside of the sewer pipe and stick.

And then other things like fats and grease like kitchen waste stick to them, before you know it you have a fatberg under your street, causing the pipe to block and

sewage to back up into people's homes and gardens or into the local river or stream, causing huge damage and distress.

S: There was a lot in there around demand reduction from the customers and allowing customers to understand the amount of water they demand from the network, both household and non-household. There was also a mention of climate issues like drought and flooding, and the cost of living crisis and the potential need to increase water bills.

The most challenges were around the demand management side, but there was an indication that customers might abuse the sewer and put things down the sink and the toilet that causes issues to the water company and wider society.

Righty, next question. Tell me about an innovative solution you've tried, tested, reviewed, to address the challenges described and what were the outcomes?

M: There are a number of things that we do as water companies to try to reduce customer demand for water, research has shown that there is a very large gap between what people typically use per day and what they think they use with around half of people believing that their entire households use less than 20 litres of water per day on average. Because of this many of the initiatives that water companies take on centre around creating greater awareness of the scale and impact of demand and water efficiency.

In recent years we've carried out some in depth and target engagement with customers as part of our shop window initiative. An example of this is working with other organisations who provide products with a high water footprint associated with their use, so things like appliances or toiletries.

One that sticks out to me is when we worked with GlaxoSmithKline on a behavioural change intervention around toothbrushing, where we distributed products with bespoke branding and packaging that included water efficiency messaging to a group of customers.

Analysing the consumption data for the same customers, which was enabled by smart metering, demonstrated that this campaign led to a statistically significant reduction in their water demand. While this work was extremely valuable in proving that this type of intervention can increase household water efficiency, it was not

possible to cost effectively scale up this exact intervention. And because this work is relatively new, there is also some uncertainty around the sustained nature of the reductions and whether or not the behavioural change will be permanent.

O: Okay. Well, hopefully, it's not a massive surprise that we've tried an awful lot in that space and tried to be innovative, being that it's really most of what my job here is at Wave is coming up with new propositions for customers to help them save water.

The one, I guess, I'm most proud of is the automation of our high consumption alerting journey to customers. So a lot of focus in the market a lot of time in getting customers better data, but that's going to get better over time with things like smart meters, and there's lots of retrofit devices out there to solve that. To me the key is how do you take that data and turn it into actionable information for a customer?

So just because something alerts to you and says, "Oh, look you've got this" what do you do about that? Why should you care? So we have a very simple email that goes out to customers, we chart their consumption over time in a really simple graph for them, and we give them an idea of the cost of that if they carry on with that behaviour. And that's been quite a big success for us, we've seen about a 1 million cubic meters of water in annualised savings delivered for customers.

About 10,000 of these alerts go out and with roughly a 10% response rate. So in terms of what's next I suppose we see some good outcomes, we'd like to see that response rate go up to find a way to get people more engaged. We'd like to send it to more customers. We only send it to our biggest customers right now, because if they require manual intervention in that process and help then we resource to do that, we need to get a much better self-service journey to get that out to the SMEs. For context, if we had sent it to the SMEs we'd see more, kind of, around 40,000 of those alerts have gone out.

And the final part is if I'd been polite about the process we use a fairly dumb algorithm right now for it, and by that I mean we treat all meters the same. And the next stage for us is that how do you tailor and personalise that journey? So you can say, okay, it's not just that consumption increases, look weird over time, this looks weird for you and this looks weird for this meter.

So I think we've done a lot in that space. I think there's a lot more to do around how we actually help customers understand what their consumption means and what action they can take.

L: Yeah. So I think some of the things that we do at Bristol Water to address this is that we try and go out and meet customers where they are, so that they can have an opportunity to ask us questions. I think when it comes to engagement with water companies we need to be more proactive, it's unlikely that people will keep really up to date with what water companies are doing, for most people it's just paying a bill quarterly and then they don't think about us going forwards unless there's an issue with their supply.

