

Securing a resilient future for water in the South East



Have your say on our 50-year water
resources management plan

Consultation March to May 2018



Our journey so far



1

We published our last Water Resources Management Plan (WRMP) in 2014.



2

This shared our proposals to provide water in the South East for 25 years.



3

Since then, we've been developing new sources, fixing leaks and helping you save water.



6

We also heard from community and environmental groups and the industry regulators.



5

You took part in online surveys and discussion groups to have your say.



4

We've continued to ask for your views on your water supply.



7

We explored a new way of planning to prepare for the future – whatever it holds.



8

Taking all this into account, we've drafted a new plan for the next 50 years.



9

Turn to page 22 to find out where we are going next...

Introduction

Welcome to this consultation on one of the most important plans in the South East – how we’ll secure reliable high-quality drinking water for the next 50 years.



Fresh, healthy water is vital for our daily lives and to support business, tourism and economic growth. It’s also important we improve the rivers and environment we rely on to provide this water.

We’ve developed a new and innovative way to secure a resilient future for water in our water-stressed region. We’ve studied how things could change in the future and planned for a range of scenarios – from extreme climate change at one end – to a future where we’re all much more efficient with water at the other.

By doing this we are sure we can adapt to the future, whatever it brings.

In the short term, our focus is on valuing existing water – reducing leaks and setting ourselves an industry-leading **Target 100** to reduce personal water use to 100 litres per day.

At the same time we’re exploring options for recycling water, desalination (removing salt from seawater) and new reservoirs, as well as collaborating with other water companies to create sustainable supplies for the South East as a whole.

You’ve already played an important role in shaping the future of your water and we’d really like to hear your thoughts now as we publish this plan for consultation. So, please read on and have your say.

Ian McAulay
CEO, Southern Water

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What is a water resources management plan?

Water is essential to our daily lives so it's vital we plan to make sure there will always be enough available.

To do this, we look ahead for 25 to 50 years to see how much water you need and how we can provide it. We share this with you in our water resources management plan (WRMP).

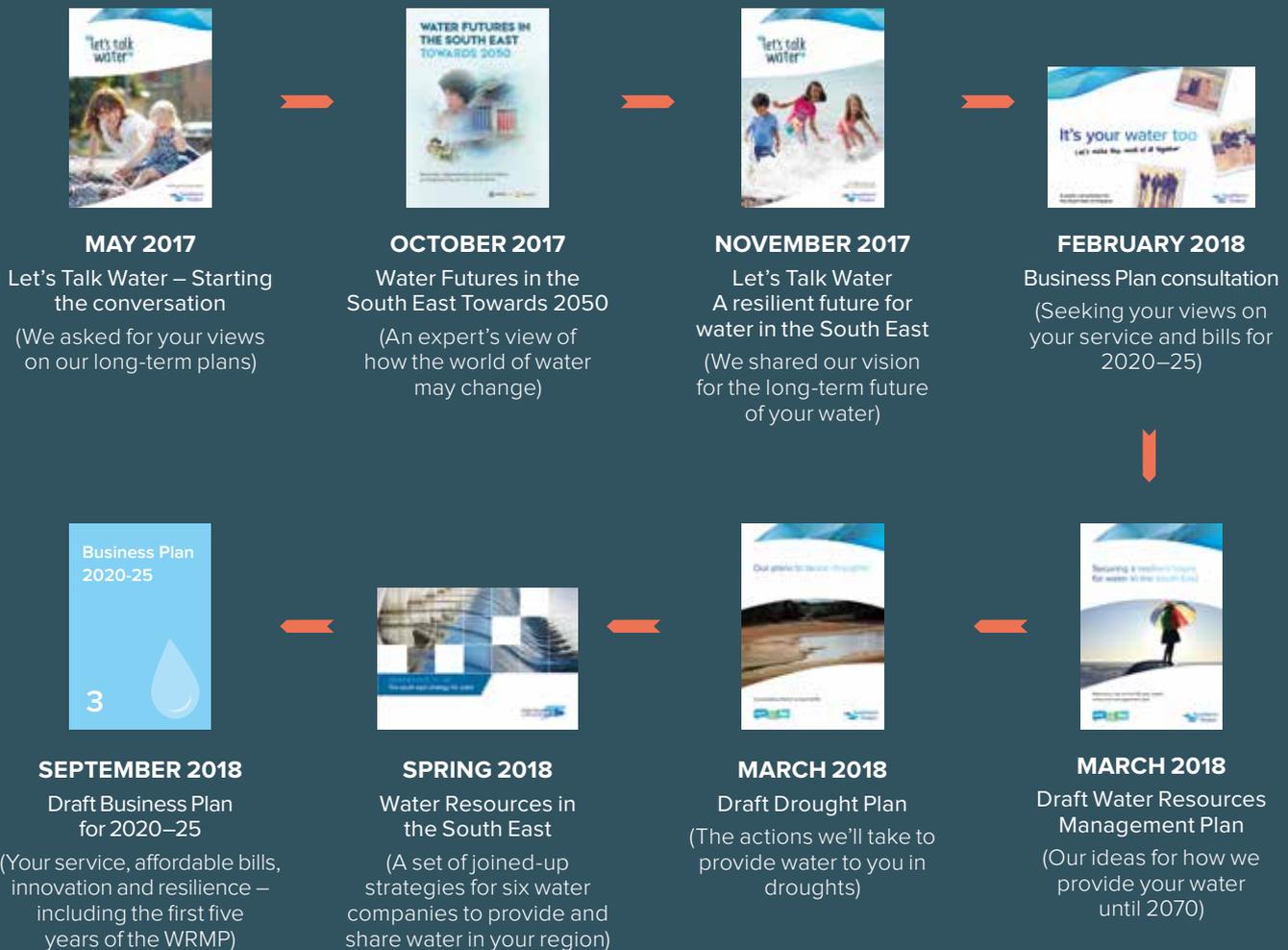
Every water company prepares a WRMP and involves their customers and communities to make sure it's based on their priorities.

These plans are updated every five years so they always reflect new information, advances in technology and any change in your views.

This document is a summary of our draft WRMP for 2070, and we want to hear your views on our ideas before we update it and publish a final version later this year.

How this plan fits into the bigger picture

The WRMP is one of several plans we're developing with you, your communities and businesses to secure a resilient future for water in the South East. This diagram shows the journey we're inviting you to join us on.



Short of time? Read this plan on a page

- This water resources management plan shows how we plan to provide reliable water supplies to homes, businesses, communities and industry for 50 years from 2020 to 2070.
- Our ambition is to play our part in the water-stressed South East to secure a resilient future for affordable water, support economic and housing growth and improve your environment.
- The abstraction licences, which set how much water we can take from rivers and groundwater, are changing significantly to improve our natural environment – so we need to invest in new sources.
- In the short term this will mainly affect Hampshire and the Isle of Wight, though more licence changes may come in across the South East after 2020.
- **Target 100** – we've set ourselves a target to involve you in reducing your water use to 100 litres per person per day by 2040 so we can leave more water in the environment.

