

Water, water everywhere? Delivering a resilient water system (2016-17)



December 2017

Overview

- This report discusses water companies' (companies) performance in areas that can affect longerterm resilience of the water supplies in England and Wales. It discusses what the industry is doing to address problems and how we are helping. The data contained within this report has been supplied directly from companies, unless otherwise stated.
- Customers expect to have a safe, reliable supply of high quality drinking water now and in the future, but water resources and supply networks are under increasing pressure from extreme weather events and population growth. Customers' expectations of their water companies are also increasing. They want high standards of service but also want the environment to be protected from over abstraction of water, now and for the benefit of future generations.
- The industry is now faced with the challenge of addressing these issues, making sure that there is enough water available for today's and future consumers, whilst keeping water bills at a price that customers find acceptable and can afford.
- In order to secure the future resilience of our water supplies, companies will have to make better use of the water resources that are currently available, through reducing leakage and encouraging customers to use water more efficiently. Appropriate investment in developing new water resources and strengthening the water supply network will also play an important part in delivering resilient water supplies in the longer term. We therefore look forward to seeing the companies' water resources management plans (WRMPs) when they are put out for consultation in January 2018. These will set out each company's strategy and ambition in these important areas of activity and investment.
- It is disappointing that leakage and the amount of water that customers use increased in 2016-17 (despite an increase in metering).
 - Leakage can affect customers' willingness to save water and does not contribute to reducing water demand. We continue to question whether the rate that companies are reducing leakage is quick enough to meet their customers' expectations. By 2025 we expect to see all water companies achieve a minimum 15% reduction in leakage and, as part of a longer-term strategy reduce leakage further, where there is a strong case and customer support for doing so.
 - The amount of water that people use each day has been rising since 2014-15. This can be affected by many variables, but the increase is an indication that current water saving messages are not convincing customers about the need to save water.
- Metering has been used as a way to make people more aware of their water use, with the expectation that it would encourage customers to use water more wisely. However, the average consumption of metered customers has risen. This is in part due to a greater number of higher-use customers being transferred to meters as part of universal metering programmes. So, does metering alone change customers' behaviour?
- The average amount of time that customers are without a supply of water has reduced in the last year, which is good news for customers. However, we question whether the right metrics are in place to challenge companies to reduce the interruptions that cause the most disruption to consumers.
- The quality of drinking water in the UK remains high and companies must ensure this is not compromised by any plans to increase resilience.
- In the future, the UK, and particularly the south and east of England, will be at increased risk of drought. We will continue to press companies to develop plans for maintaining supplies during droughts that cover all scenarios and in doing so engage with all their customer groups. We want the companies to plan for and to start investing in the future resilience of our water services to ensure water supplies are maintained in all foreseeable, and likely, drought scenarios.

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1. What is Resilience?

Water supply resilience is the ability of the water companies' systems to continue to provide a consistent supply of water now and for future generations; even during severe situations and events, such as floods or droughts. Customers expect a reliable supply of water regardless of the challenges facing the sector. Companies will therefore have to maintain and improve their systems if they are to continue to meet customers' expectations. They must ensure they maintain water supplies for homes and businesses, while taking steps to protect the natural water resources we rely on for our water supplies.

However, water resources, and supply networks, are under increasing pressure from extreme weather and population growth. More extreme weather events could lead to flooding, putting water supply infrastructure at risk; while hotter, drier summers are likely to lead to more droughts. The UK population is also expected to rise from 65 million to around 74 million by 2039¹, which will further increase the demand for water.

The industry is now faced with the challenge of addressing these issues, making the water supply system work for consumers today and for future generations, whilst still keeping water bills at a price that customers find affordable. We expect water companies and regulators to address the issues relating to the long-term resilience of our water supplies by ensuring that appropriate investment is made now in the longer-term security of our water services. As the consumer representative we will challenge all concerned to ensure the regulatory, planning and engineering assumptions are fit for purpose given the scale and urgency of these growing pressures.

The work led by Water UK last year, working in partnership with stakeholders from across the sector: The Long Term Water Resources Planning Framework identified that unless steps were taken by 2050 demand for water could outstrip available supply by as much as 22%. This gap will not be addressed through demand management alone. We will continue to actively encourage collaborative working in addressing some of these long-term challenges through cross sector groups, and the regional water resources planning groups.

Earlier in the year, Ofwat published a report entitled <u>'Resilience in the Round'</u>, which encourages the industry to consider resilience as an interdependency between corporate, financial and operational functions. The potential benefits that may be delivered by this approach include better customer engagement, better planning and better value options. We consider that a mature and responsible company will already be taking this wider view, and will be aware of the risks (both current and future) that may affect the service that they provide to their customers. For example, the <u>National Flood Resilience Review</u> required companies to report the number of assets which would be affected by coastal or river flooding. A well-managed company should not have to be mandated to do this and should already be adopting a wider interpretation of resilience planning.

Companies need to ensure that communication about resilience is not overcomplicated and is focussed on customers. It will be important for customers to understand the challenges their water company is facing and what it is doing to address them. They should see evidence that their water service is resilient by continuing to receive a reliable, interruption free service, but a better appreciation of what their water company is doing to provide that service will help them to value it.