So what we have is called the water bar. This is a water refill station that we take to events and festivals throughout our supply areas; that could be things like Glastonbury Festival all the way to a local rugby competition. So the, kind of, range of family events, as well as larger scale events. And the purpose of the water bar isn't just to give free water refills, it's also to use it as an education tool. So it's quite a novelty bar, so it's based on a pub bar, so you've got kegs and ways to, kind of, pull pumps to pull pints of water, which is a really great hook to get people in, and then once they're there we talk to them about key messaging around what we see as, kind of, common concerns for consumers. So we give out free water saving devices such as shower regulators and things like that, and then we also educate on ways that they can save water. So say family events, so we can educate on water meters, and how that could save you money, and also make you more conscious of your water usage.

And yeah, we also educate on the kind of supply side from our end, so the fact that water is a precious resource and we should be doing everything we can to preserve it in the home rather than seeing it as an unlimited resource, which I think is quite common with some customers. So hopefully, through providing them space to come and chat to us it allows them to ask us questions and learn about the water cycle and the role they can play in it, and the way they can make their role more sustainable and hopefully more cost-effective.

C: Northumbria Water has taken an innovative approach to this challenge, starting with using data to identify the areas in our operating region most likely to suffer from blocked drains and sewers and then going big with a coordinated campaign of awareness and behaviour change, everything from visiting schools to putting posters on buses, ads in cinemas and stories in the local news, full of gruesome pictures of our operatives cleaning blockages from sewers.

We gave out free bathroom bins to encourage people to dispose of bathroom rubbish responsibly. We've engaged with social media influencers to promote alternatives to wet wipes for removing makeup.

However, we've also developed tracking technology, essentially a big spiky ball that we drop into the sewer at strategic locations to catch wipes as they move down the pipe. And using this we can identify for the individual property, if necessary, who is causing the problem, allowing us to write to customers and explain the impact of their action and to support them to change.

Since the start of our bin the wipe campaign we've reduced sewer blockages by 52% and sewer flooding by 60%, and the success of our bin the wipe campaign and the support it's generated from customers and regulators and stakeholders has led to the campaign being adopted nationally.

S: Thanks, all. We heard about behavioural change campaigns, high consumption alerting, graphic images of sewer blockages, spiky balls being thrown down the sewer to pick up wipes. A water bar. I love these. A nice blend of technological innovations and engagement innovations.

Final question. Tell me about the key innovation opportunities around customers.

M: Using conventional or traditional means to engage regularly with customers on an individual basis may not be cost effective for the water sector currently, so a key opportunity for us is to use novel techniques and approaches to improve the interaction and engagement customers have with their water services to reduce demand and increase water efficiency.

I think it's really important to move the sector away from a silent or hidden service that it has been for so long, and if we get it right we can also start to improve other aspects where customers impact on the water cycle as well.

O: Well, as I said in my previous answer, really I have seen lots of focus on measurement in the industry which I think is good, I think if you can measure something you can manage it obviously. But we've seen a lot of growth in there and smart metering in retrofit devices, and that's what we do.

I think the next part of the journey for me is as I talked about with our high consumption learning process, how do you take that and turn that into actual information on what you want the customer to actually do. And that's where I see a

huge opportunity in there, and not just around how the alerting works, but even a step beyond that, how can we help customers get into their sights, which are all vastly different in the non-household space? It's one of the big problems really with it is non-household customers are all very, very different from one another. In households life is kind of easy because we all use water in the same way at home, it's just how many people in the home is different. In a business it's vastly different how you might use water, and how important water is to you.

So for me, actually working on how we can get some cheap, effective tools or methods out there that help customers really understand “Okay, really easily I see my consumption is this. I see that's bad. Now what do you want me to do about it? How do you help me with that? If that's going to check if I've got a leaking loo or if I've got a leak, how do I do that? How do I make that easy for me?” And that's where I see a real opportunity in this space because I think what we've got in the industry is we're starting to get all the data there, we're starting to see the data is wrong, and we've probably got the solutions that the customer can buy to do around it. How do we get to the point of helping them to easily identify and have enough confidence that they need a solution and that they are going to see a payback on it to be able to actually implement it.