Your voice counts – this plan reflects your preferences for how you want us to provide water.



- As always leaks are a priority – with plans to reduce them by 15% by 2025.
- We want to work with farmers and landowners to protect the quality of our water and improve our rivers if it will help maintain water supplies.
- The future is uncertain so we've planned for lots of different scenarios – this means we can be ready whatever the weather and whatever changes are made to licences.
- We're exploring innovative ways to provide water from recycling schemes (from wastewater), desalination (from seawater) and new and bigger reservoirs to prepare for these different scenarios.
- By 2070 we might need to provide an extra 230 million litres of water every day – nearly 50% more than we supply now. Or, if we become much more efficient and innovative, we may need to provide less than today.
- We've improved our drought planning – the risk of rota cuts (where water is restricted to a few hours each day) or standpipes has fallen to once in every 500 years on average, as long as drought permits and orders are introduced first.
- Hosepipe bans (as part of Temporary Use Bans) are likely once every 10 years on average in Kent and Sussex. In Hampshire and the Isle of Wight this is once every two or three years until at least 2027, when new water sources have been developed.
- We're working with all our neighbouring water companies in the South East to find the best way to build new resources and share water.
- Our potential investment in your water supplies over the next 50 years is £1.6 billion.



You can have your say in a 12-week consultation – visit southernwater.co.uk/haveyoursay.

Your water, your choices

We've held lots of conversations to hear your views on how you would like us to provide your water.

These conversations have been ongoing since we published our last plan in 2014, and have also involved more than 100 community groups, councils, environmental organisations, businesses and government bodies. Together, we've:

- 1 chosen the type of schemes you prefer to provide water – in online surveys, workshops and discussion panels;
- 2 prioritised areas you're willing to pay more for – for example, fixing leaks and protecting the environment;
- 3 captured your daily thoughts about water – by using a phone app in your home;
- 4 looked at how often we plan to introduce water restrictions – you're happy for this to stay the same;
- 5 talked to our 'customers of the future' (aged 11 to 18) – who prioritise protecting the planet and wildlife; and
- 6 explored ways to work together – with farmers, councils and communities.

Your preferences for the types of schemes we use to provide water is reflected in this plan.

For the first time, we have fed your choices into the decision-making model which decides our best-value strategy. More than 1,000 of you in our region took part in an online survey to share your views – ranging from older customers, young families and people struggling to pay their bills.

Everyone was given the same information about the choices – cost, water supply, carbon and effect on the environment.

The results, in order of preference, are shown below.

- 1 Underground water storage
- 2 Catchment management
- 3 Helping people to use water more wisely
- 4 Reducing leaks
- 5 Water-saving devices and gadgets
- 6 Reservoirs
- 7 Water recycling (wastewater)
- 8 Trading water
- 9 Tariffs
- 10 Desalination (seawater)

Isle of Wight customer:
"Unless we start coming up with our own ways of producing our own water, in higher volumes, we're going to struggle, simple as that."

Sussex customer:
"We can make seawater into drinking water or use our wastewater."

Kent customer:
"We've got to get more from the water that we're using and that's just the way forwards."

Hampshire customer:
"Desalination is a plan B option but it does solve the problem and is reliable. The technology is there."



Many of you understand water recycling is already happening. You choose it because it can provide much of the water we need in a way that is reliable and resilient.

Where we are today, and where we are going

Your water supplies today add up to about **530 million litres** each day on average.

This is the amount we supply to keep **homes, businesses, schools** and **industry** working in the South East.



By 2070, we could see the amount of water we need to supply fall to **500 million litres** each day (below what it is now) or it could rise above **750 million litres** each day, depending on what the future brings and how efficient we can all be with water. Whatever happens, we'll need to find at least **300 million litres** of extra water – just to replace supplies we know we are going to lose from existing sources.



Despite us supplying **150,000** more properties than we did back in 1989, we now supply less each day than we did back then. Why? It's all down to you being more **'water wise'** and us **reducing leaks**.

Our leakage rate is **80 litres per property per day**. By 2025 we will reduce this by 15% and by 2070 this will fall much lower as we harness new technology.

On average, you use about **131 litres of water** each day. By 2040 we want this to be **100 litres** and by 2070 this could drop to **85 litres per person per day**.

We currently supply 2.5 million people – by 2070 this could be 3.4 million.



Where your water comes from

The water we supply mainly comes from rain. We rely on this falling between October and March each year to fill aquifers (porous rock which holds water), restore rivers and fill reservoirs. Rain in the rest of the year evaporates, runs to the sea or is used by plants.



Our main water sources:

70% groundwater

As rain soaks through the ground it is stored in 'aquifers'. We pump this water (groundwater) to the surface where it is treated and supplied to you.

23% rivers

We take water from rivers to fill our reservoirs, or to pump directly to water treatment works for supply. More than 15% of the water we take from rivers comes from recycled water which has been cleaned at our wastewater treatment works and released into the river.

7% reservoirs

We have four reservoirs. The largest is Bewl Water on the Kent/Sussex border, followed by Weir Wood, Darwell and Powdermill in Sussex.

By 2070 your water could be:

43% from groundwater;

30% from rivers;