¹http://webarchive.nationalarchives.gov.uk/20160106011004/http://www.ons.gov.uk/ons/rel/npp/nationalpopulation-projections/2014-based-projections/index.html

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Additionally companies will need to manage customer engagement and customers' expectations to understand what their priorities are in terms of resilience in the long and short term. Companies' communications will need to be relevant to the customer and set out what resilience means to individuals.

There is also a challenge for companies to be more innovative when considering solutions to increase the resilience of water resources. We welcome companies looking to evidence from other countries to understand how this is being done and whether waste water reuse, desalination, using grey water and rainwater harvesting schemes could be used in England and Wales.

We look forward to seeing the companies' water resources management plans (WRMPs) when they are put out for consultation in January 2018 as they should explain the challenges faced and the options available to address these. They will also set out each company's long-term strategy and ambition in relation to leakage, daily water use and where necessary providing new water resources, all of which are equally important areas of activity and future investment.

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2. Leakage

By reducing leakage, companies can manage the amount of water that is lost each day, helping to make their water resources more resilient. There are additional benefits for companies too. Reducing leakage leads to a reduction in the use of chemicals in treatment works, reduced costs and energy use.

Customers tell us that leakage is a key



concern for them, and that companies' performance in this area can have a big impact on their attitude to water saving, as well as their perceptions of water companies². Many customers accept that leakage will happen due to the sheer size and age of the water network but they expect companies to do more to tackle leakage, and become annoyed and frustrated when water is seen to be wasted for days on end. It is therefore important that companies take action to quickly fix visible leaks; as well as on-going work to detect and fix leaks that are hidden (as these can have the biggest impact in terms of water lost to leakage). Severn Trent, Bournemouth and Wessex³ have made commitments to their customers to tackle visible leaks, and we consider that other companies should also make this a priority in the next price review period (2020-2025). There needs to be the correct balance between fixing visible leaks and reducing overall leakage when companies set their targets in the next price review.

Currently, Ofwat requires companies to "fix leaks as long as the cost of doing so is less than the cost of not fixing the leak. The cost of fixing a leak includes environmental damage and the cost of developing new water resources to compensate for the water lost through leaks. This approach is called the sustainable economic level of leakage (SELL)"⁴.

The SELL approach does not consider customer perceptions but does take account of the nature of the water companies' supply infrastructure and the geography and population of their water supply areas. The company targets Ofwat has agreed also take account of the water resource pressures on each company.

However, in its 2019 Price Review (PR19) methodology consultation, Ofwat challenged companies to take steps to reduce leakage at a faster pace - a 15% reduction by 2025⁵. Its review of SELL⁶ concluded that the current approach tends to maintain the status quo and does not incentivise efficiency or innovation. Consequently, Ofwat intend to move away from the SELL from 2019 onwards and we support this approach.

In our last *Delving into Water* report (in November 2016) we commented that even though companies were meeting their targets, they needed to do more to reduce leakage. Total leakage has remained broadly stable over the last five years.

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⁵ https://064f1d25f5a6fb0868ac-0df48efcb31bcf2ed0366d316cab9ab8.ssl.cf3.rackcdn.com/wp-

² <u>http://www.ccwater.org.uk/wp-content/uploads/2013/12/Research-into-customer-perceptions-of-leakage.pdf</u>

³ For Wessex, these are referred to as 'customer reported leaks

⁴ <u>http://www.ofwat.gov.uk/households/supply-and-standards/leakage/</u>

content/uploads/2017/07/Delivering-Water-2020-Consulting-on-our-PR19-draft-methodology-2.pdf ⁶ <u>https://064f1d25f5a6fb0868ac-0df48efcb31bcf2ed0366d316cab9ab8.ssl.cf3.rackcdn.com/wp-content/uploads/2017/07/Appendix-2-Outcomes2.pdf</u>

Given the increasing importance of conserving available water supplies, companies need to utilise new technology and innovation to gain a better understanding of their networks, to drive leakage reduction even further. Achieving better performance in this area should not automatically equate to an increased cost for customers. Reducing leakage through better network management and working more efficiently has benefits for all, including the environment, as it means less treated water is lost and therefore goes into supply. This could help ease pressure on current sources of water and increase resilience in the future. Companies should take action to tackle leakage in a way that meets customer expectations rather than simply sustain current levels. This may include investing in research and development and the technology that will allow them to achieve ambitious sector-leading performance in this area.

2.1 Overall leakage levels

Despite only four companies missing their targets in 2016-17 (Cambridge, Essex and Suffolk, Portsmouth and Thames), overall leakage levels rose by 1.2%. With leakage increasing and the majority of companies meeting their leakage targets, we continue to question if targets have been set challenging enough within the sector.

Some companies managed to reduce their leakage and the largest reductions were made by Affinity (-4.4%), United Utilities (-2.8%), Bournemouth (-2.6%) and Dŵr Cymru (-2.5%). We challenge the rest of the industry to improve how they tackle leakage.

