

The water resource challenge that we all face

Within the next five years and in the longer term we know that there will not be enough water for our customers and the environment unless we make changes to meet the challenges we face. Doing nothing is not an option. We need to act now to ensure there is enough water for future generations.

What is a Water Resources Management Plan?

Our Water Resources Management Plan sets out how we will provide a reliable, resilient, efficient and affordable water supply to customers from 2020 to 2080, whilst protecting the environment.

Our Plan addresses the need to balance the availability of water supply with the demand for water from customers. Without action, we face the risk of a significant shortfall of water in the future in this region due to population

growth and climate change. We also want to help protect the environment and improve the resilience of our water supplies to droughts and other challenges.

All customers will be impacted by our Plan which we believe addresses the challenges we face and provides best value for customers and the environment.

Our final Plan is available at:

www.affinitywater.co.uk/waterresourcesplan

This document is a summary of our final Plan.

It sets out the main challenges we face and what we are proposing to do about them. We have also produced a short video which is available at:

www.affinitywater.co.uk/waterresourcesplan



About Affinity Water

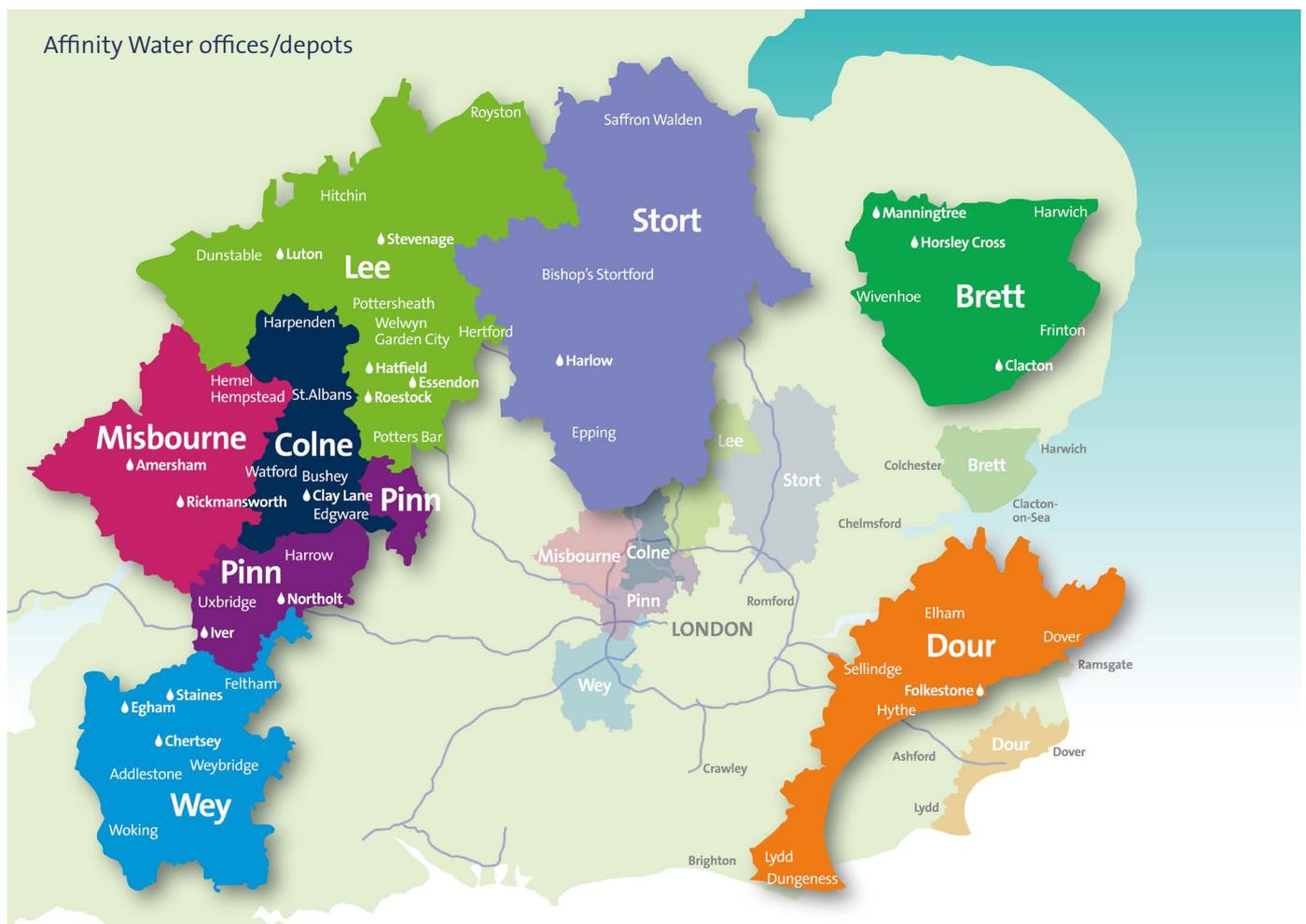
It is our vision to be the leading community-focused water company.

What this means to us is that we will do our best to ensure that our service reflects your priorities. By understanding and responding to your needs at a local level we are far more likely to provide a better service to you and protect the environment.