7% from reservoirs; and

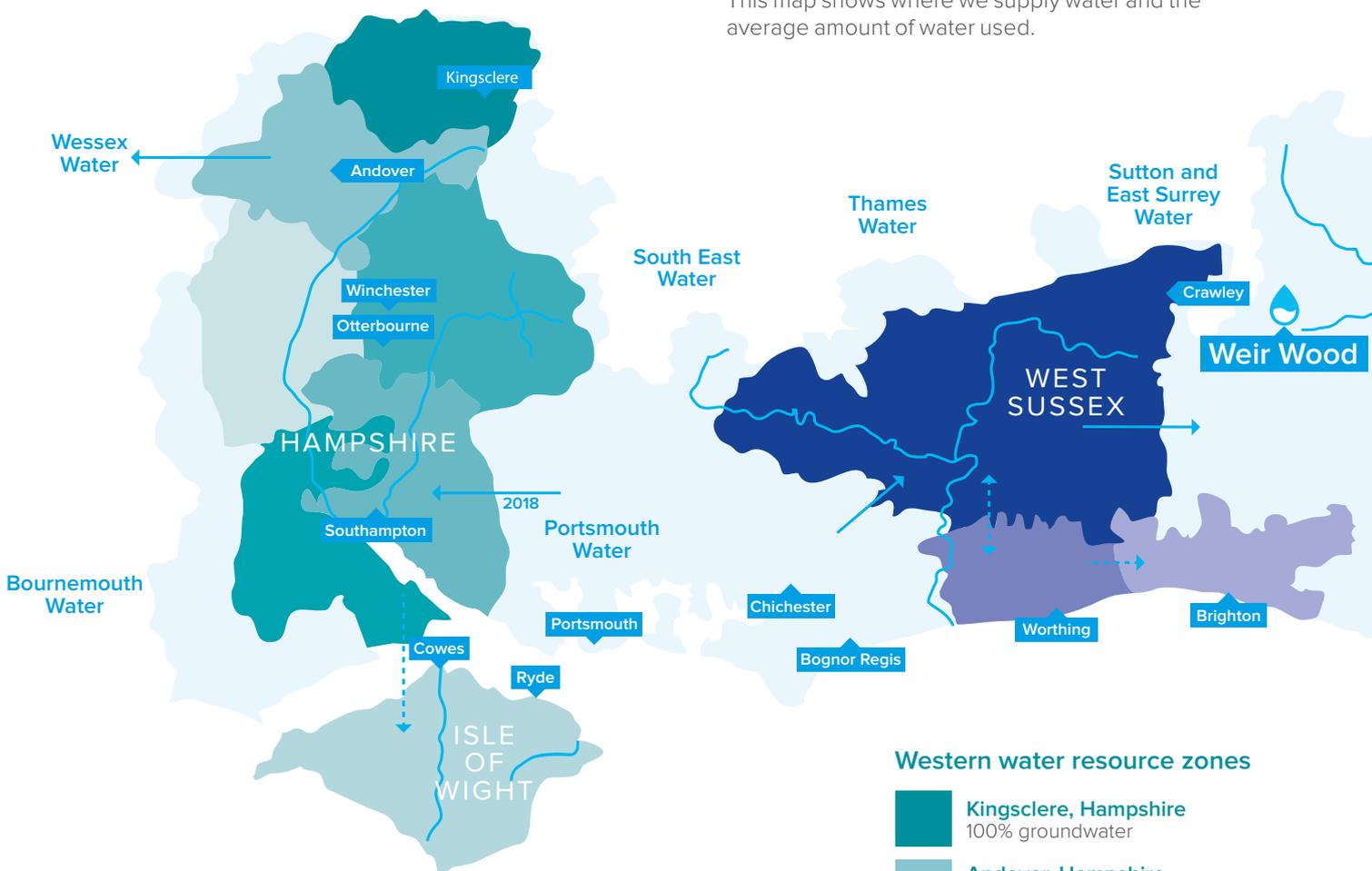
20% from seawater.

Where we are today

We supply water to more than one million homes and businesses in Kent, Sussex, Hampshire and the Isle of Wight.

Most of the region is officially classed as seriously 'water-stressed', which means that at times the demand for water can be higher than the amount available. However, each county also has different water sources and experiences different weather. It's not unusual for one area to be in drought while supplies are normal in a neighbouring area. This is also because the area we supply is divided into 14 separate 'water resource zones'.

This map shows where we supply water and the average amount of water used.



Western water resource zones

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

Western area

North Hampshire takes all of its water from groundwater. South Hampshire takes one-third from groundwater and two-thirds from the River Test and the River Itchen. The Isle of Wight takes its water from the River Yar, the River Medina and groundwater, but also relies on water pumped across from south Hampshire for a third of its drinking water.



Metered water use per person per day:
Hampshire – 122 litres
Isle of Wight – 119 litres



Unmetered water use per person per day:
Hampshire – 144 litres
Isle of Wight – 177 litres

Central area

Brighton, Worthing and surrounding areas take all their water from groundwater, while north Sussex has a mix of water from rivers, groundwater, a reservoir and a water supply from Portsmouth Water.



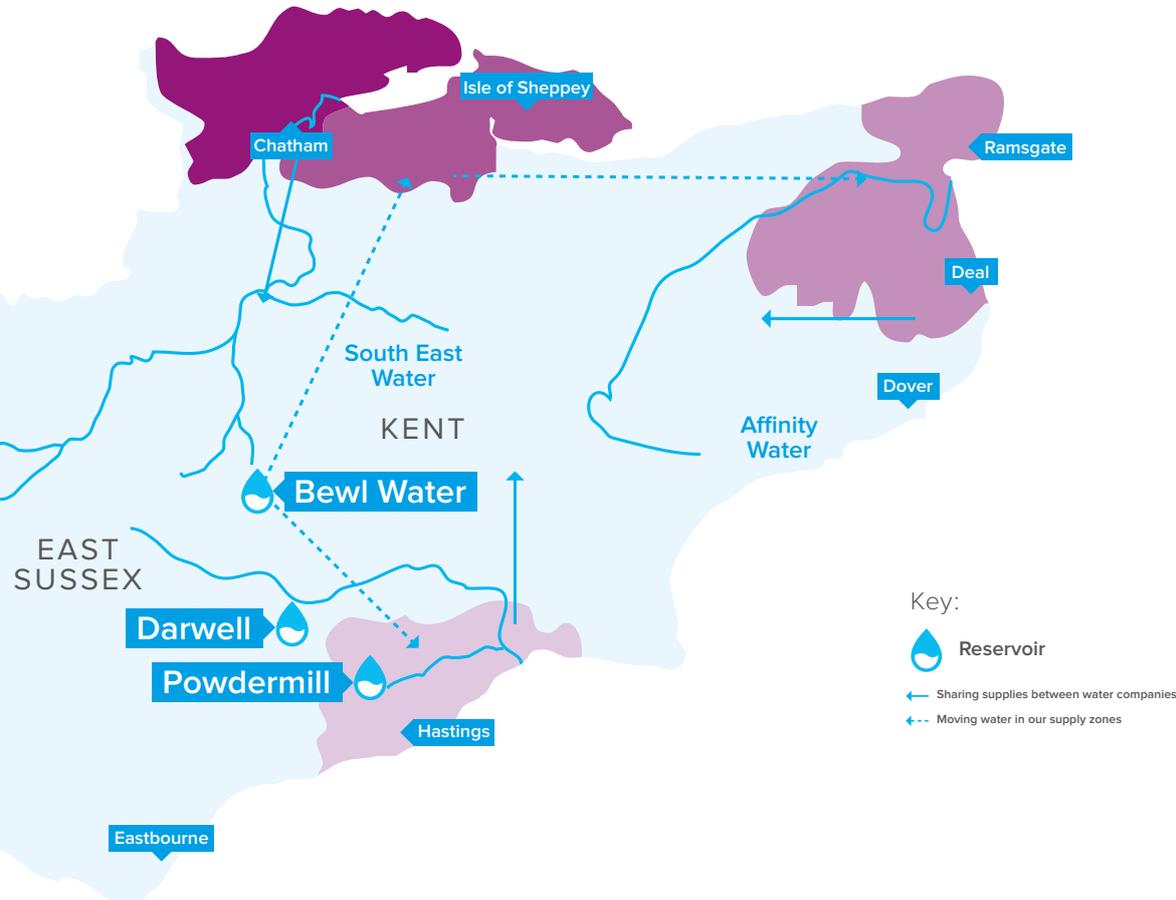
Metered water use per person per day: 127 litres