The largest increases in levels of leakage were reported by Bristol (+5%), Thames (+5.4%) (which incurred a penalty of £8.55 million for missing its target⁷), Cambridge (+8.2%), Portsmouth (+7.6%), Essex and Suffolk (+9.1%) and Dee Valley (+14.1%).

⁷ Penalties incurred by a company are returned to customers in the form of lower bills.

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	2012-13	2013-14	2014-15	2015-16	2016-17	Trend
Water and Sewerage Companies						
Anglian (HPL subtracted)	185.1	189.2	187.9	178.0	180.0	
Dwr Cymru	178.4	183.8	179.5	179.9	175.4	\sim
Northumbrian	136.0	134.0	136.8	134.7	133.8	\sim
Severn Trent	441.0	441.0	443.6	433.7	431.6	
South West	84.2	84.1	84.4	83.8	84.4	\sim
Southern	81.3	84.6	81.7	83.9	88.1	\sim
Thames	646.0	644.0	654.0	642.5	677.2	
United Utilities	457.0	452.0	453.6	451.9	439.2	/
Wessex	69.0	69.0	68.6	68.3	68.4	
Yorkshire	265.0	282.0	288.4	285.1	295.2	
Water only companies						
Affinity	189.5	180.7	183.5	180.9	173.0	
Bournemouth	20.9	20.9	20.9	19.6	19.1	
Bristol	42.0	44.0	45.1	44.2	46.4	
Cambridge	12.4	12.7	13.5	13.2	14.3	
Dee Valley	9.3	10.2	9.8	9.9	11.3	
Essex and Suffolk	53.9	58.4	60.9	62.4	68.1	
Hartlepool	3.9	3.8	4.1	4.6	4.7	
Portsmouth	34.0	30.0	28.9	28.2	30.4	
South East	93.2	92.6	92.5	88.1	88.6	
South Staffs	65.3	66.9	69.2	69.9	69.9	
Sutton and East Surrey	23.7	23.9	24.2	24.2	24.3	
Total	3,091.0	3,107.7	3,130.9	3,087.0	3,123.3	\sim

Table 1: Company leakage levels (mega litres per day)⁸

2.2 Leakage per property, per day

The total amount of water lost to leakage by each company is not a good basis of comparison because the size of companies' networks and their characteristics vary so much. The larger companies have higher levels of daily leakage than the smaller companies, simply because they have more pipes. Consequently, we report leakage on a per property, per day basis, as this provides a better basis for comparing their relative leakage performance.

On average, 121 litres of water is lost per property, per day from leakage. This is almost as much as a full bath tub (80 litres⁹) and a washing machine cycle (50 litres¹⁰) in every house, or almost the same as the amount of water used by one person, every day.





⁸ The information contained in the table above relates to leakage performance for the financial year for all companies. South West's performance commitment for 2016 of 84 mega litres per day relates to the calendar year. For 2016, its performance was 82 mega litres per day (based on the calendar year) and so it met its target. ⁹ <u>http://www.waterwise.org.uk/news.php/11/showers-vs.-baths-facts-figures-and-misconceptions</u>

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10 http://www.waterwise.org.uk/pages/indoors.html As shown in table 2 below, there is a huge range in the levels of leakage per property. Southern is currently the best performer on this basis reporting 80 litres, followed by Essex and Suffolk. Conversely, Thames reported losses of 179 litres per day - over twice the amount reported by Southern.

The industry average for litres of water lost through leakage per day is 121 litres. Only five companies perform worse than this: Thames (179 litres), United Utilities (133 litres), Yorkshire (129 litres), Dŵr Cymru (123 litres) and Severn Trent (122 litres).

	2012-13	2013-14	2014-15	2015-16	2016-17	Trend
Water and Sewerage Companies						
Anglian (HPL subtracted)	89.1	91.1	89.8	84.4	85.1	
Dwr Cymru	127.1	130.9	127.5	126.9	123.1	\langle
Northumbrian	114.9	113.2	114.9	112.7	111.2	$\left\langle \right\rangle$
Severn Trent	126.6	126.6	126.8	122.9	122.2	
South West	105.3	105.1	104.8	102.9	102.0	/
Southern	75.1	78.2	74.9	76.5	79.8	\langle
Thames	174.7	174.2	175.6	170.9	178.7	\langle
United Utilities	141.2	139.7	139.6	138.0	133.4	/
Wessex	115.5	115.5	113.9	112.5	111.7	
Yorkshire	117.6	125.2	127.3	125.2	128.9	
Water only companies						
Affinity	129.9	123.9	125.2	122.6	116.0	
Bournemouth	102.4	102.5	101.9	95.4	92.5	/
Bristol	80.7	84.6	86.2	83.8	87.5	\langle
Cambridge	91.6	94.2	99.1	95.9	101.7	\langle
Dee Valley	74.4	81.4	77.7	78.3	88.8	
Essex & Suffolk	68.4	74.0	76.6	77.0	83.3	
Hartlepool	89.1	87.0	91.5	103.3	104.5	
Portsmouth	109.5	96.7	92.2	89.5	95.6	
South East	102.8	102.1	93.7	88.8	88.2	/
South Staffs	112.7	115.5	118.3	119.1	118.8	
Sutton & East Surrey	83.5	84.3	84.6	84.2	84.3	
Industry Average(Weighted)	122.8	123.5	123.3	120.6	121.3	

Table 2: Leakage per property, per day (Litres per day)¹¹

Leakage is a key concern for customers and companies have made commitments to their customers and the regulator in relation to their leakage levels in their current price control period. But we question whether the rate that companies are reducing leakage is quick enough to fully meet their customers' expectations. If customers do not see more progress on this issue, they are more likely to ignore company campaigns on water efficiency.