The area we cover

We have three distinct supply regions, Central, Southeast and East. Our Central region is split into six communities (Wey, Pinn, Colne, Misbourne, Lee and Stort), with our East region being our Brett community and our Southeast region being our Dour community. Our eight communities are each named after a local river.

Our supply area



Who we supply water to?

We provide on average 900 million litres of drinking water to approximately 3.6 million people, or 1.4 million households every day.

Where our water comes from

The water we supply is currently mostly from local sources, with 65% coming from aquifers (porous rocks that store water around 80 metres below the ground) and 35% from rivers. We often have to move our water a considerable distance from where we take it to where we treat it and distribute it to your tap.

The key themes of our Plan



Our Plan addresses the following challenges in our supply area



Climate change

Changing weather patterns may mean that there will be less water in the future and more frequent extreme weather events such as droughts and flooding. Climate change is likely to reduce our supply of water in our area by 39 million litres of water per day by 2080.

The South East of England is already classified as a severely water stressed area. This means it gets less rainfall than other parts of the country. The Affinity Water area is one of the driest in the country. For example, between July 2016 and April 2017 the area received 33% less rainfall than the national average.



Population growth

The population is growing and is expected to increase by 12% by 2025, 27% by 2045 and 51% by 2080. This is equivalent to approximately 1.8 million more people in our supply area. Population growth by each of our three regions is broken down on page 5.



Protecting the environment

Our supply area is home to many rare chalk stream habitats within vulnerable catchments (an area of land where water collects when it rains). To help improve the natural

environment we are reducing the amount of water we take from underground sources (aquifers) from within these catchments by 36.3 million litres of water per day by 2025. This helps to protect the environment by allowing that water to become available to support river flow and lakes.



Being prepared to cope with drought

Our regulators, customers and stakeholders have told us they want to have a resilient water supply without the use of standpipes or drought permits in a severe drought (1 in 200 year event). Our supply of water is likely to be reduced by a further 40 million litres of water per day under this type of severe drought.



How much water do we use?

Affinity Water customers use an average of 152 litres of water per person per day. This is higher than the national average consumption (for England and Wales) of 141 litres per person per day.

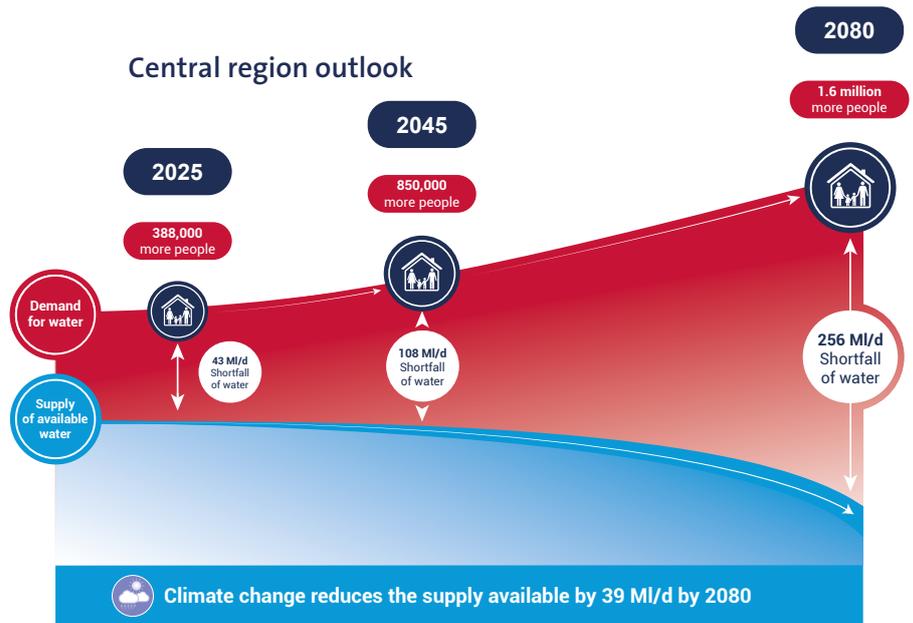
We can't control how much water customers use but can support them to reduce the amount by raising awareness and providing practical solutions. We already do a lot to help customers with this but recognise we can do more.

What is the impact of these challenges?