Unmetered water use per person per day: 168 litres

Central water resource zones

- North Sussex**
35% groundwater, 51% river, 8% reservoir, 6% transfers
- Worthing, Sussex**
98% groundwater, 2% transfers
- Brighton, Sussex**
100% groundwater



Eastern area

In Kent, Medway East, Medway West and Thanet take most of their water from groundwater and the rest from the River Medway, some of which is stored in Bewl Water reservoir and later released into the River Medway. Hastings in Sussex takes most of its water from Darwell reservoir and Powdermill reservoir, with the rest from groundwater. Water is transferred by pipeline from Medway to Thanet, and from Medway to Hastings.



Metered water use per person per day: 124 litres



Unmetered water use per person per day: 154 litres

Eastern water resource zones

- Medway East, Kent**
100% groundwater
- Medway West, Kent**
56% river and reservoir, 44% groundwater
- Thanet, Kent**
77% groundwater, 2% river, 21% transfers
- Hastings, Sussex**
5% groundwater, 79% reservoir, 16% transfers

What we, and you, have achieved since our last plan

By working together we've already achieved a lot since our last plan was published in 2014.

Back then, you told us saving water was very important, so our focus has been on helping you to save water, energy and money, and reducing leaks. We have:

- 1 visited 7,000 homes to fit water-saving devices and share ways to help you save water;
- 2 fixed lots of leaky loos and installed discounted water butts;
- 3 worked with Brighton & Hove City Council to visit 1,000 social-housing homes where water savings are making bills more affordable;
- 4 visited 156 schools to fit water-saving devices and involve pupils in valuing water;
- 5 encouraged villages near the River Itchen, in Hampshire, to cut their water use by 25% and earn up to £50,000 for their communities; and
- 6 helped nearly 120 small business make water savings;

We targeted our involvement in the most water-stressed areas in the South East – south Hampshire, the Isle of Wight, Brighton and Hove and Worthing – and this has already saved 6% of vital water supplies.

We're also working with developers who are building 15,000 new homes at Ebbsfleet Garden City, in Kent, and 1,500 new homes at Fawley Waterside, in Hampshire, to help them create sustainable homes.

We've also:

- 1 found and fixed leaks across the South East – with extra focus on the Isle of Wight;
- 2 changed our abstraction licence on the River Medway, in Kent, so we can take more water in winter, when flows are higher, to fill Bewl Water reservoir and leave more water in the summer to support wildlife;
- 3 started catchment schemes in Medway, Brighton and Worthing to reduce the amount of nitrates, from fertilisers and pesticides, reaching our water supplies;
- 4 built new pipelines in Kent, Sussex and Hampshire to extend our water network and move water around more easily; and
- 5 supplied 6.1 million litres of water to South East Water and built a pipeline to import 15 million litres from Portsmouth Water each day, as part of a wider plan to secure more resilient supplies across the whole of the South East.



Should we do more to reduce leaks, even if it pushes your bills higher?

Plan

WRMP
2020-70

Now, we're ready to build on these achievements with our plans for the next 50 years.



The future – what’s ahead for your water

Our approach to secure a resilient future for water in the South East

Water is at the heart of everything we do each day – drinking, washing, cooking, growing food, creating energy and manufacturing goods.

However, the water we provide to you is only about 6% of what’s available to take out for supplies in the South East. The rest is used to support the environment, grow crops, generate energy and manufacture goods.

In this plan, we’re considering everyone who uses water, how they fit together and how we

can secure a resilient future for water while also improving our environment.

We’ve taken some expert advice on this and published **Water Futures in the South East – Towards 2050** – which looks at how our society and the role of water may change.

We’ve prioritised some goals to start our transformation and already shared them with you in **Let’s Talk Water – a resilient future for water in the South East**. Below we’ve listed these commitments for the service we aim to provide.

 We provide a refreshing, easy customer experience

 We support our vulnerable customers

 The services we provide are effective and fit for the future

 We innovate to create sustainable communities

 Together we aim to recycle every drop of water

 We make sure our bills are affordable for all our customers

 We supply clean, safe and sustainable water

 We recognise the true value of water in our daily lives

 We'll play our part to support a resilient South East economy

 We protect and improve rivers, reservoirs and coasts for the future

These commitments reflect our focus on driving **innovation** to **deliver great customer service** and **affordable bills**, while meeting our long-term goal of securing a **resilient future** for water in the South East.

innovation **affordable bills**
great customer service
resilient future

The challenges of providing water, and the opportunities

It's clear that lifestyles, the weather, the way we value water and the environment are changing.

While this creates opportunities to do things differently, and better, it also brings challenges. Our plan is focused on meeting whatever challenges lie ahead and using new ideas to make sure the future of water is safe.

Below are some examples of new ways we can create opportunities to provide a resilient, affordable supply of water.

TARGET 100

We've set ourselves a target to reduce your personal water use by 25% to 100 litres of water per day by 2040. We'll

do this by involving you in saving water, fitting devices and working with developers to create sustainable homes.

Catchment First



In the past, we've invested in 'building' things to store, treat and recycle water. While we still need to do this to provide enough water, our first choice now will be to see if we can work with landowners to improve our environment so it can provide and store more water naturally.

Resource hubs

We want to turn our wastewater treatment works into hubs to recycle water for agriculture, industry and households, generate green energy and provide community centres to involve you in your water. Our first hub is planned at our Peacehaven treatment works in Sussex.

Networks and drainage 2030

We'll update our water and sewage networks to make them more efficient. In Kent we are working with developers who are building 15,000 homes at Ebbsfleet Garden City to create a new model for sustainable living.



“As climate change bites and population increases, we need to make the water we do have go further. I've said I want to see water companies aiming higher on water efficiency, and Southern Water's Target 100 does just that.”

Nicci Russell, Managing Director of Waterwise

Here are some of the challenges we need to rise to in the **next 50 years.**

Changes to our licences to abstract water

Challenge: This is by far the biggest challenge we face. Licences are granted by the Environment Agency and they set out how much water we can take from rivers and groundwater to supply drinking water.