So that that's definitely what I see as a massive opportunity from my perspective as a non-household retailer.

L: So I think that an innovation in this area is to think about how we can really utilise the fact that we're speaking to people in person. Often what I think happens is that quite nuanced issues to do with how water is supplied and treated and the, kind of, operational side of water companies is so complex and quite expert that when we try and explain it through things like websites or social media or news reports it can get a bit lost. And so I think having that human conversation with people is really helpful because you can get a bit more detailed, and you can answer follow up questions, and you can really have an impact on people's perception of water and the kind of companies we all work for.

So I think that's one thing that I would like us to do more is to, kind of, take these key issues and be able to have these conversations with people at festivals.

Another, kind of, more fun thing maybe is I would really love to have games and more interactive ways that people can engage in these conversations. So things like art competitions, poetry competitions, spaces for people to get creative and have conversations while creating art, or something like that. As well as maybe some more,

kind of, children's games. So things like a water cycle, snakes and ladders, or something like that. So that kind of fun element that I think fits well with events and festivals and can also really help with engaging in learning and education would be a really great addition to the water bar going forwards.

C: The more we can engage our customers in what we're doing the better. For example, in raising awareness of how what they do impacts the services water companies provide in terms of cost, quality, reliability, and overall customer experience, be that drinking water or sewerage.

More importantly, we need to work with our customers, our communities and innovators, small and large, to develop solutions that work for everyone. So the opportunity I see in this space doesn't relate to a specific challenge or outcome, but more to an approach that is bringing as much diversity and co-creation as we can to innovation, and to learn as we go, rather than assuming we know all the answers from the start.

S: Again, within those there was more desire for better ways to engage with customers, ensure that customers understand how their actions can cause issues for themselves, their neighbours, their community, the environment, and also the water company.

I love the idea of gamifying this. I've seen an example of this in the Netherlands, where two schools had a water challenge and the school using the least amount of water received a new playground at their school. Just awesome.

We also heard that there is lots of data, but an area for improvement is the ability to turn that data into an action that can allow the customer to be more efficient with their demand.

Thanks again to Michael, Oli, Liz and Chris, really appreciate your input. And to summarise the water sector is historically a hidden sector, a hidden service. This needs to change. Customers usually only engage where there is a bill to pay, no water supply, a leak in the road or a sewer spill, always terrible moments for the customers.

There are a number of regulators ensuring that customers receive a good service. There is a desire for improved technical and engagement innovations to drive demand management and remove that sewer abuse.

This has been the seventh in a series of 11 webinars as we travel through the water cycle, so keep an eye out for the future sessions. We will now transition to a Q&A session. I hope you have been thinking through some questions and populating them via Slido.

I invite all the speakers to come off mute and I'll hand back over to Cecilia to chair the Q&A session. Thanks for your interest and engagement.

E: Thank you, Stu. I will be just jumping in quickly to say unfortunately Cecilia has had to step away from her computer today, so I will be filling in for her. And just as a way into an introduction I am Elettra, I am part of the Discovery Challenge Delivery Team. So I work with Cecilia on the whole process and I will be chairing the Q&A today.

Just before we go into that, we have just launched a poll just to gauge your interest and the usefulness of this session for you attending this, so please do take one minute to answer those questions, it really helps us tailor these sessions for your own interest.

So let's jump into the Q&A straightaway. We've got a lot of questions coming from Slido and I encourage you to go on and ask more if you haven't already. The first question is actually related to the competition itself, and someone asked "We have developed an innovative and novel range of products that help customers save water outside. Would it be a big enough idea to enter the competition with?"

So I think I'll just quickly answer this one myself. The competition is open to any innovative solutions that can benefit water customers and society at large and the environment. So I would recommend that you familiarise yourself with our innovator handbook, where we have a section called "What we're looking for", which is detailing the assessment criteria, and your entry will be stronger if it aligns really well with this assessment criteria.