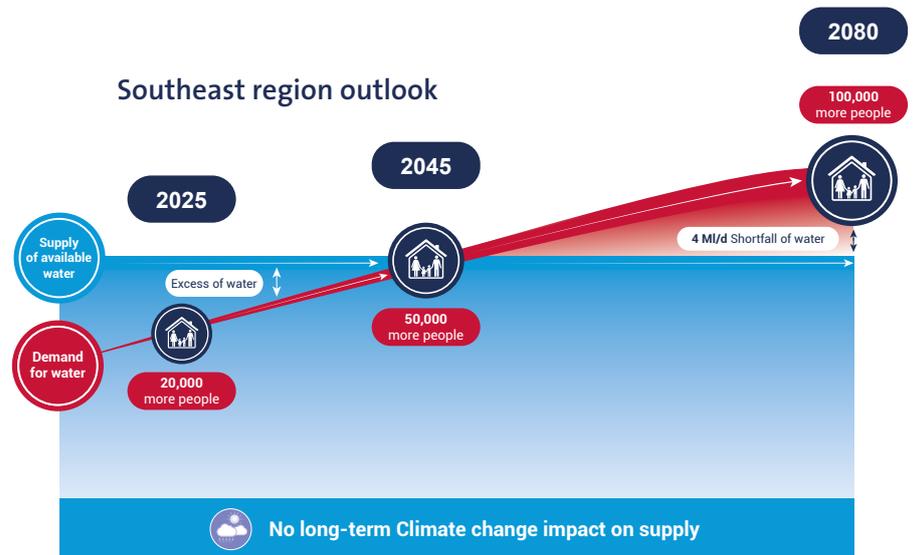
Taking all of these factors into account, the amount of water we currently have available to supply to customers will not meet the future demand. Doing nothing is therefore not an option if we are to have enough water for future generations.

We provide water to three regions called Central, East and Southeast. The needs of our regions are different. The opposite images illustrate the different outlooks for each of the three regions. The images show:

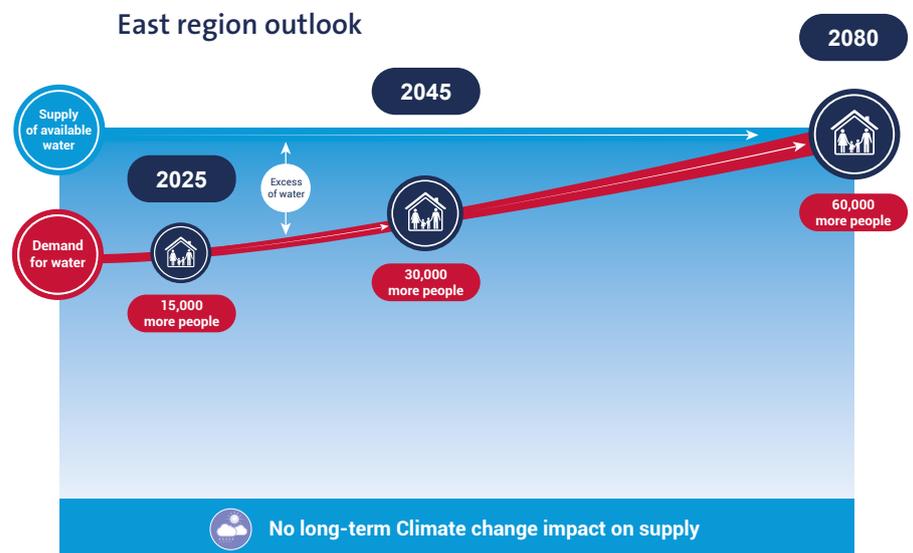
- The demand for water based mainly on predicted population growth
- The shortfall or excess of water at key points in time over the length of our Plan (2020 to 2080) if we do nothing
- The predicted impact of climate change on water supply.



MI/d = Million Litres per day



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What customers and stakeholders have told us?

We ran a further consultation on our revised draft plan which ended on 26 April 2019. We have considered feedback from customers and stakeholders and published our Statement of Response in June 2019. This is available at: www.affinitywater.co.uk/waterresourcesplan

We consulted widely with customers, stakeholders and regulators on our revised draft plan and ran a series of events with customers, stakeholders and regulators to discuss our proposals.

They told us that we should:



Make sure there is enough water for future generations



Help them reduce the amount of water they use in their homes



Reduce leakage



Put new infrastructure in place to provide new sources of water



Take less water from the environment, in particular chalk streams



Work in partnership with other water companies.



Be better prepared for drought

We have listened to what our customers, stakeholders and regulators have told us, and their views have influenced our final Plan.



How we are planning to meet the changing needs of the future

We recognise that the future security of water resources is uncertain. This is due to population growth, the need to leave more water in the environment and the potential impact from climate change on our water supplies. We also acknowledge there is uncertainty around the future reduction in customer demand for water and government and regulator policy.

Our Plan allows us to adapt to these uncertainties and ensures for the timely delivery of the appropriate solutions. Our approach focuses on demand management and long term regional strategic solutions.

We believe our Plan is flexible and affordable for customers and spreads the cost of implementing it across current and future customers.

Protecting the environment



- Our Plan commits to reducing the amount of water we take from chalk catchments in our Central region. We will do this by reducing the amount of water we take from existing sources and avoiding any further development of new chalk groundwater options in our Central region. By doing so we are helping to protect natural water resources and the local environment within these vulnerable chalk catchments.