Many of our licences may be changed by 2027 to meet the Water Framework Directive – legislation which supports leaving more water in rivers and the ground to improve our natural environment.

The amount of water we take for supplies has already reduced by 28% since the water industry was privatised in 1989. However, it's likely more reductions are needed.

We already know that changes to our licences in Hampshire could mean we lose more than half of the water we would normally have available to supply in a drought.

However, we don't know yet how much other licences may change. This will become clearer after 2020 when we have carried out more investigations, but it could involve large amounts of water. So, we must plan now to be prepared to find other ways to fill the gap.

In light of this, we're considering large schemes like building new reservoirs and desalination. We're also looking at ways to make better use of the water we clean at our wastewater treatment works – as two-thirds of this currently flows out to sea.

Schemes like this take a long time to get up and running so we need to start now to further involve communities, carry out surveys and apply for planning permission, so we're ready if they are needed.

Opportunities: The more we can do to leave water in our rivers and the ground, the better. Reducing leaks, reaching **Target 100**, **Catchment First** and making better use of recycled wastewater will all improve our environment and help keep bills affordable.



Do you think it's a good idea to plan for future changes to our abstraction licences which could mean we need to invest in new sources?

Climate change could lead to hotter, drier summers and wetter winters

Challenge: Climate change is likely to bring hotter, drier summers which means demand for water will increase, and droughts could be longer. The South East is likely to be the first region to experience the full effects of climate change, which is why we are now planning even further ahead – 50 years rather than 25.

Opportunities: By using new technology and renewable energy, we can develop better works to recycle wastewater and seawater for drinking water, which are both more resilient in droughts.

Housing and population growth increases the need for water

Challenge: We expect the population in the South East to increase by 20% by 2045 and half a million new homes to be built. We need to find more water to supply these homes, while still securing supplies for existing homes, businesses and industry. By 2045 it's possible we may need an extra 170 million litres of water each day.

Opportunities: We want to encourage developers to build more sustainable homes which use less water and work towards **Target 100** to reduce the amount of extra water we need to find. We are also planning to recycle wastewater for industry, to free up more fresh water supplies.

We need more energy

Challenge: The more water we need to capture, clean and pump around the region to reach your taps, the more energy is needed.

Opportunity: We produce 17% of our energy through renewable sources and plan to increase this. Reducing water use to **Target 100** means we'll need to provide less water.

Hampshire licences – public inquiry

The Environment Agency has proposed licence changes for the River Itchen, River Test and Candover Stream in Hampshire. A public inquiry into these proposed changes is being held in March 2018 and, depending on the outcome, we may need to update this plan.

Keeping the taps running, whatever the future holds

We may need to find an extra 300 million litres of water a day by 2025, 480 by 2030, and 600 by 2070.

It's essential for your future, and your children's, to know that in 50 years' time you can still turn on the tap to get a reliable, healthy water supply.

So, as well as exploring opportunities for innovation, we've also developed a new way to plan – looking at all the possibilities the future may bring. As we don't know the full effects of licence changes, climate change and population growth yet, we've looked ahead at hundreds of different scenarios.

This **industry-leading approach** has allowed us to develop a plan which can adapt and be flexible to suit your needs and meet future challenges. It also means the options we develop in the first five years (2020 to 2025) will be useful whatever happens later, even at the end of our 50-year plan.

How does this affect the plan?

If you compare this plan to our last one, you'll notice there are more options for water recycling, desalination, transfers from other water companies and new reservoirs.

These start to appear from 2025 and continue until 2070. This is because we've looked ahead at the scale of the challenges we may face, and planned for them.

We have explored many variations of how things may unfold in the future, but, to keep things simple, we are sharing just one with you here. This is the one which takes account of all the licence changes we might need to make by 2027.

It may be that when we next update this plan in five years, the world will have changed and we won't need all these options. Or it could be that we need more. What is important is that we start to plan for them now, in case they are needed.

Q

Do you think we should plan for a wide range of possible 'futures' and how much water we may need to supply in each?

To find out more about other scenarios, please read our full WRMP at southernwater.co.uk/wrmp



Preparing for a wide range of droughts

We've also expanded the innovative approach we tested in our last plan to prepare for more serious, longer droughts.

Traditionally, water companies have looked at droughts in the past, and planned how they would cope with them if they happened again. Last time, we looked at 2,000 'what if' weather patterns to plan for a wider range of droughts.

This time, we've gone a step further and looked at 100,000 patterns – making sure our water plans are even more resilient.

We've even given some of these droughts names – for example 'Drought Chris' could last nearly five years and see less rain than ever before in the South East.