We support Ofwat's proposal that the industry should move away from the SELL and challenge itself to reduce leakage by 2025 by a further 15% beyond the level achieved by upper quartile companies in 2020, where there is a strong case and customer support for doing so.

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¹¹ Per property data is calculated using all water only connections and all water and sewerage connections.

We will continue to monitor this area to push companies - particularly those that are worse than the industry average, and those that are seeing an upward trend - to improve their leakage performance and meet or exceed their customers' expectations. This also includes repairing visible leaks at a quicker rate, to ensure that they are not perceived as being wasteful by customers.



3. Metering

Metering is one way that customers can become more aware of their water use and it has been used in water stressed areas to help drive down the demand for water by using it as an opportunity to promote water efficiency and to find and fix leaks on customer supply pipes. If successful, the result should be a public water supply that is more resilient to impacts such as extreme weather and population growth.

However, metering alone is no 'silver bullet' and will not change consumer behaviour to deliver significant and sustained reductions in demand. This is why we have pressed companies with universal metering programmes to incorporate advice and educational programmes to explain why metering is necessary, practical help and support for customers to deal with supply pipe leaks or internal plumbing issues as well as help to become more water efficient, and importantly schemes to provide financial assistance to those who cannot afford their metered bills. The early indications are that these comprehensive programmes are delivering significant reductions in household demand. However, the case for switching all customers over to metered charging is not as compelling in areas where water resources are not under such stress.

3.1 Household properties

The majority of customers support metering as the fairest way to charge for the water they use, but many do not support universal metering because they are unsure about how this will affect their bill¹².

In addition to universal metering programmes, all companies will fit a water meter to all newly built and converted properties where this is feasible. Some water companies also selectively meter properties when there is a change in owner or occupier; or where the customer uses a lot of water outside their home, for example, through garden sprinkler systems, or because they have a swimming pool.

Metering can help some customers reduce their water bill. Any customer who is currently paying their bill based on the rateable value of their property can request to switch to a water meter if they are not already subject to a universal metering programme.

When a meter is requested by a customer, the installation is free. The customer has the option of reverting to their previous method of charging within 24 months. However, around two-thirds of unmetered customers are unaware of this option¹³ and could be paying more than they would otherwise be for their water and sewerage services. Companies need to do more to tell their customers about the meter option as there are many customers who would benefit from switching to a meter, and it could help some households who may be struggling to afford their current water bill. One way for companies to encourage customers to take up this option would be to offer certain customers a guarantee that bills will not be higher if they make the switch (for some companies this is for a set period, for others it is indefinitely).

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¹² <u>http://www.ccwater.org.uk/wp-content/uploads/2013/12/The-Customer-Impact-of-Universal-Metering-</u> <u>Programmes.pdf</u>

¹³ <u>https://www.ccwater.org.uk/research/water-matters-household-customers-views-on-their-water-and-</u>sewerage-services-2016/

Household customers can find out if they might save money by switching to a water meter by visiting our Water Meter Calculator at:

www.ccwater.org.uk/watermetercalculator/

Table 3: Percentage of household metering

	2012-13	2013-14	2014-15	2015-16	2016-17	Trend
Arithmetic Industry Average	46.6	49.1	51.2	53.0	54.8	
Water and Sewerage Companies						
Anglian*	73.1	74.7	76.8	78.2	79.7	
Dwr Cymru	35.0	37.0	38.0	39.0	41.0	
Northumbrian	27.8	27.8	31.4	33.1	35.0	
Severn Trent	37.5	39.0	40.9	41.7	43.1	
South West	75.4	79.9	78.1	79.1	80.8	\sim
Southern	64.5	75.2	82.5	85.6	86.7	
Thames	32.5	33.8	34.9	36.1	37.7	
United Utilities	35.0	37.0	38.4	40.0	41.0	
Wessex	54.0	56.0	58.0	58.0	60.0	/
Yorkshire	43.0	45.2	47.1	49.0	50.8	
Water only companies						
Affinity	47.3	48.6	49.6	50.5	52.2	
Bournemouth	62.3	64.3	65.9	68.1	69.7	
Bristol	39.7	42.2	44.6	46.6	49.6	
Cambridge	66.4	68.0	69.3	70.2	71.1	
Dee Valley	54.0	56.0	57.0	59.0	60.0	
Essex & Suffolk	53.9	55.6	57.3	58.7	60.1	
Hartlepool	29.8	32.2	34.3	35.2	37.4	
Portsmouth	21.4	23.4	25.3	27.2	28.9	
South East	57.0	60.0	67.0	74.0	79.1	
South Staffs	29.9	32.5	34.2	35.1	36.0	/
Sutton & East Surrey	40.0	42.9	45.8	48.6	51.2	
* Anglian includes Hartlepool						
Industry Average	46.6	49.1	51.2	53.0	54.8	
WaSC Average	47.8	50.6	52.6	54.0	55.6	/
WoC Average	45.6	47.8	50.0	52.1	54.1	

There has been a 1.8 percentage point increase in metering during the year and an upward trend over the past five years (from 47% to 55%). Between 2015 and 2020, the industry is expected to increase metering levels from 51% to $61\%^{14}$, largely due to the universal metering programmes.

