Our plan to tackle the challenge of water scarcity in Hampshire

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from Southern Water

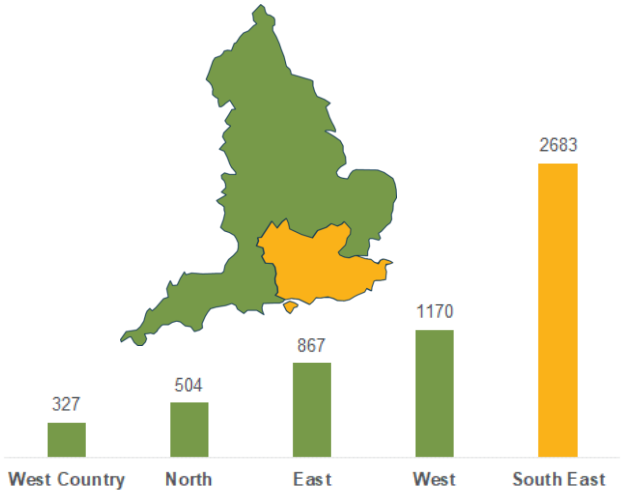
Our region

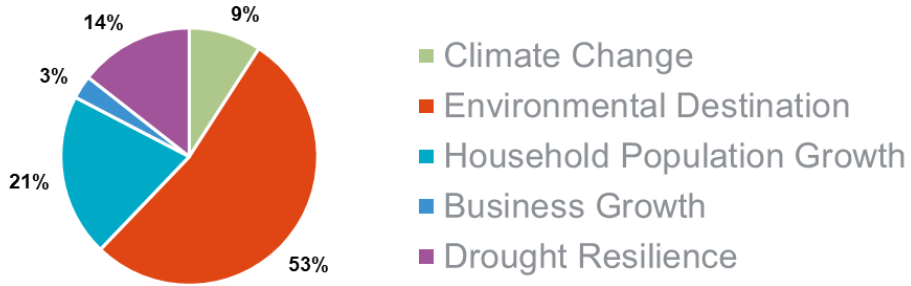
Every day we:

- Supply 570 million litres of water, across a 14,000km network, to 2.7 million customers.
- Remove and treat 1,522 million litres of wastewater, across a 40,000km network, for 4.7 million customers.

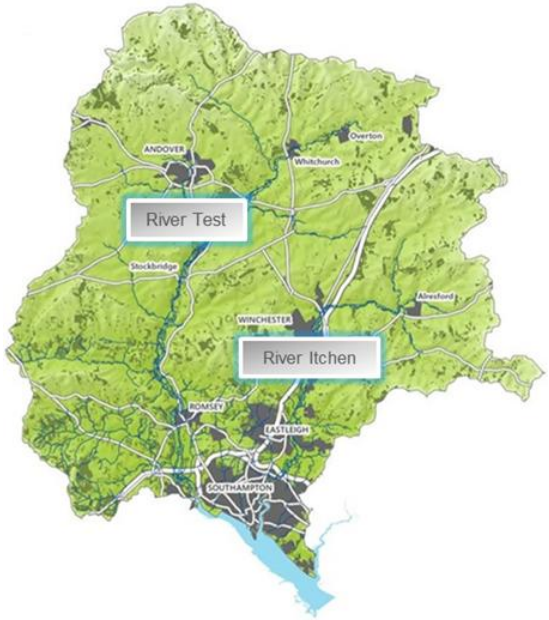
The South East of England is seriously water-stressed

- The Environment Agency says England needs to find 5 billion extra litres of water a day by 2050.
- Half that is needed in the South East, where we'll run out of water in ten years if we don't take urgent action.
- The main driver in the South East is what the EA calls "Environmental Destination" – leaving more water in the environment to improve and enhance the natural world.