We have also created an innovation maturity framework that is mirroring the technology readiness levels news in some sectors about technology. However, this competition is not only about technologies but it could be about ways of working and other solutions. So discovery is geared towards entries at the more mature part of level two and less much you are part of level three in this innovation maturity scheme.

However, this is just a rule of thumb and all entries are welcome at any stage of their development as long as they are strong in terms of benefits to customers. So really that's all you have to bear in mind when you are entering. And of course, please note the eligibility criteria that you need to be a UK incorporated organisation.

So without further ado, let's get into the meaty questions for our panellists. I'm going to ask Liz to come off mute and answer the first question, which is how much drinking water is used outside for gardening, car washing, window and patio cleaning and etc.?

L: Yes, no, a good question, a really hard one to actually have a proper answer for because obviously it varies so much to do with the person, the activity, etc. But on average it is things like car washing can take a 100 - 300 litres to complete. Things like a hose pipe, if you use it for 10 minutes can be anywhere between 170 litres.

We at Bristol Water, kind of, have a campaign to try and to reduce things like showers down to five minutes from 10, and in doing that you'd save something like 50 litres of water. I think though the thing is of course about like innovation and challenges, the challenge we have is contextualising these figures. So to the average person a 100 or 300 litres doesn't really mean anything, so what we try and do is contextualise that in terms of how many baths that fills, or how many stadiums that would...way bigger than 300 litres but people need these kind of comparisons and visual aids, almost, I think, to understand what that amount of water looks like.

And I think it's also about putting it in the context of a bigger story, which is yes, 50 litres in the kind of grand scheme of how much water we're transporting day in, day out, in water companies is literally a drop in the water, if you magnify that by the amount of households that saving could then become quite significant. So the challenge we have is how to get that message across. But yeah, I don't have the information on things like patios and window washing, unfortunately, but yeah, those ones I have the kind of stats for. But hopefully, maybe online or after Elettra can do some researching and see if there's answers to those ones.

E: Absolutely. Thanks, Liz. And yes, just to close on that one any questions that still remain unanswered in this Q&A we can take those away and publish the unanswered questions later on our website. We're also going to have recordings of this session later on, so you can review it in your own time.

S: Elettra, if I can just jump in on that one, if I may?

E: Of course.

S: So yeah, and just to add to Liz's comment really is around smart metering, and as smart metering becomes more prominent in the UK we'll start to get some more granularity around what the uses of that water is within the household and within a business. And you can also get some a level of sub-metering as well, which can be sort of clamped on, this new innovation that can clamp onto the pipe that's feeding the washing machine, or whatever it might be. These meters cannot be used for billing purposes but can help apportion where the water is being consumed within a property, so there are new technologies that allow us to get this information.

But I think what I hear from a society perspective that this feels a bit intrusive, why should the water company know how many times I flush my toilet per day? I might feel as I've got a problem if I'm flushing the toilet lots per day and I'm getting told to flush it less. So I think the technology is there to allow us to really understand this granularity but there's that, kind of, societal piece around why should I give this information away to my water company?

So yeah, just to add that point.

E: Thanks, Stuart. That's true the privacy aspect adds another layer to the whole complex issue, so thanks for pointing that out.

The next question is, would a shift to using harvested rainwater instead of processed water outdoors, for example, watering cans instead of hose pipes, make a worthwhile water saving contribution?

Chris, would you like to answer this one?

C: Yeah, of course. I think the simple answer is any saving is worthwhile and every drop counts, so whatever slogan or catchphrase you want to use, but it really is, it's precious. So anything that can be done is worth doing. But I think probably it's more a, sort of, a basket of interventions that is gonna have the best effect, so rather than just asking water customers to use a rainwater butt you've got to ensure that their experience is the same. It shouldn't feel like a sacrifice or a compromise, so it's a

basket of issues. So it might be using a water butt, but at the same time it might be planting more drought resistant plants, so they actually use or require less water.