3.2 Non-household properties

On average, 90% of non-households are metered. While all businesses should be metered, it may not be appropriate for lock-up garages, field troughs or other small uses of water to be metered.

¹⁴ <u>https://www.ofwat.gov.uk/regulated-companies/price-review/price-review-2014/final-determinations/</u>

	2012-13	2013-14	2014-15	2015-16	2016-17	Trend
Water and Sewerage Companies						
Anglian*	97.2	98.0	97.8	97.9	98.1	~
Dwr Cymru	91.0	91.0	91.0	92.0	92.0	
Northumbrian	86.4	88.1	88.4	89.0	89.0	
Severn Trent	93.4	93.4	92.9	94.2	95.1	\langle
South West	92.2	92.5	93.1	96.4	96.7	
Southern	89.3	89.6	89.9	90.5	91.9	
Thames	83.5	83.6	83.4	83.7	81.9	
United Utilities	90.0	91.0	91.3	91.0	91.0	
Wessex	90.0	91.0	91.0	91.0	92.0	
Yorkshire	86.1	86.3	87.3	86.8	86.4	\leq
Water only companies						
Affinity	88.2	88.0	88.4	88.7	86.7	
Bournemouth	94.3	93.7	93.8	91.0	92.0	$\left \right\rangle$
Bristol	88.3	89.8	92.4	95.5	96.5	
Cambridge	91.6	91.9	92.2	92.4	92.2	
Dee Valley	93.0	93.0	93.0	93.0	93.0	
Essex & Suffolk	95.3	95.5	95.1	95.4	91.3	
Hartlepool	71.3	72.6	73.0	74.0	76.3	
Portsmouth	90.0	89.5	90.2	90.1	89.2	\langle
South East	91.0	92.0	95.0	95.0	95.0	
South Staffs	86.7	87.0	87.4	87.6	88.3	/
Sutton & East Surrey	87.5	87.8	88.0	88.0	88.0	
* Anglian includes Hartlepool						
Industry Average	89.4	89.8	90.2	90.6	90.6	
WaSC Average	89.9	90.4	90.6	91.3	91.4	/
WoC Average	88.8	89.1	89.9	90.1	89.9	/

Table 4: Percentage of non-household metering

Over the past five years, non-household metering has increased by 1.2 percentage points.

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4. Daily water use

The changing climate, population growth and shifts in household size are having an impact on water use and availability. Only one in five people (21%) have seen or heard something in the past year about pressures or impacts on water resources in the UK¹⁵. Although the UK is thought to have a wet climate, our available water resources are under increasing pressure from climate change and the growing demand for water supplies. There are also now tighter controls on the amount of water that can be taken from the environment to ensure it is protected and remains sustainable.

Both water companies and customers have a role to play in becoming more efficient in their water use. For companies, this is largely through tackling leakage, maintaining their networks and assets and promoting efficient water use among their customers. For consumers, it is about how we use water in our daily lives. Two in five adults in England and Wales have not made a conscious decision to reduce the amount of water that they use¹⁶ and so there is still some work to do to persuade these customers to save water.

There are several simple steps that customers could take to reduce the amount of water we use. Individually, it might seem like a small saving, but collectively savings would be large. The combined effect could result in companies increasing resilience in the future. For more information on using water wisely, visit our website <u>here</u>.

2016-17 saw a slight increase in the amount of water that each person uses each day (0.83%). The increase in water use could, in part, be weather related. The autumn of 2016-17 was very dry and there were some very hot, dry spells in the late spring/early summer 2016 which is likely to have increased demand (due to garden watering etc.).

This evidence suggests that water efficiency messages are not resulting in the expected outcome. In section 7 of this report, we discuss our research <u>Water Saving: Helping</u> <u>customers see the bigger picture</u> which identifies how water saving messages could be tailored to help customers to understand why it is important to save water.

Nine companies have customers using more water than the industry average of 141 litres per person, per day: Sutton and East Surrey, Affinity, Essex and Suffolk, South East, Thames, Dŵr Cymru, Portsmouth, Bristol and Bournemouth. The biggest increases in water use were reported by Bournemouth, United Utilities, Cambridge, Bristol and Wessex.