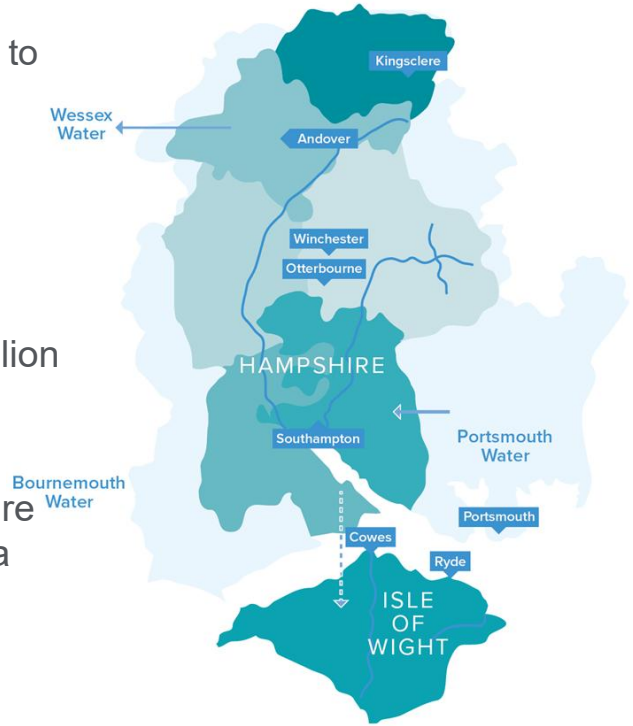
The Test and Itchen rivers are rare and sensitive ecosystems



- UK has 85% of the world's chalk streams.
- The Test and Itchen are two of the finest.
- They're rare and delicate ecosystems.
- Often described as "our rainforests".

… they are also major water sources for Southern Water

- These rivers and their aquifers supply water to more than 700k people across Hampshire.
- Our regulators require us to take less water from the environment.
- Means we face a current shortfall of 200 million litres of water a day in a drought.
- Further reductions are expected in the future will mean we also face a c30 million litres a day shortfall in normal summer months.



Western water resource zones

- **Hampshire Kingsclere** 100% groundwater
- **Hampshire Andover** 100% groundwater
- **Hampshire Rural** 100% groundwater
- **Hampshire Winchester** 100% groundwater
- **Hampshire Southampton East** 52% river, 48% groundwater
- **Hampshire Southampton West** 100% river
- **Isle of Wight** 47% groundwater, 23% river, 30% transfers

Major Projects

Water recycling

A guide to the stages of water recycling

Water recycling uses advanced treatment techniques to turn highly treated wastewater, that is usually pumped away into rivers and the sea, into drinking water.

Membrane process

Water, already extensively cleaned at a wastewater treatment works, is pumped through two filtering processes in the Water Recycling Plant. The first, micro-filtration, removes remaining impurities that could block the membranes used at the second stage of treatment – reverse osmosis. Here, dissolved salts and impurities are removed by pushing the water at high pressure through a membrane of tiny holes more than 50,000 times smaller than the width of a human hair. Dissolved impurities such as bacteria and pharmaceuticals are also removed.

Advanced oxidation process

Reverse osmosis is extremely effective at removing impurities. But, as an extra layer of protection, ultraviolet light (just like that found in sunlight) is applied along with a small dose of a chemical called hydrogen peroxide. Both of these treatments are used around the world in water recycling. Ultraviolet light is widely used in other drinking water treatment processes as it helps reduce the amount of chlorine that needs to be added at later stages of treatment.