And I think in saying that there's an opportunity to really broaden the reach of innovation, so you could start to bring in horticulture or seed producers to, sort of, say, "Can we? Can we come up with more, sort of, drought resistant plants or seed varieties that mean people's lawns will maybe stay greener a bit longer through the summer without watering?" Which you don't need to water a lawn it'll come back. But people want it to look good, don't they? So I think we understand that, we're not asking people to give up their gardens, but at the same time just think about everything that they do in the garden, and as innovators, as water companies if we can support them so that the garden still looks good while saving water then that's really the ideal outcome.

E: Thanks, Chris, yeah. And in a similar vibe, the following question actually asks, do water companies encourage customers to take up the use of rainwater harvesting water cans instead of hose pipes? And if so, how? So maybe I'll ping this to Liz, and I would also like to hear Oli's perspective, so just to get a retailer perspective on this, too.

L: Yeah, no, definitely. So rainwater harvesting, we definitely encourage that to our customers. So we do that through things like blogs, social media campaigns and we also have had things in the past like competition. So we've had one directed at schools, so giving them a water butt and decorating the water butt and raising awareness of how you can use that for the garden. And we also had a giveaway recently last year about giving away water butts in exchange for signing up to get a water meter, which we know encourages behavioural changes in the reduction of water consumption.

One thing I wanted to mention is that part of our water resource management plan, which is just kind of closed consultation, but that's run by our water supply and environment team, it's mentioned in the planning for 2025 that we want to have more rainwater harvesting resources out there for customers. So one thing that is mentioned, again, it's kind of a draft of a plan so the final products might be different, but we have mentioned home improvement grants. So having money accessible to people to create these changes in their homes and allotments and stuff like that.

Bristol Water is actually now part of Pennant Group, which for those of you that don't know, also own Southwest Water and Bournemouth Water. So I've actually met with staff that Southwest Water have who are non-household water efficiency consultants, very long job titles, but they actually go out to places like allotments where there is a large amount of water consumption, especially during summer, you have a lot of

patches, to talk about how during the rainier months they can use the rainwater harvesting, so that it doesn't become quite so impactful in the summer. So yeah, the short answer is that we definitely do and there's multiple ways to do it. But it's an area that I think is evolving quite quickly, and we'll be focused on a lot more in the future as well.

E: That's great to hear and exciting to see what is going to come next.

Michael, I'm going to ask you the next question, if you like, or actually sorry, I just thought I didn't give all you the chance to bring in your perspective on this one. My bad.

O: Oh, that's fine, you're welcome to that, my perspective. But so from a non-household perspective, I suppose, from a retailer one we encourage customers to always say, well assume we sell some solutions around that, very different marketplace in the sense that you're, kind of, really hoping that non-household customers will be self-funding in that kind of regard.

So they have a natural kind of economic incentive for it in the sense that they use less water they're going to pay less for it. I think the challenge actually, from my experience talking to customers around that particularly rain water, obviously, we use is a couple. One is if you're using it in processes and products is customer perception, so their end customers' perception. So if there's an expectation that you've got a product there and water goes into it, and that's been "potable water" in the sense of what's come from the mains, how do they feel about you using re-used water in there? Which isn't unsurmountable, things like potatoes, companies growing potatoes, farmers reusing water to wash those for years and years and years because there's no difference if you're using slightly muddy water to redo that.

And then the other is actually how do you get to the point of being able to make that decision from a capital point of view on it, so it's not just a case of are you interested but the amount of work that goes into a business case to understand "Okay, I might be interested in ways things are harvested but how do I bridge that gap to understanding can I put that system in place? Can I get to a point where I can make a decision and say if I put this much money in I'm going to get this much pay back?"

That's the challenge, I think, facing everyone. So a lot of water companies as well themselves have put in place schemes to look with customers about funding these things, and Southwest are actually one of those, in Cornwall we've got a problem. I

think the challenge is customers aren't sitting there with a fully funded, full kind of business case saying I know exactly what I want and where I want to do it, so bridging that gap is a challenge, but also tends to be an opportunity, I think, for non-households because they're more interested than I've ever seen them be, I think, is fair to say how they get there.