¹⁵ http://www.ccwater.org.uk/blog/2016/08/10/attitudes-to-tap-water-and-using-water-wisely/
 ¹⁶ http://www.ccwater.org.uk/blog/2016/08/10/attitudes-to-tap-water-and-using-water-wisely/

	2012-13	2012-14	2014-15	2015-16	2016-17	Trond
Water and Sowerage Companies	2012-13	2013-14	2014-13	2013-10	2010-17	ITenu
Anglian*	126.2	125 1	122 /	125 /	125 7	
	130.2	135.1	133.4	135.4	135.7	
Dwr Cymru	144.4	144.6	143.9	142.8	145.2	
Northumbrian	140.5	141.2	141.9	144.7	140.8	
Severn Trent	120.9	129.3	126.4	130.4	131.7	
South West	136.7	136.9	134.6	136.6	136.1	
Southern	143.4	140.8	134.8	129.8	131.3	
Thames	154.7	156.2	150.9	149.0	146.4	
United Utilities	128.0	129.1	130.0	130.0	138.9	
Wessex	136.3	138.4	138.5	138.1	141.2	
Yorkshire	133.4	136.2	133.0	133.1	134.6	$\langle \rangle$
Water only companies						
Affinity	148.5	154.7	148.3	152.2	154.8	\sim
Bournemouth	143.3	146.9	139.3	134.4	143.9	$\langle \rangle$
Bristol	141.0	144.0	143.0	141.1	145.0	$\langle \rangle$
Cambridge	133.1	130.1	130.5	132.9	138.2	
Dee Valley	135.5	132.9	129.5	134.9	135.2	
Essex & Suffolk	148.7	151.9	151.0	150.7	152.2	
Hartlepool	123.1	124.7	119.9	127.5	127.5	\sim
Portsmouth	148.5	148.3	145.5	143.3	145.1	
South East	159.4	155.6	157.5	161.2	151.4	\sim
South Staffs	127.6	131.0	129.0	128.9	127.3	
Sutton & East Surrey	161.4	166.6	161.1	160.9	159.7	\langle
* Anglian includes Hartlepool						
Industry Average	140.2	141.6	139.1	139.9	141.1	$\langle \rangle$
WaSC Average	137.4	138.8	136.7	137.0	138.2	$\langle \rangle$
WoC Average	142.7	144.2	141.3	142.5	143.6	~

Table 5: Average water use (litres per person, per day)

Metered versus unmetered properties

The table below demonstrates how the average amount of water people use each day relates to whether or not there is a water meter at the property.

Table 6: Water use per person - litres per day (metered and unmetered)

	2012-13	2013-14	2014-15	2015-16	2016-17
Metered	120.5	122.9	121.2	122.9	124.0
Unmetered	150.7	153.6	151.7	152.8	156.7
Difference	30.2	30.7	30.5	29.9	32.7

2016-17 has seen a slight increase in water consumption for metered (+0.86%) customers and a more significant increase for unmetered (+2.61%) customers. The increase in average consumption for unmeasured customers is likely to be driven where there are no

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metering programmes in place and so more low use customers have opted to move onto a water meter. For companies that have a metering programme in place, more higher-use customers will be moved to metered billing, increasing the average consumption of metered customers in the area. However, it is clear that the overall impact has been an increase in water use across both metered and unmetered customers.

This increase suggests that further engagement is needed with customers about why and how to save water. We discuss this in more detail in section 7.

With metered customers in particular, the increase poses the question of what more can be done to encourage households to reduce their water use. Companies have reported that the metering programmes have reduced overall demand but a proportion of this is due to household leaks being detected quicker and fixed. The challenge to change how customers view water continues and the industry needs to find new ways to encourage households and businesses to become more water efficient. Additionally, companies will need to use the information that they have available to improve the evidence base so that the impact of metering can be fully understood.

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5. Supply interruptions

Interruptions to water supplies cause inconvenience, especially if they occur at times of peak water demand in homes and businesses. The inconvenience is greater if the interruption is without warning, as customers cannot take any mitigating action.

In its 2019 Price Review (PR19) methodology consultation, Ofwat has recommended that a consistent measure of supply interruptions is used across the industry as a performance commitment which highlights that this is an issue which is of importance to customers. We welcome the call for all companies to have consistent performance commitments relating to supply interruptions.

In 2016-17, the average amount of time that customers were without a supply of water reduced from 13 minutes and 48 seconds, to 10 minutes and 45 seconds - a reduction of 22%. In total, over the past five years, the average amount of time that customers were without a continuous supply of water has decreased by 42%.

Charts 1 and 2 show the average number of minutes lost due to water supply interruptions of three hours or longer per property served for each of the last five years.

Bournemouth has the lowest number of minutes lost to interruptions, at 1 minute and 56 seconds per property served (a 24% reduction). Last year's leader, Northumbrian, follows closely behind (2 minutes - an 8% reduction).





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Chart 2: Number of minutes lost due to water supply interruptions of three hours or longer per property served (water and sewerage companies)



Although the overall reduction in the average amount of time that customers were without a continuous supply of water is positive for the industry, seven companies reported an increase in the length of supply interruptions. In some cases, these increases were significant: Dee Valley (+300%), Hartlepool (+62%), Anglian (+43%), South Staffs (+27%), Cambridge (+13%), Portsmouth (+19%), and Affinity (+18%), although the longer-term trend for the majority of these companies is a downwards one.

The largest decreases were for South East (-60%), South West (-47%), Southern (-45%) and Dŵr Cymru (-43%). However, with the exception of Southern all of these companies perform poorer than the industry average.