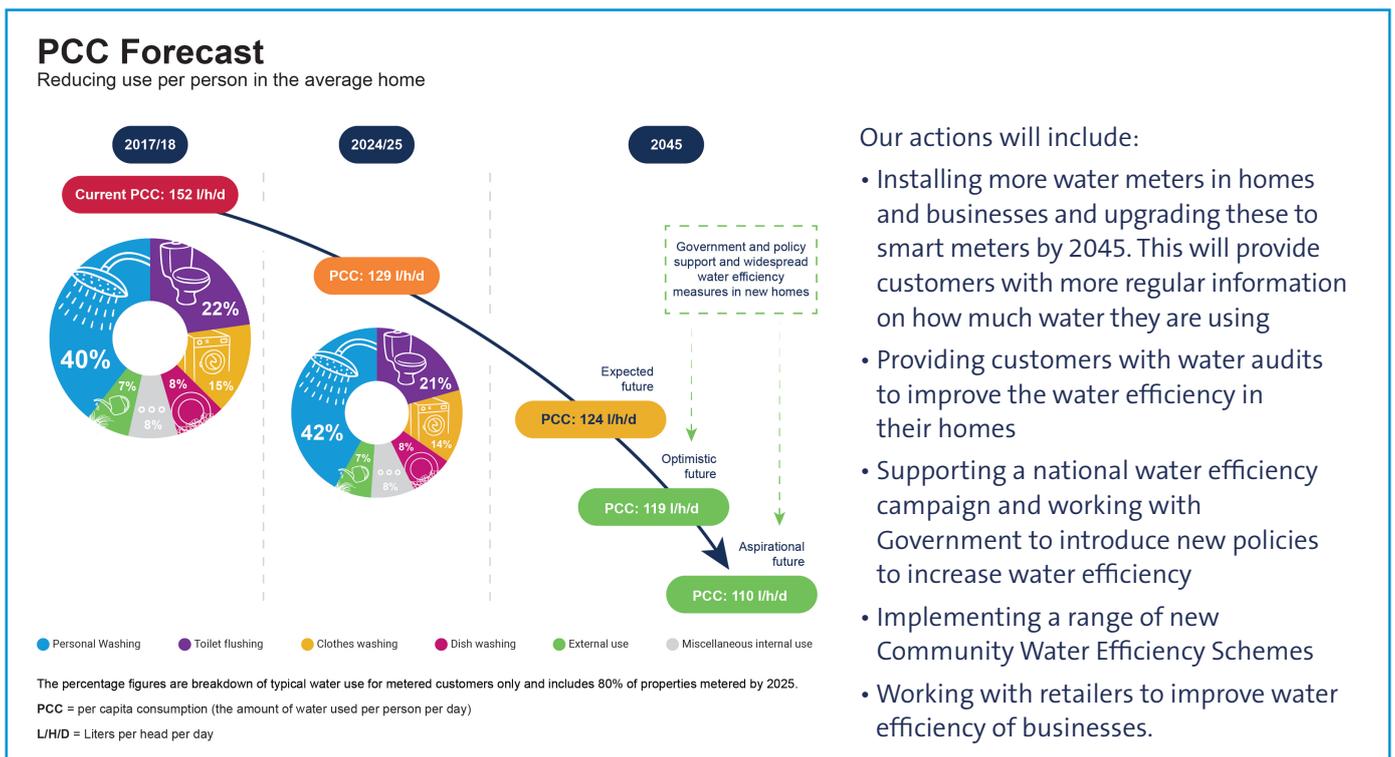
How we plan to reduce the demand for water



- We are committed to reducing leakage. In 2015, leakage was around 21% (189 MI/d) of the water we put into supply. By 2025 we plan to have reduced this to 15%.
- Our leakage ambition is set to achieve a 50% reduction in leakage between 2015 and 2045, resulting in 11% of water into supply being lost to leakage by 2045.



- Reduce water use from an average of 152 litres per person per day to 129 litres per person per day by 2025.
- Aim towards further reducing water use to between 110 and 120 litres per person per day by 2045, but only if this is affordable for customers and delivered in a way that is acceptable to them.



How we are planning to meet the changing needs of the future continued

How we plan to increase the supply of water



- Ensure that we are able to maximise our ability to use our existing sources of water fully. This includes being able to make full use of imports of water from neighbouring water companies where cost efficient. We also plan to deliver a programme of network infrastructure improvements that will help us to move water to areas where customers need it when they need it. We call this "Supply 2040".
- In the longer term, we are planning to develop a reliable mix of regional strategic solutions that include surface water (taking water from reservoirs and rivers) and water transfer schemes.
- Our approach allows us to manage the available water resources more efficiently, reduce any potential impacts on the environment and enhance our ability to cope with different types of weather and climatic events such as severe drought.
- We plan to do more work with our regional partners to progress our understanding of the following strategic solutions for our Central region:
 - Building a new reservoir in Oxfordshire, which we refer to as the South East Strategic Reservoir. This would provide an extra 100 million litres of water per day by the late 2030s. Alongside this scheme we will also be working on regional strategic transfer routes of water from the River Thames to move this into our area for treatment and supply.
 - A transfer of water via the Grand Union Canal which could provide an additional 50 million litres of water per day to customers either in the longer term or as an alternative to the reservoir development.
 - An alternative strategic transfer solution from South Lincolnshire that could provide up to 100 million litres of water per day to customers if required in the longer term.



- For all of these strategic options, we will need to collaborate with neighbouring water companies or other parties to secure the additional resources needed.
- With our partners, we have ensured that these strategic options form part of a coherent long term regional strategy for the South East of England.