E: Thank you, Oli. So with the next one we're going to go to Michael then and you can also jump in on this one, Oli, if you want to give your thoughts on this one too. The question is, is there any data or surveys on the percentage of customers who use harvested rainwater for watering the garden, car washing, cleaning windows, etc.?

M: Thanks, Elettra. And yes, a little bit, I guess. Like the initial question on quantifying the volume used, it's also quite difficult for us to quantify on the number of households or our customers that are doing this. Certainly, there's been an upturn in non-domestic use and non-domestic systems included because of the, I suppose, the planning phases in the new developments for those things like shops, retail outlets, even things like farms and agricultural settings as well, there's obviously large scale rainwater use in those settings.

I think particularly in urban catchments it's quite difficult actually for a lot of households to apply certain rainwater harvesting, sort of, techniques. And I think I think an example that we have even on the streets that we tried to really put up everything behind and try to disconnect it from a combined sewer system the uptake was about 20%, so where we were willing to invest and to carry out all of the required works and everything else still only 20% of the houses were able to be disconnected and have rainwater harvesting systems put in, so that things like that under underground storage not being available, things like the not just the room not being available, for example, on terraced houses for water butts, and a number of different sort of scepticism with the owners or different, sort of, leaseholds or tenants, or various different things that prevents them from actually being put in.

But certainly it's in single figures, I've no doubt in terms of the percentage of people that are using them. And even to get above that, sort of, 20% level we've struggled with our various different sort of incentives and engagement so far.

E: Oli would like to come in with, yeah, maybe a business industry setting perspective.

O: Yeah, sure. So very similar, I guess, to Michael's answer in the sense of I guess the answer is we don't really know in the business sector. Although my gut very much like Michael said it's I'd be amazed if it's out of single figures, I'd be amazed if it's even close to being out of single figures in percentage terms, to be honest with you, for the challenges we outlined earlier really, which I think customers are...I don't know if they're quite interested. But how do you make a case to go that and go there?

I think another challenge, I suppose, to get people's heads around is also to understand.

Obviously, customers don't have to tell us that they're doing these things and the intervention sometimes and I know that's a big problem for whole service and retailers is our point of knowing the customer is often the meter in the point of consumption, and things happen at that meter of the consumption. Sometimes it's because you've had engagement with that customer and they do something, you can see it drops. But at other points it drops or goes up and we're not entirely sure why that is, so that that's the other problem behind closing that gap on data is that we can see the consumption and we're getting better and better data, there's still a big missing part of that, which is what's the customer actually intending to do with the water in the first place? And what interventions have they or haven't they done? And therefore, should you expect to see the consumption drop or not is a whole other can of worms.

There is a resource I thought, actually, I'll just quickly plug if that's okay, Elettra? Because I think it'd be useful for people in the call. I think the question that is being asked there is also actually quite relevant in terms of what you can know is the types of industries where they're going to have a lot of that outside usage, and most so who are the market operator that sit between us as a retailer and a wholesaler. One of the good things about them doing settlement is there's quite a lot of market data available and publicly made available now.

So there is a market chart that actually breaks down consumption by sector and segment of the market into different kind of business types. It's not perfect because it's by SIC code, it's not perfect. But I would in the chat share that. So I'd say if you're looking at innovation or wanting that it might help you, kind of, focus your minds down on not just thinking about non-household as non-households but actually what sector in there might that be attractive? Because you can see things like golf course and stuff are obviously gonna have huge amounts of usage. So yeah, if that's okay I'll pop that into the chat, but it's a website, it's a dashboard. You can just sit and go play around with and give you some insights there.

E: Thanks, Oli. Yeah, that sounds good. Please do drop in the chat, it looks like it's going to be really interesting for our audience, so thanks for that.

We have a question that is really interesting following on this one, and I would like to bring it to Liz and Stu for your perspectives. So, it is many people believe drinking water is an unlimited and cheap resource, how do water companies re-educate and encourage customers to save water?