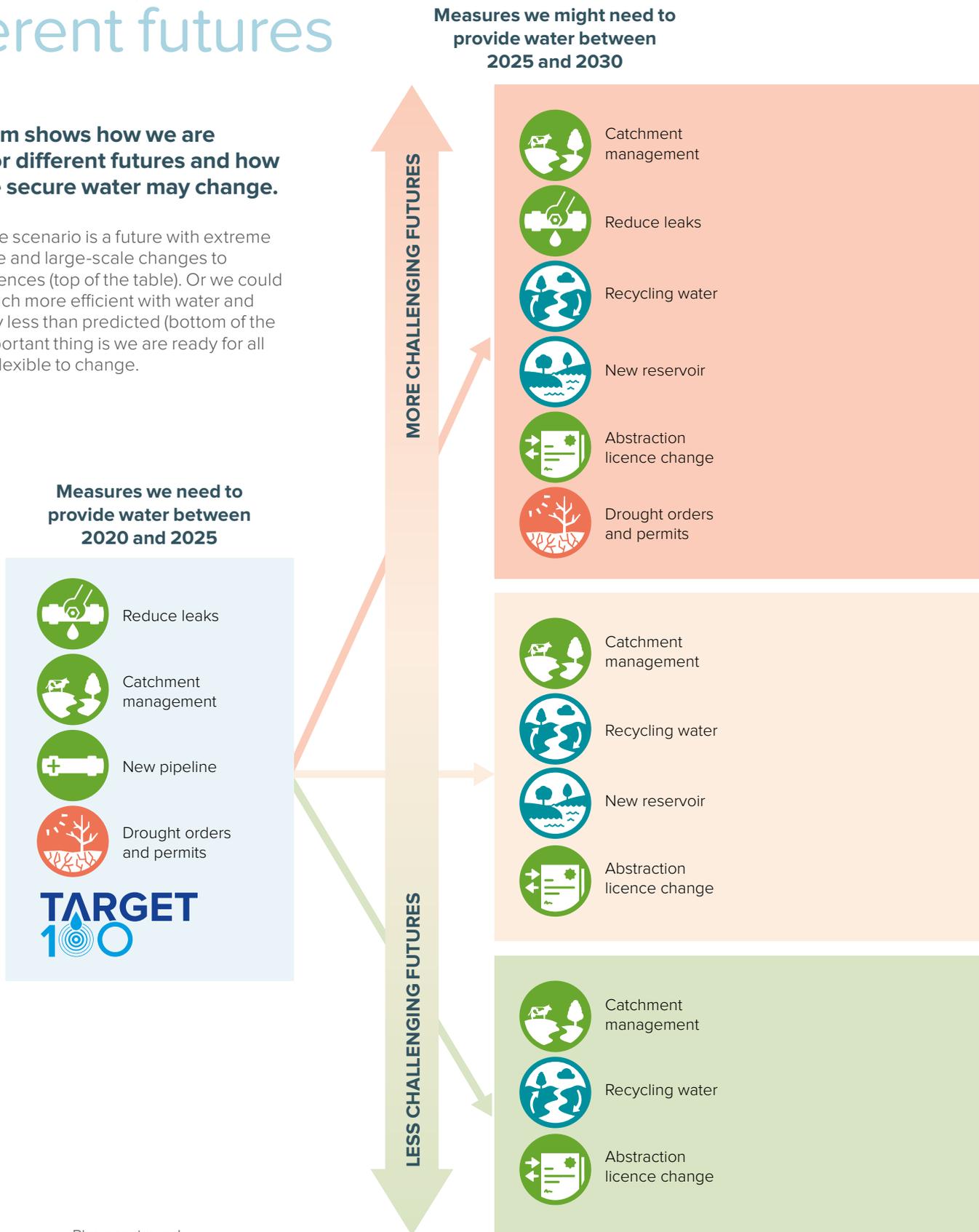
Q

This plan includes using water restrictions (hosepipe bans) during a drought once every 10 years on average. (In Hampshire and the Isle of Wight, this is likely to be once every two or three years on average until at least 2027). Do you support this?

How we plan for different futures

This diagram shows how we are planning for different futures and how the way we secure water may change.

The worst-case scenario is a future with extreme climate change and large-scale changes to abstraction licences (top of the table). Or we could all become much more efficient with water and need to supply less than predicted (bottom of the table). The important thing is we are ready for all futures – and flexible to change.



Plans reviewed every five years.

Extra measures we might need to provide water between 2030 and 2045

Extra measures we might need to provide water between 2045 and 2070

By 2070

-  Catchment management
-  Recycling water
-  Recycle water for industry
-  Desalination

-  Catchment management
-  Reduce leaks
-  Recycling water
-  Water transfers

MORE CHALLENGING FUTURES

- Extra water needed:**
600 million litres each day
- Population growth:**
71%
- Climate change:**
Lose 56 million litres each day
- Licence changes:**
Lose 296 million litres each day

-  Catchment management
-  Reduce leaks
-  Recycling water

-  Catchment management
-  Reduce leaks

LESS CHALLENGING FUTURES

-  Catchment management
-  Reduce leaks

-  Reduce leaks

- Extra water needed:**
300 million litres each day
- Population growth:**
7%
- Climate change:**
Gain 44 million litres each day
- Licence changes:**
Lose 184 million litres each day

So, how do we plan?

So, how do we plan to make sure you have a resilient water supply for the future?

Behind these measures is a simple equation. We look at how much water we need and how much we can supply, even during dry weather.

When the amount we need overtakes the amount we have, we introduce new options to make up the difference – making sure they are ready in good time.

We start with a list of more than 500 options, which range from new reservoirs, to rewarding customers for using less water to pipelines from France!

We then review each option against the following.

- 1 Which schemes you prefer.
- 2 How well it can provide water in a drought.
- 3 If it harms the environment.
- 4 How much water it provides.
- 5 Its energy use and carbon footprint.
- 6 The effect on lives and communities.
- 7 The cost and time to build.

This provides a shortlist which we believe will be the most resilient, best value and provide the best service for you. We also make sure everything in the plan can supply **high-quality drinking water**, now and in the future.

What you can expect from us

By using these techniques and looking at a wide range of droughts we can plan and build a water supply network which is more resilient and less vulnerable to changing weather. It means we can reduce the frequency of how often we are likely to have to take action to deal with droughts. The likely frequency of action for Sussex and Kent is shown below. However, it's very likely we'll need to introduce restrictions more often in Hampshire and the Isle of Wight, until at least 2027. This is because we need time to develop new sources to replace supplies which will no longer be available because of changes to our abstraction licences. As soon as new supplies are in place, our commitments will return to the ones we show for Sussex and Kent.

Drought actions	Likelihood of use	
	Sussex and Kent	Hampshire and the Isle of Wight
Temporary Use Bans	Water restrictions – once in 10 years on average.	Water restrictions – once every two or three years on average.
Drought order to restrict water use (non-essential-use bans)	Wider water restrictions and for businesses – once in 20 years on average.	Wider water restrictions and for business – once or twice every 10 years on average.
Standpipes and rota cuts (supplies limited to a few hours a day).	Emergency drought order for rota cuts and standpipes – unlikely to happen in our lifetime (once in 500 years) if drought permits and orders are introduced first.	Emergency drought order for rota cuts and standpipes – unlikely to happen in our lifetime (once in every 500 years) if drought permits and orders are introduced first.
Drought permits and orders to increase supplies	Applying for permission to take more water from rivers and aquifers – once in 20 years on average.	Applying for permission to take more water from rivers and aquifers – once or twice every 10 years on average.

To find out more about the action we'll take in a drought, visit southernwater.co.uk/droughtplan

The costs and carbon footprint of a reliable water supply

We believe our approach provides the best-value solution to secure resilient water supplies for you, your family, the environment and the economy for the next 50 years.

To be confident we can continue to provide reliable water, we need to invest significantly to develop new measures, including water recycling, desalination, water networks and new reservoirs.

We are also prioritising investment to reach **Target 100**, further reduce leaks and work with farmers, landowners and communities to protect our existing water sources.

The potential cost of securing your water for the next 50 years is £1.6 billion. The largest proportion of this is for Hampshire and the Isle of Wight.

This investment would secure reliable water to supply your homes and new housing, and leave more water in our rivers. It would also provide jobs and leisure, and support a thriving economy.

At the same time, we'll explore new ways of working to become more efficient to make sure you always receive value for money.

Our aim is to balance the bills you pay today, with timely investment for the future, so the responsibility is shared by you, your children and your grandchildren.

Looking to a 'greener' future

The water industry already uses a lot of energy and more will be needed to power desalination and water recycling works and pump water to more homes.