We will continue to put pressure on the poorer performing companies to make improvements for their customers in relation to their performance on supply interruptions.

Further details of how companies are performing can be found by following the relevant link on the Discover Water website:

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https://discoverwater.co.uk/water-sector#water-companies

Is 'customer minutes lost' a blunt instrument?

The measure of supply interruptions used in the industry focusses on the average of interruptions that have lasted for three hours or longer. However, this is unlikely to resonate with customers as very few customers would experience the average time without supply (10 minutes 45 seconds).

We question whether there are other ways that companies could measure supply interruptions in the future that would drive better outcomes for customers.

For example, companies currently report on interruptions that last over three hours, but an interruption of two hours could be equally as inconvenient for customers if it happened at a time of peak water use. Could companies push themselves to reduce the number of hours lost due to interruptions that last longer than **two** hours? Given the improvement seen in the average customer minutes lost measure when the clock starts at three hours, companies could start to think about how this measure could be tightened in the future to cover all interruptions that last two hours or longer.

While supply interruptions are measured on average duration, there is scope for companies to improve response and resolution times to eliminate the more lengthy interruptions some customers may experience. Consequently, we would like to see all companies eliminate 12 hour interruptions by 2025. These interruptions are particularly unacceptable for customers as they are likely to fall over at least one time of peak demand, if not more.

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6. Drought

Last autumn and winter was much drier than the long-term average in England. Parts of Essex and Kent received less than 50% average rainfall between July 2016 and January 2017. This prolonged dry spell meant some rivers, groundwater and reservoirs in southern England were below average levels at the start of 2017.

The water companies in the south and east of England that depend most on winter rainfall to recharge their underground water sources stepped up their water saving communications and water resources management activity to deal with the developing situation. Although there has been some more rain over the summer months, which has helped to reduce demand for water and slow the decline in stored water supplies in the south east, a second, significantly drier than average autumn/winter period this year could lead to some temporary restrictions on water use being necessary in 2018 in line with the water companies approved drought management plans.

CCWater is a member of the National Drought Group which is led by the Environment Agency and Defra, and is set up to co-ordinate the planning for and management of potential drought situations. The group has been meeting on a regular basis during the last year.

More generally, we work with companies on the development of their drought plans which set out the steps the companies will take if a long period of below average rainfall becomes a drought. We expect water companies to manage their available water resources in the best way possible to help preserve water for essential household use such as drinking, cooking and hygiene, even in periods of serious drought.

During 2016/17 we helped companies to review their existing drought plans and in particular looked to ensure that they had:

- Engaged with all types of customers and stakeholders to explain their approach to managing drought and how this impacts their customers both household and non-household;
- Liaised directly with the new non-household retailers in England;
- Clear communication strategies in place, should restrictions on water use ever become necessary;
- Appropriate measures in place to help vulnerable household customers and businesses that are dependant on water supplies; and
- Clearly explained to customers their approach to managing water resources in a drought situation, including how they will help their customers save water and what more they will do to reduce leakage in a drought situation.

Our research tells us that customers generally accept that occasionally it is necessary to impose temporary water use restrictions, often referred to as hosepipe bans. However, they expect water companies to plan and do what is necessary to avoid more serious measures being taken which could result in damage to the local economy and local businesses and/or cause damage to the local environment.

In the most extreme emergency drought situation water companies still have, as a last resort, the option of limiting water supplies through rota cuts or through use of

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standpipes. Although there was an occasion back in 1976 when people in some areas of England were forced to use standpipes for a short period, these more extreme measures have not been necessary in more recent times largely due to the planning and investment in our water supply infrastructure in the last few decades. Today's customers would certainly not find this withdrawal of service acceptable.

However, in the longer term, climate change will increase the risk of more frequent droughts. A rapidly rising population will mean that unless further action is taken to reduce the amount of water we use and waste, and to develop new water resources, more restrictions on water use may be necessary when these droughts occur. We want to see a step change in company planning that will deliver much more resilience to future droughts to ensure that supplies are maintained in all foreseeable and likely circumstances. Increased and more focussed planning should ensure that supplies are maintained without the need for standpipes.

7. Communicating with customers about water resource resilience

There is a lot that the industry can do to improve the resilience of the water service, such as planning for the future, reducing leakage and by making sure that the water environment they depend on is protected. However, customers also have an important part to play. Through our research <u>Water Saving: Helping customers see the</u> <u>bigger picture</u> we found that customers are not fully aware of the pressures on the water system from increased population and climate change. Although they may be aware of these issues, they do not automatically make the link to their water supply.

This is made worse because of common misconceptions that:



- The UK as a whole seems to experience a lot of rain and so the supply of water must be plentiful; and
- Leaks are not seen to be fixed quickly and so lack of water cannot be a big problem.

This lack of understanding means that most people do not see the need to take any action to use less water than they currently do.