L: Yeah, no, it's a big problem and I've only joined the water industry since last August, and I must say before that I was quite similar because it always does come out the tap which is a sign that water companies are doing a great job at keeping that supply going. But as we're going into higher risks of droughts that are more significant, especially, in kind of the Southwest area where I work this re-evaluating how people see water is really important. So I, kind of, feel about two things. So firstly, education programmes which I know I've talked a little bit about, but I think particularly with children is really helpful because children are at a stage where they're really excited to learn about water, and you can give them out free resources like toothy timers, which we have a two minute sound timers. And you give them that and you say, "Okay. And when you do your teeth you turn the tap off" really kind of small behavioural changes. But kids, kind of, remember that and then they go back home and they tell their parents "You best turn the tap off" kind of thing, and it's kind of that ripple effect, and people start seeing water in a potentially a bit more of a different light. It's not always going to come out the tap unless we work together.

And the other thing I thought about was with the kind of cost of living crisis, which again I know I've talked about a little bit, it's linking it to resources that are more costly and actually people think more about from that perspective. So obviously, we all know that gas and electric prices have gone up, and they are going to be the more expensive bill compared to your water bill, but things like having a bath, or running the dishwasher, they all use water and electric or water and gas, and so trying to get people to reduce gas and electric consumption also helps with reducing water consumption. And actually, linking those kind of that content is really helpful at the moment because that is a big concern of customers. And I think again, it can make people think twice before maybe using water more frivolously in the household.

S: Yeah, just to add to that. Thanks. Thanks, Liz. Just to add to that. Well, it is too cheap, right? Water is too cheap, I think. I think the prices should go up, but I recognise the situation we're in as well from a, sort of, cost of living perspective.

There's quite a lot of press at the moment about the water sector. Not a lot of that press is pretty, and typically the water sector is only in the press when there's droughts, hose pipe bans, flooding, storms, and but we're in the press, right? That's a good thing, we need to capitalise on that. I think there's an opportunity now whilst the sector is being talked about to jump on that and educate, so I do think we should use this moment where we're, kind of, an industry that's being talked about to use for good. Yes.

E: Thanks, Stu. Yeah, I guess it is a good thing to be in the press. So yeah, you need to be there for the right reasons. So yeah, carry on.

I think the next question would be good to be hearing Michael and all his perspectives on again. So the question is, what are the unintended consequences of customer side water saving?

M: Yeah, so there's not too many on this really as long as we get ahead of ourselves. I guess, the obvious one is around the infrastructure changes, so the flows within our potable water networks for provision of water and the wastewater networks collecting that water. And, as I suppose, those systems were designed from a perspective on the clean water side, looking at things like water, age and disinfection regimes, and for the operation of those networks they need to be updated and changed. But it's nothing that we couldn't overcome, I think, relatively easily.

On the waste water network side we're looking at things like the cleansing velocities and things, maybe reducing certain areas, maybe an increased chance of risk. Sorry, at risk of being older, sort of, risk increasing. But again, things that we can manage if we know what's going to happen, it's almost the opposite impact of growth.

So we've already expanded our networks to be able to provide for more, so it's almost like a contraction of the networks. Again, and that's one that jumps out to me, I guess.

O: Yeah. And from a non-household perspective just following on, I guess one really specific one that affects non-households and often process users rather than others is trade effluent. So my wholesale colleagues will tell me off in a minute, but think of trade effluent is if it doesn't come out a person it's probably trade effluent, it goes down a drain. So those big industrial users are discharging things from process and stuff like that, they're built on strength and volume of what goes out there. Because again, it's not just the volume that goes out, but just the wastewater networks

are generally designed to deal with human waste, not other bits and pieces so that needs to be consented separately and built separately.

So if you're a customer and you're suddenly which... one of the benefits of having quite a lot of water going through that process to strength is obviously get a degree of dilution on that on what's coming out. So if you start saving what's going in you're doing a good thing for the environment, from one perspective. But if the strength of what you're putting out is going out that might, sort of, stress the local waste water works quite a lot depending what's there.