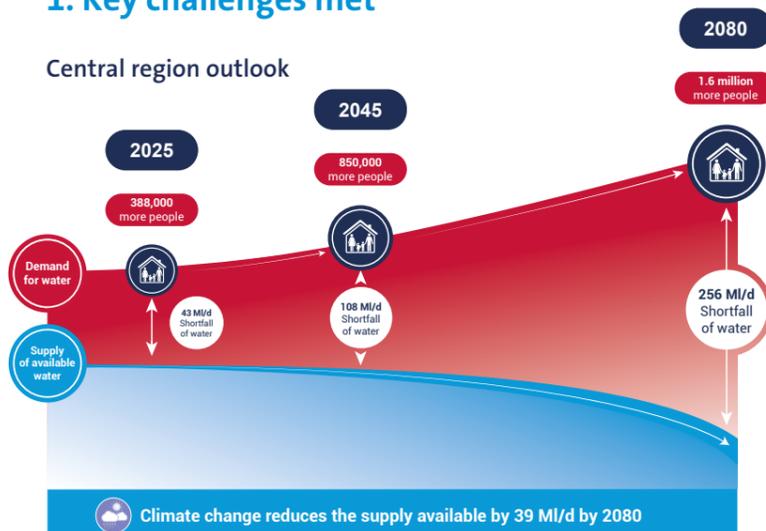
- Our Plan will help us to be better prepared to cope with drought events. Currently we estimate that there is around a 60% chance we would have to resort to exceptional measures to manage drought, such as the use of Permits or Orders that would temporarily increase abstraction and hence affect the environment, or even Emergency Drought Orders to restrict customer use through standpipes. The investments described in this plan will significantly reduce this risk to a 25% chance (as a one-off event) over the next sixty years (2020 - 80).

Our Plan for the Central region

Our Plan sets out how we will provide a reliable, resilient, efficient and affordable water supply to customers from 2020 to 2080, whilst helping to protect the environment.

1. Key challenges met

Central region outlook



Our Plan addresses the need to balance the availability of water supply with the demand for water from customers. Without action, we face the risk of a significant shortfall of water in the future in this region due to population growth and climate change. We also want to help protect the environment and improve the resilience of our water supplies to droughts and other challenges.

2. Our Plan:

- Is adaptive, flexible and supported by customers and stakeholders
- Improves drought resilience of water supplies for customers
- Contributes to the protection of rare Chalk stream habitats by reducing abstraction from Chalk sources
- Prioritises reducing demand and is innovative
- Ensures timely delivery of the appropriate strategic supply infrastructure
- Remains affordable to ensure the best value for customers now and in the long term for future generations.

MI/d = million litres of water per day

Use of existing shared Anglian reservoir supply at full capacity by 2024/25

Grand Union Canal option expected 2050 onwards

'Supply 2040' transfer schemes to move water north

South East Strategic Reservoir option

- 50 MI/d (expected late 2030s)
- Further 50 MI/d in 2050+

3. Protecting the environment

We will reduce the amount of water we take from existing Chalk sources and not develop any new Chalk groundwater sources in our Central region.



4. Our proposals to reduce the demand for water



Leakage

We are committed to reducing leakage. In 2015, leakage was around 21% (189 MI/d) of the water we put into supply. By 2025 we plan to have reduced this to 15%. Our leakage ambition is set to achieve a 50% reduction in leakage between 2015 and 2045, resulting in 11% of water into supply being lost to leakage by 2045.



Water use per person (Per Capita Consumption – PCC)

We will put in place actions to help customers reduce their water use from an average of 152 litres of water per person per day to 129 litres by 2025. We aim to reduce water use to between 110 and 120 litres per person per day by 2045, if this is affordable for customers and delivered in a way that is acceptable to them.

5. Our proposals to increase supply for water

Developing strategic supply options and resilience

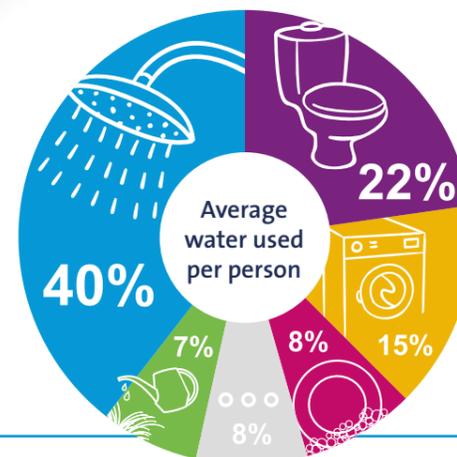
- 'Supply 2040' – a programme that delivers network infrastructure improvements that will help us to move water to where and when it is needed
 - ➔ Maximise use of our existing sources of water, including full use of imports of water
 - ➔ Building a new reservoir in Oxfordshire, which we refer to as the South East Strategic Reservoir, to provide an extra 100 MI/d by the late 2030s. We will also continue to liaise with neighbouring water companies to examine the potential to use water trading, possibly via the proposed Severn Thames Transfer scheme, to act as an alternative source of water on the River Thames
 - ➔ A transfer of water via the Grand Union Canal which could provide an additional 50 MI/d in the longer term or as an alternative to the reservoir development
 - ➔ An alternative strategic transfer solution from South Lincolnshire that could provide up to 100 MI/d if required in the longer term.