Treated water conditioning

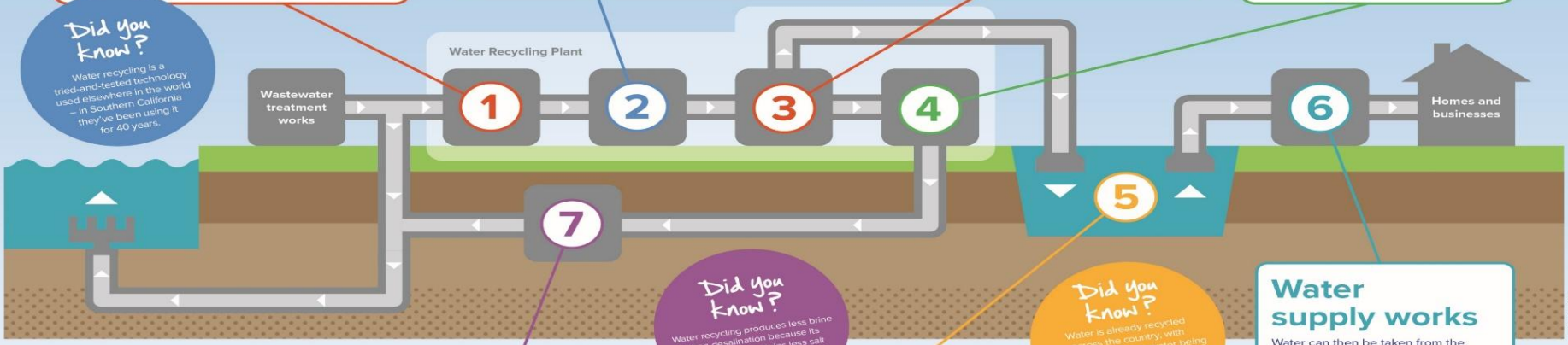
To make the water drinkable, minerals such as calcium and magnesium salts (that have been removed during the earlier stages of treatment) are added back in. As in traditional treatment methods, some chlorine may be added to the water to ensure it meets strict water quality standards.

Reject stream

Water and particles removed by each of the previous stages of treatment are taken away to be cleaned. The liquid is filtered to produce cleaned wastewater, known as reject water, which can be released back into the sea at Step 7. The process produces a concentrated solid matter which is removed and most commonly returned to the wastewater treatment works.

Did you know?

Water recycling is a tried-and-tested technology used elsewhere in the world – in Southern California they've been using it for 40 years.



Did you know?

Water recycling produces less brine than desalination because its source water contains less salt and other impurities that need to be filtered out.

Did you know?

Water is already recycled across the country, with highly treated wastewater being released into rivers, where it blends with river water before being reabstracted further downstream.

Reject water release

As about 20% of the source water is filtered out through the various treatment processes, reject water is released back into the sea. An underwater pipe with a series of holes at the end, called a diffuser, helps disperse it across a wider area.

Environmental buffer

The treated water is pumped to a lake, reservoir or watercourse, known as an environmental buffer, where it mixes with existing water from other sources.

Water supply works

Water can then be taken from the environmental buffer and pumped to a Water Supply Works where it is treated to the same rigorous standards as all water taken from the environment. Typically this involves a combination of filtration and the addition of chlorine before it is sent into supply.

WATER for LIFE

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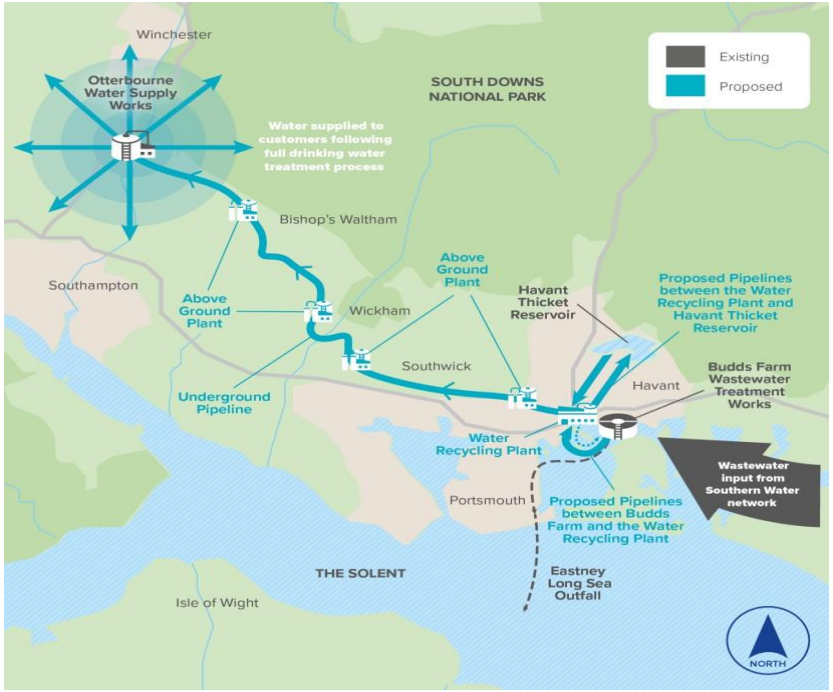
The Hampshire Water Transfer and Water Recycling Project