Now what that says, again, isn't a massive problem it's just that highlights that if you're a big process user you need to think quite holistically about the, kind of, the whole water cycle inside your... and balance with inside your sign and what you're doing because you'd have to tackle both those things at the same time, really. And both are worth doing, there's financial incentives for the customers do both really, because you're really are opening, you can take your strength and volume down. You've gonna save on what's going in and what's coming out, which is great.

The other one is a bit of a myth that I suppose I'd like to dispel as a retailer perspective, which people always say because we sell water why would we want to help people save water, doesn't that hurt our margin overall?

And I suppose the answer is it could, but it's not quite as simple as that from a service perspective really. One, we have to put the cash up to buy that water in front. So if we have to buy less it doesn't actually affect our overall margin perspective too much, and we could always sell it to another customer. The other is, I suppose, without getting too into the ins and outs of tariff thing there are ways that you don't have to put retailer margin on the volumetric charges. So, although it's a consideration that retailers have to have there isn't...it's not as simple as saying, actually, we just wouldn't want to do that anyway and it'll put us all our business. It really isn't the case. And there's no retailers that I've come across agree with that. But it does come up time and time again. So to put that to bed, there's no reason there's a retailer that wouldn't want to help customers save water.

E: Thanks, Oli. Yeah, I agree. I'm just conscious we've got a couple of minutes and a few more questions to go, so we'll just wrap up with the next two if we can make it and the others we'll be able to answer on the website later on.

So what does the panel think about schemes such as the fine to flush certification scheme? Is this a step in the right direction, or will it cause more sewage blockages, as people will think everything will be totally disposable?

So I think everyone in the panel you're welcome to chip into this one. Maybe I'll start the ball rolling with Chris. Chris, maybe if you can give also a quick intro on what the certification is for those in the audience who don't know what that is. Thank you.

C: Yeah, so fine to flush is an official and independently tested standard that shows that the way a wipe has been manufactured or designed and manufactured means that it will break down more quickly in the sewer sufficiently quickly that it shouldn't cause problems.

So I think, I mean, we in the industry have welcomed the work in this area to develop these products and to develop the standard that they're tested against. I'm personally having anything that reduces plastics going into the environment and single-use plastics, well, whatever the ultimate waste stream that it goes into is a good thing.

However, I think it's really difficult to be very clear about the messaging, you've still got some products that say they're flushable, which means technically they'll go round the U-bend, but they won't break down alongside some products that are now saying fine to flush, and I think that's really difficult to expect customers really to pick up on that messaging. The labelling is getting better but it's not clear enough yet, so I think as it stands really why do you need to flush these things down the toilet? I think at the moment it is best all round if you just don't flush anything.

O: Can I just jump in there with a view quickly? I mean, what I think referencing actually back to something Chris mentioned in his intro piece, what I really like about it is we need to start telling customers in a positive way what we want them to do. What is that best practice clearly, what do we want you to do, and that's what I like about that scheme, that if we can simplify things to say, "Please only buy or have products that have this label on" that feels like something you can easily make traction with rather than listing all the things that they shouldn't be doing.

We don't give them a clear instruction to follow, I think it's something I'd really support in this and lots of other schemes.

E: Would anyone else like to chip in to this one?

M: Just really quickly, I guess, from my perspective it's always going to be a compromise I guess on this, our systems weren't designed for anything other than what they were designed for, and ultimately you're gonna compromise on that in some way. And it's also going to be a certain percentage of the population that misunderstand the guidelines, unless there we stick to the same sheet, I suppose, on that. So it feels like a step in the right direction but with caution, I guess.

E: Thank you, Michael. And thank you all so much for your contributions, it's been really interesting as usual. So we're just over 1:00 now, so we'll wrap this up now. Thank you all for attending, and thanks for our wonderful panellists.

We do hope you can make it to our next session on Thursday, which is going to look at climate change and how to be operational resilient in the sector. The link is being shared in the chat if you want to register now, but we will have social media and all sorts of communications coming on that one too.

So the recording for this one will also be available on the web on the website by early next week. In the meantime, if you have any other questions you can drop us an email at our waterinnovation@challengeworks.org inbox. Thank you all, and have a good rest of your day.