Collaboration with neighbouring water companies

We will continue to collaborate with neighbouring water companies and other parties to secure the additional resources needed. We have ensured with our partners, that these strategic options form part of a coherent long term regional strategy for the South East of England.

Improving resilience to droughts

We estimate that without taking action, there is around a 60% chance over the next 60 years we would have to resort to exceptional drought management measures, such as standpipes. We propose investing to reduce this to around a 25% chance (1 in 200 year drought event).

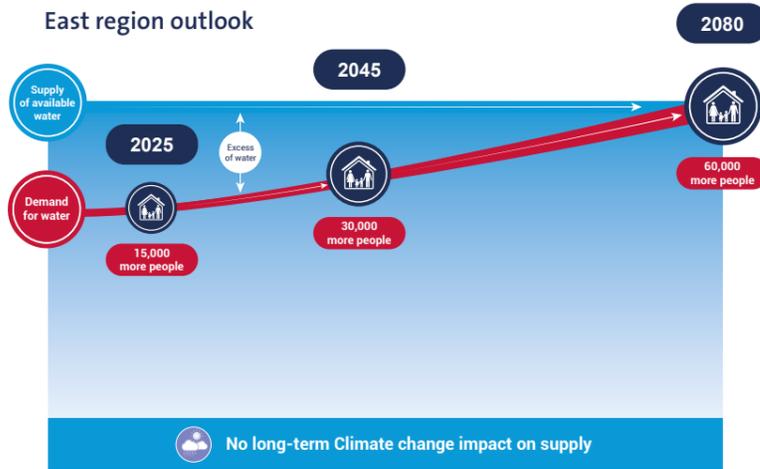


Our Plan for the East region (Brett Community)

Our Plan sets out how we will provide a reliable, resilient, efficient and affordable water supply to customers from 2020 to 2080, whilst helping to protect the environment.

1. Key challenges met

East region outlook



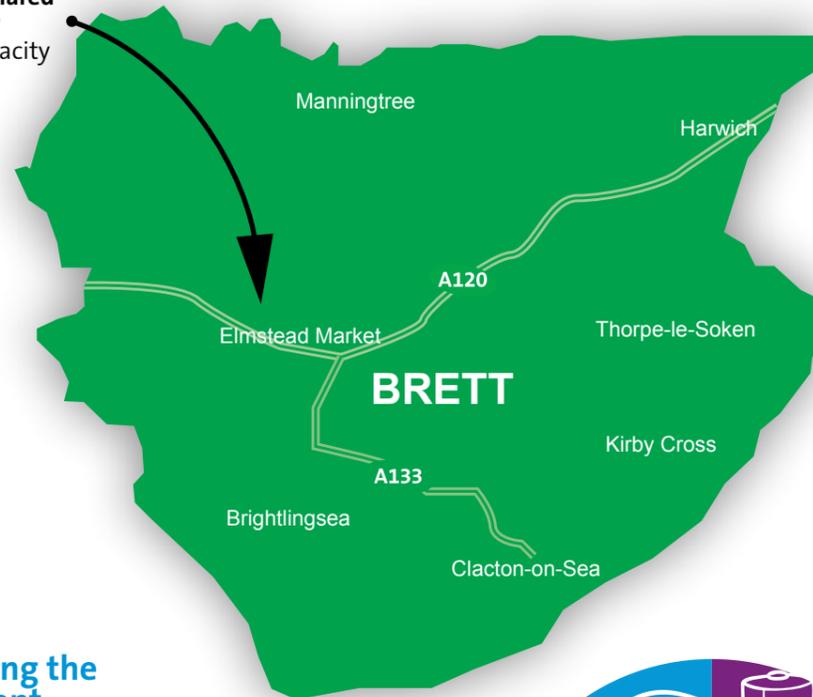
MI/d = Million Litres per day

Our Plan addresses the need to balance the availability of water supply with the demand for water from customers. Our East region has sufficient water for the duration of the planning period by only focusing on reducing the demand for water. There is no need to take action to increase the supply of water for this area. However, we do want to help protect the environment and improve the resilience of our water supplies to droughts and other challenges.

2. Our Plan:

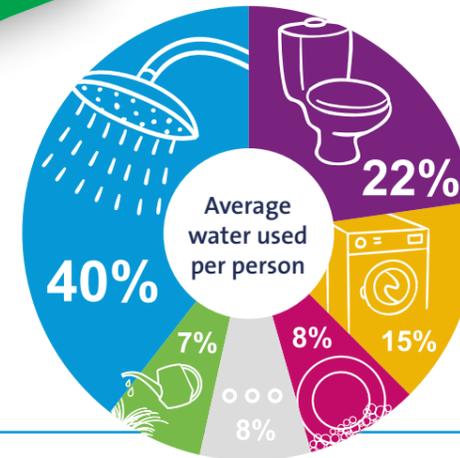
- Is adaptive, flexible and supported by customers and stakeholders
- Improves drought resilience of water supplies for customers
- Contributes to the protection of rare Chalk stream habitats by reducing abstraction from Chalk sources
- Prioritises reducing demand and is innovative
- Ensures timely delivery of the appropriate strategic supply infrastructure
- Remains affordable to ensure the best value for customers now and in the long term for future generations.