We currently produce 17% of the energy we use from renewable sources, and we want to increase that. We'll also look at ways to reduce our carbon footprint, to play our part in meeting the UK's carbon targets. We'll:

- 1 use electric vehicles to read our 'drive-by' meters;
- 2 explore hydropower and solar power at our treatment works;
- 3 develop or buy renewable energy to power new treatment works;
- 4 involve communities in reward schemes to save water and energy; and
- 5 work with partners to use new technology, such as graphene, the new 'miracle' material which could make it much easier to filter and clean water for drinking.

Q

How important is it to you that we use renewable energy (by buying or developing it) to power our water network?



Our strategy to supply water in your area

We've explored a wide range of scenarios for the future and we believe our approach offers the most resilient future for water, for the best value.

Our long-term strategy considers many different versions of the future – in some we need to provide more than 200 million litres of extra water each day. In others we would need to provide less water than we do now.

This will become clearer as we learn more about changes to our abstraction licences and the rate of climate change and population growth.

We can't show all those possibilities here, so on the next eight pages, we show you the schemes we're actively considering for the future – it doesn't mean we will definitely need them all.

However, we can confirm the plans we're pursuing in the first five years – 2020 to 2025. These are shown on pages **22 to 23**.



Do you think our approach to provide water in Hampshire and the Isle of Wight is the right one?

Here's an overview of the strategies you'll see on the maps on the following pages.



Hampshire and the Isle of Wight

Water supplies have been reliable in Hampshire in the past and the area has not experienced water restrictions, such as hosepipe bans, since 1976. However, proposed changes to licences on the Rivers Test and Itchen, and the Candover Stream, mean we face losing more than half of existing supplies and we need to find other sources of water immediately.

In the short term, we will help you save water by installing more meters and involving you in water-efficiency projects to work towards **Target 100**. We'll also reduce leaks, protect sources from nitrates and pesticides and recycle water to an oil refinery. However, during dry weather we'll need to apply for Temporary Use Bans and drought permits and orders more often to maintain supplies until we can develop new measures.

In the longer term, we need to make multi-million pound investments in recycling water, desalination and new pipelines to bring in water from Portsmouth Water (from a new reservoir) and from Bournemouth Water (from a river), as well as extending our network of pipes.

As the Isle of Wight currently relies on Hampshire to supply a third of its water, these resources will also supply the island. We also plan to recycle water at Sandown wastewater treatment works and upgrade a groundwater source.

*Depending on how things change in the future, we may also need to plan for a new reservoir in Hampshire near the River Test, build a small desalination works on the Isle of Wight and continue to explore other options with neighbouring water companies.

Sussex

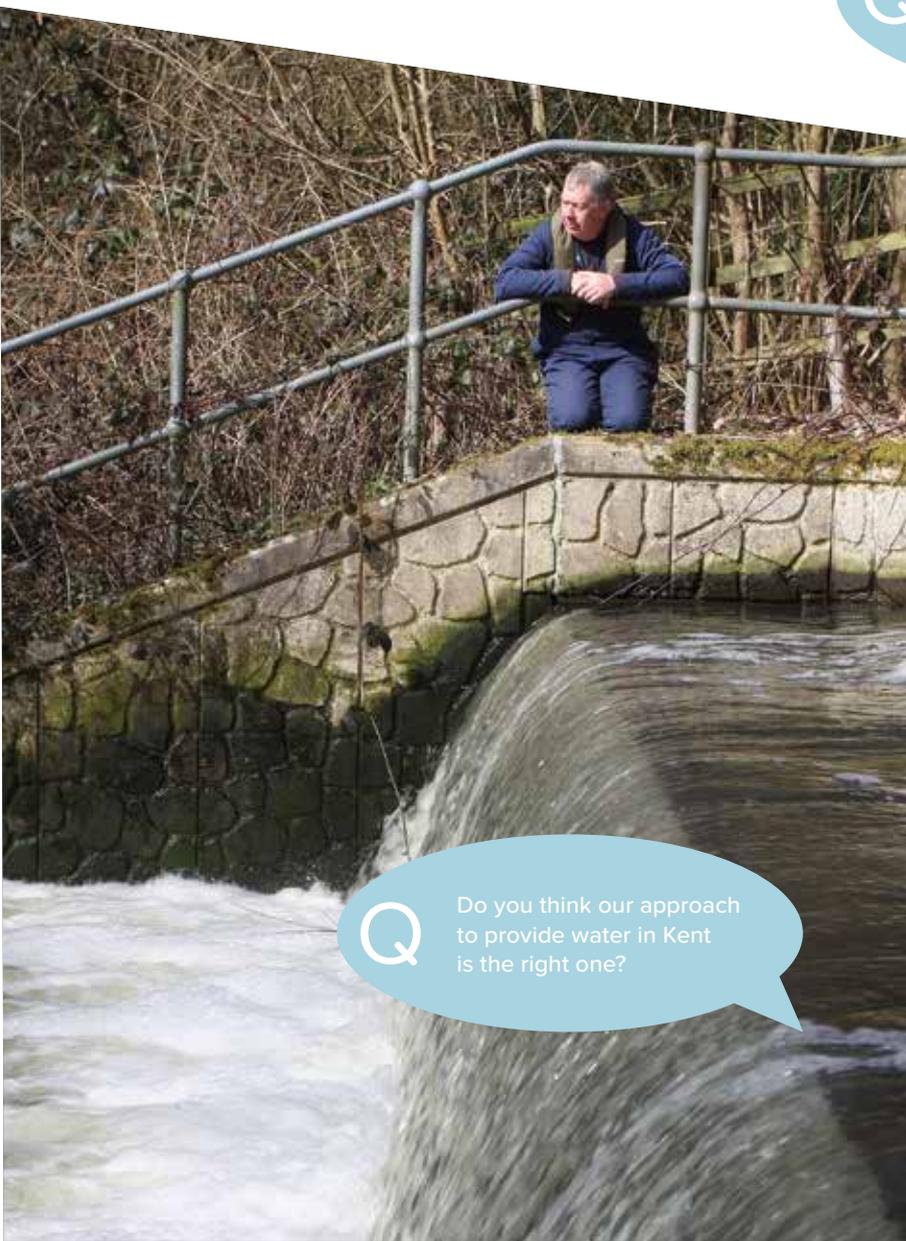
In Sussex, the first five years of our plan will focus on making the most of existing water. This includes working towards **Target 100**, through water efficiency and metering. We will also fix leaks, extend our network of pipes to move water around and promote catchment schemes to protect water from nitrates and pesticides used on farming land.

In the longer term, there may be significant changes to our licences to abstract water, to support the environmental laws which protect and improve our environment. So, we are considering water recycling schemes, desalination plants and a new underground water store, as well as more pipelines and catchment schemes.

*Depending on how things change in the future, we may also need to plan for two new surface reservoirs.



Do you think our approach to provide water in Sussex is the right one?