To find out what might persuade people to pay attention and possibly change their behaviour, we tested a number of different messages to help understand how the industry and CCWater could better communicate with customers and hopefully influence their water saving behaviour in the long term. The messages that had the most impact included:

- By 2050, the demand for water could be 22% greater than the amount of water available Customers found both the scale and timescales of this alarming.
- More frequent and heavier rainfall does not necessarily result in an increase to the water supply Learning that rainwater cannot always be captured made many people rethink their previous views.
- How much the population will increase in the future Although people were aware of the issue, they were shocked to find out how quickly it was happening.
- How much water is lost to leakage As we have heard previously from customers, when they find out how much water companies lose through leakage, they question what little they can do in comparison to avoid water being lost back to the environment.
- How much water is used per household per day This was often underestimated, particularly in terms of the amount used to flush the toilet. Some customers felt that they should have access to information about what uses the most water within the home and how this can be reduced.

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Our key finding is that it is vital that water saving messages begin by painting the "big picture". Explaining *why* customers should save water, can help with messages about *how to* save water.

We have been sharing these findings with companies, regulators etc. and will continue to do so to explore ways we can work together to communicate and engage more effectively with consumers on water saving.



8. Drinking Water Quality

Quality drinking water is a priority for water customers and our research shows that 90% of customers are satisfied with the safety of their drinking water¹⁷. This is a reduction from 93% in the previous year, although the five year trend is stable.

Drinking water quality in the UK has been consistently high and this is the standard customers have now come to expect. Companies need to ensure that any plans to improve resilience - whether operational plans to move water around their networks in an emergency event or investment plans for new resources - do not compromise drinking water quality. A supply of water that is unusable is not acceptable, and it is critical that drinking water quality is retained through any resilience planning.

Drinking water quality is regulated by the Drinking Water Inspectorate (DWI). Its annual report¹⁸ outlines what it does to check that water companies and local authorities have taken action to maintain or improve the quality of drinking water to safeguard public health. Compliance with the European Union's Drinking Water Directive standards in 2016 was at 99.96%.

The DWI has recently provided advice to companies in the Long Term Planning Guidance which and sets out its position on resilience.

http://www.dwi.gov.uk/stakeholders/guidance-and-codes-of-practice/ltpg.pdf



Chart 3: Overall drinking water quality 2012-2016 (water only companies)

¹⁷ Water Matters 2016 - <u>https://www.ccwater.org.uk/research/water-matters-household-customers-views-on-their-water-and-sewerage-services-2016/</u>

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¹⁸ <u>http://www.dwi.gov.uk/about/annual-report/2016/index.html</u>

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8. Conclusions

Customers expect to have a safe, reliable supply of drinking water, but water resources and supply networks are under pressure from climate change and population growth and this pressure will only increase over time.

The industry is now faced with the challenge of addressing these issues, making water supplies resilient for today's consumers and future generations, through longer-term planning and investment, and managing demand, while keeping water bills at a level that customers find acceptable and affordable.

Overall leakage levels have more or less flat-lined over the last five years, with some companies reporting slight increases. We continue to question whether water companies are addressing leakage at a rate that is quick enough to satisfy their customers' expectations and help tackle the longer-term pressures on our water supplies.

Additionally, companies need to have regard to the impact leakage, particularly visible leaks, has on customers' perceptions and thereby attitudes to saving water. We support the challenge set by Ofwat for companies to deliver a minimum 15% reduction in leakage by 2025 as part of a longer term strategy to reduce leakage further where there is a strong case and customer support for doing so.

Although metering is intended to reduce the amount of water that people use each day, water use has actually been increasing since 2014-15 even though metering has increased. While this may, in part, be due to companies now metering larger households, companies need to use the information that they have available to improve the evidence base and understand the impact that metering is having on their customers. The whole industry also needs to work together to ensure people recognise and accept the need to use water more efficiently and take steps to do so.

Our <u>Water Saving: Helping customers see the bigger picture</u> research outlines ways that water saving messages can be communicated to customers. This should help to reinforce the messaging around water saving tips and promotion of more water efficient gadgets and appliances.

The average amount of time that customers were without a supply of water reduced in 2016-17, which is good news. However, we will be pressing companies to eliminate water supply interruptions of more than 12 hours duration by 2025. We also question whether focussing on reducing the average time of supply interruptions delivers the most benefit for customers.

Drinking water quality in the UK has been consistently high and this is the standard customers have now come to expect. The quality of drinking water must be retained throughout any resilience planning and cannot be an afterthought.

In the future, the UK, and particularly the south and east of England, will be at increased risk of drought. We will continue to press companies to develop drought plans that cover all scenarios and for them to engage with all customer groups. We want companies to plan for and invest in the future resilience of our water services to ensure water supplies are maintained in all foreseeable, and likely, drought scenarios.

All of these areas matter in terms of the resilience of the water sector now and in the future. Companies have recently submitted Water Resources Management Plans (WRMPs)

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to Defra on how they intend to manage water resources in the longer term. These plans should be balanced to ensure that there is adequate investment to ensure that water is available in the future, but also that companies address the current challenges of managing demand through tackling leakage and helping customers to use water more efficiently.

The Consumer Council for Water

1st Floor, Victoria Square House, Victoria Square, Birmingham B2 4AJ Visit our website: <u>www.ccwater.org.uk</u> Follow us @WaterWatchdog

Contact: Hannah Bradley, Senior Policy Manager (hannah.bradley@ccwater.org.uk)