Use of existing shared Anglian reservoir supply at full capacity by 2024/25



3. Protecting the environment

Our Plan includes an allowance for reduction of the amount of water we take from Chalk catchments in our East region.



4. Our proposals to reduce the demand for water



Leakage

We are committed to reducing leakage. In 2015, leakage was around 21% (189 MI/d) of the water we put into supply. By 2025 we plan to have reduced this to 15%. Our leakage ambition is set to achieve a 50% reduction in leakage between 2015 and 2045, resulting in 11% of water into supply being lost to leakage by 2045.



Water use per person (Per Capita Consumption – PCC)

We will put in place actions to help customers reduce their water use from an average of 152 litres of water per person per day to 129 litres by 2025. We aim to reduce water use to between 110 and 120 litres per person per day by 2045, if this is affordable for customers and delivered in a way that is acceptable to them.

5. Our proposals to increase supply for water

Developing strategic supply options and resilience

We will manage the water resources available to us more efficiently, reducing any potential impacts on the environment and enhance our ability to cope with different types of weather and climatic events, such as severe drought. Under our Plan for our East region we are able to do this primarily based on our demand management activities alone.

There is a risk that we will face substantial (up to 15-20 MI/d) reductions in abstraction for our sources within the River Brett catchment in the near term. If that does occur then we would need to construct a desalination plant on the East coast, or if the timing and the volumetric reduction changes, a shared alternative option. We will work closely with the Environment Agency to protect supplies and the environment.

Collaboration with neighbouring water companies

We will continue to collaborate with neighbouring water companies or other parties to ensure that these strategic options form part of a coherent long term regional strategy for the East of England.

Improving resilience to droughts

We estimate that without taking action, there is around a 60% chance over the next 60 years we would have to resort to exceptional drought management measures, such as standpipes. We propose investing to reduce this to around a 25% chance (1 in 200 year drought event).

Our actions will include:

- Installing more water meters in homes and businesses
- Providing customers with more regular information on how much water they are using
- Providing customers and communities with water audits to encourage them to become more water efficient
- Supporting a national water efficiency campaign and work with Government to introduce new policies to reduce consumption
- Working with retailers to improve water efficiency of businesses.

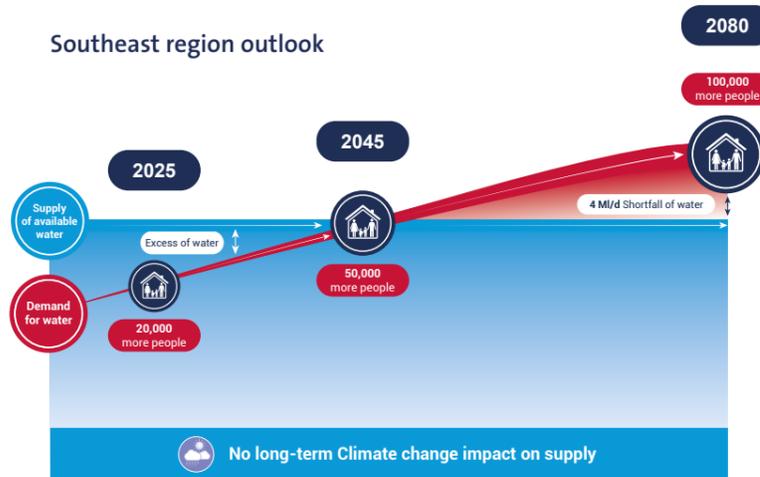
MI/d = million litres of water per day

Our Plan for the Southeast region (Dour Community)

Our Plan sets out how we will provide a reliable, resilient, efficient and affordable water supply to customers from 2020 to 2080, whilst helping to protect the environment.