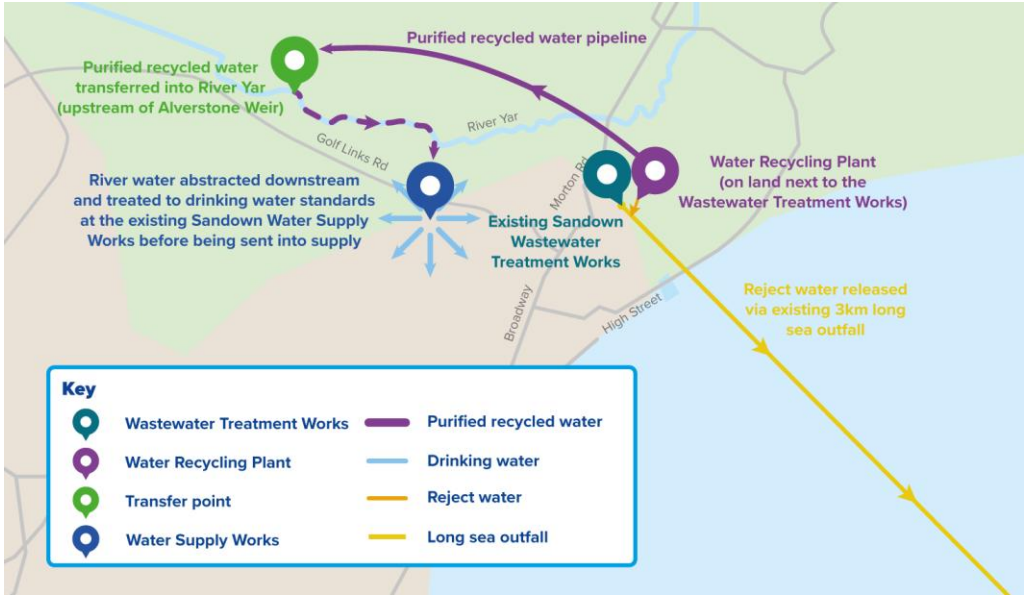
- Would be able to produce up to 60 million litres of purified recycled water a day.
- Would top up Havant Thicket Reservoir – so up to 90 million litres a day to be taken from it during a drought.
- All water supplied to customers would continue to meet strict UK Drinking Water standards.
- Reject water would be released 5.7km to sea.
- Our latest public consultation was held in Spring 2025.
- Construction could start in 2029 with the water recycling plant operational by 2034.



Find out more at:
www.hampshirewtwrp.co.uk

The Isle of Wight Water Recycling Project

- Would be built on land next to Sandown Wastewater Treatment Works.
- Would use advanced treatment processes to clean and purify wastewater.
- Purified recycled water would be pumped into the Eastern River Yar.
- This would allow more water to be taken from the river further downstream.
- Water taken from the river would be treated to drinking water standards at Sandown Water Supply Works before being supplied to customers on the Island.



- Reject water would be released 3km to sea.
- Construction could start in 2027 with the water recycling plant operational by 2031.

Next steps

Isle of Wight Water Recycling Project

- We expect to submit our planning application to Isle of Wight Council in October 2025.

Hampshire Water Transfer and Water Recycling Project

- A Consultation Report and Environmental Impact Assessment will be submitted as part of our Development Consent Order application – expected in Spring 2026.

For more information visit:
[Water for Life - Hampshire - Southern Water]

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