1. Key challenges met

Southeast region outlook



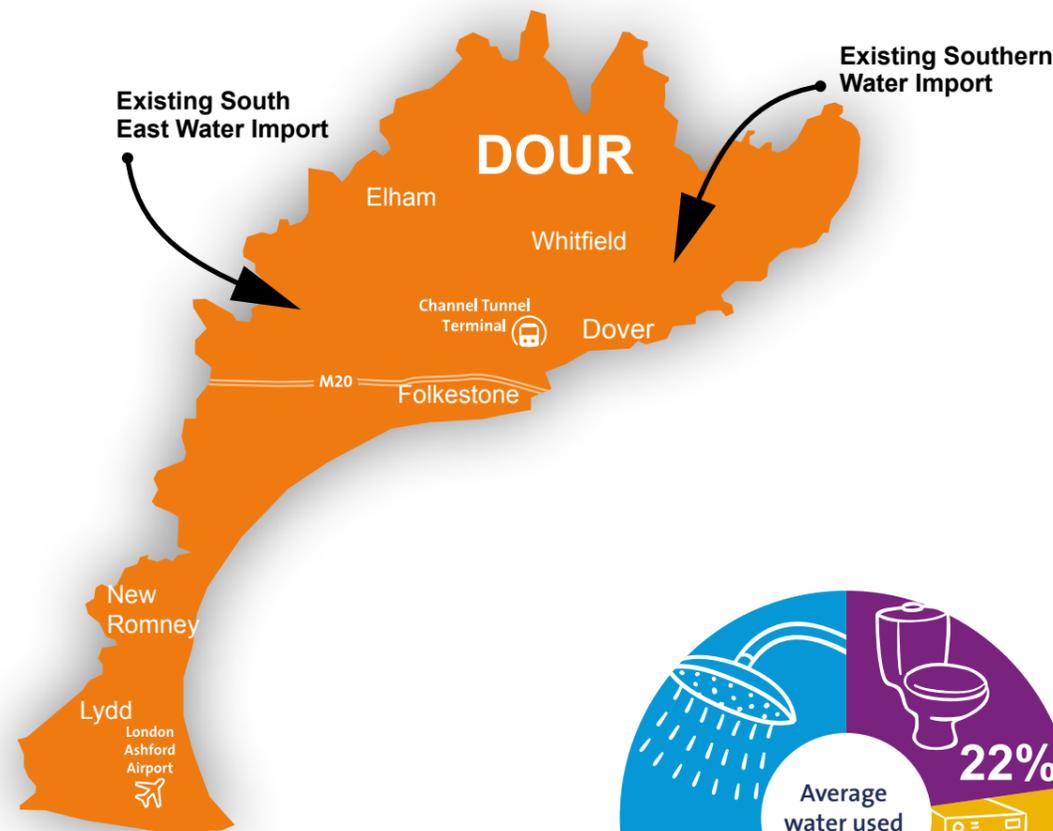
MI/d = Million Litres per day

Our Plan addresses the need to balance the availability of water supply with the demand for water from customers. Without action, we face the risk of a shortfall of water in the future in our Southeast region due to population growth and climate change. We also want to help protect the environment and improve the resilience of our water supplies to droughts and other challenges.

2. Our Plan:

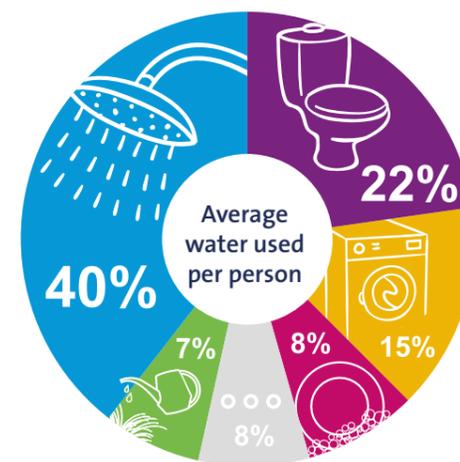
- Is adaptive, flexible and supported by customers and stakeholders
- Improves drought resilience of water supplies for customers
- Contributes to the protection of rare Chalk stream habitats by reducing abstraction from Chalk sources
- Prioritises reducing demand and is innovative
- Ensures timely delivery of the appropriate strategic supply infrastructure
- Remains affordable to ensure the best value for customers now and in the long term for future generations.

MI/d = million litres of water per day



3. Protecting the environment

We are stopping the reliance on drought permits for additional abstraction to meet our 1 in 200 year drought resilience commitment from March 2024.



4. Our proposals to reduce the demand for water



Leakage

We are committed to reducing leakage. In 2015, leakage was around 21% (189 MI/d) of the water we put into supply. By 2025 we plan to have reduced this to 15%. Our leakage ambition is set to achieve a 50% reduction in leakage between 2015 and 2045, resulting in 11% of water into supply being lost to leakage by 2045.



Water use per person (Per Capita Consumption – PCC)

We will put in place actions to help customers reduce their water use from an average of 152 litres of water per person per day to 129 litres by 2025. We aim to reduce water use to between 110 and 120 litres per person per day by 2045, if this is affordable for customers and delivered in a way that is acceptable to them.

5. Our proposals to increase supply for water

Developing strategic supply options and resilience

We will manage the water resources available to us more efficiently, reducing any potential impacts on the environment and enhance our ability to cope with different types of weather and climatic events, such as severe drought. Under our Plan for our Southeast region we are able to do this mainly based on our demand management activities, plus extension of our supply arrangements with our neighbouring water companies. Some licence changes and infrastructure schemes are required to improve smaller supply options and enable us to address needs during periods of peak demand.

Collaboration with neighbouring water companies

We will continue to collaborate with neighbouring water companies or other parties to ensure that these options form part of a coherent long term regional strategy for the South East of England.

Improving resilience to droughts

We estimate that without taking action, there is around a 60% chance over the next 60 years we would have to resort to exceptional drought management measures, such as standpipes. We propose investing to reduce this to around a 25% chance (1 in 200 year drought event).

Our actions will include:

- Installing more water meters in homes and businesses
- Providing customers with more regular information on how much water they are using
- Providing customers and communities with water audits to encourage them to become more water efficient
- Supporting a national water efficiency campaign and work with Government to introduce new policies to reduce consumption
- Working with retailers to improve water efficiency of businesses.



How to get in touch

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