Do you think our approach to provide water in Kent is the right one?

Kent

The first five years of our Kent strategy will also focus on saving water, with increased meter reading to help raise awareness of personal water use, working with you towards **Target 100**, reducing leaks and protecting water sources from nitrates and pesticides. With these measures, we should only need to apply for drought permits and orders in very severe droughts.

Our longer-term strategy includes recycling water from Aylesford wastewater treatment works, which we would share with South East Water as part of a regional plan for the South East. We could also increase the size of Bewl reservoir and buy an abstraction licence from an industrial organisation.

After 2030, we'll explore more water recycling for homes and industry.

To find out more about other scenarios, please read our full WRMP at southernwater.co.uk/wrmp

Water strategy for 2020 to 2025

This map shows how we'll find the extra water we need to provide reliable water supplies for you and local businesses in the next five years.



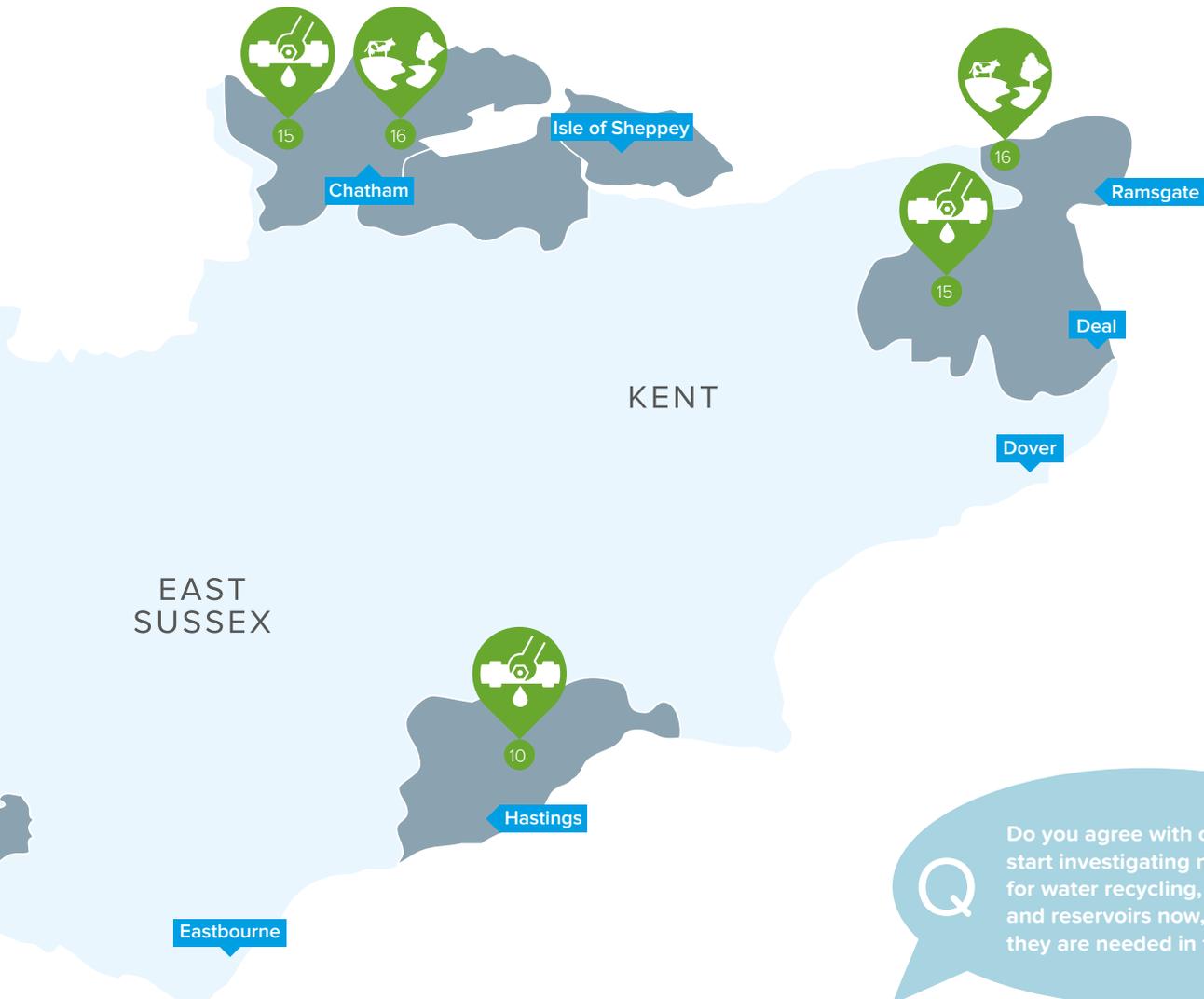
Total water supply
171 million litres extra
a day by 2025

Hampshire and the Isle of Wight

1. Increase the number of homes with meters from 88% to 92% to encourage savings and find more leaks. ●
2. Reduce leaks. ●
3. Receive an extra nine million litres of water each day from Portsmouth Water through an existing pipeline. ●●
4. Recycle cleaned water from our wastewater treatment works in Marchwood to supply an oil refinery. ●●
5. Introduce catchment schemes and take action to remove nitrates and protect against nitrates and pesticides at six water sources in Hampshire and the Isle of Wight. ●●
6. Apply for drought orders on the Rivers Test and Itchen and on the Candover groundwater source to continue abstracting water in dry weather.
7. Work to improve the Test and Itchen rivers.

Sussex

8. Increase the number of homes with meters from 88% to 92% to encourage savings. ●
9. Increase the number of homes with meters from 92% to 100% in the Sussex north zone. ●
10. Reduce leaks. ●
11. Upgrade a pipe to transfer water from the Brighton zone to the Worthing zone. ●●
12. Introduce catchment schemes and take action to protect against nitrates and pesticides at nine water sources in Brighton and Worthing. ●●
13. Introduce catchment schemes to protect rivers and a reservoir from pesticides in Sussex North. ●●
14. Apply for drought orders and permits on the River Rother, Weir Wood Reservoir and two groundwater sources in the Worthing and Brighton zones to continue to abstract water in dry weather.



Kent

- 15. Reduce leaks. ●
- 16. Introduce catchment schemes and take action to protect against nitrates at 14 water sources in the Thanet and Medway zones. ●●

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.
- Better use of existing water
- Drought action
- New sources of water

What we'll do across the South East:

We will involve you in saving water and reduce personal water use to 100 litres per person per day by 2040. We will help by reading water meters every month, so you can track how much you're using, and we can find leaks quicker.



Water supply options for 2025 to 2030

This map shows how we could find extra water to provide reliable water supplies for you and local businesses for five years from 2025. We will review these options again in five years and they may change.



What we'll do across the South East:

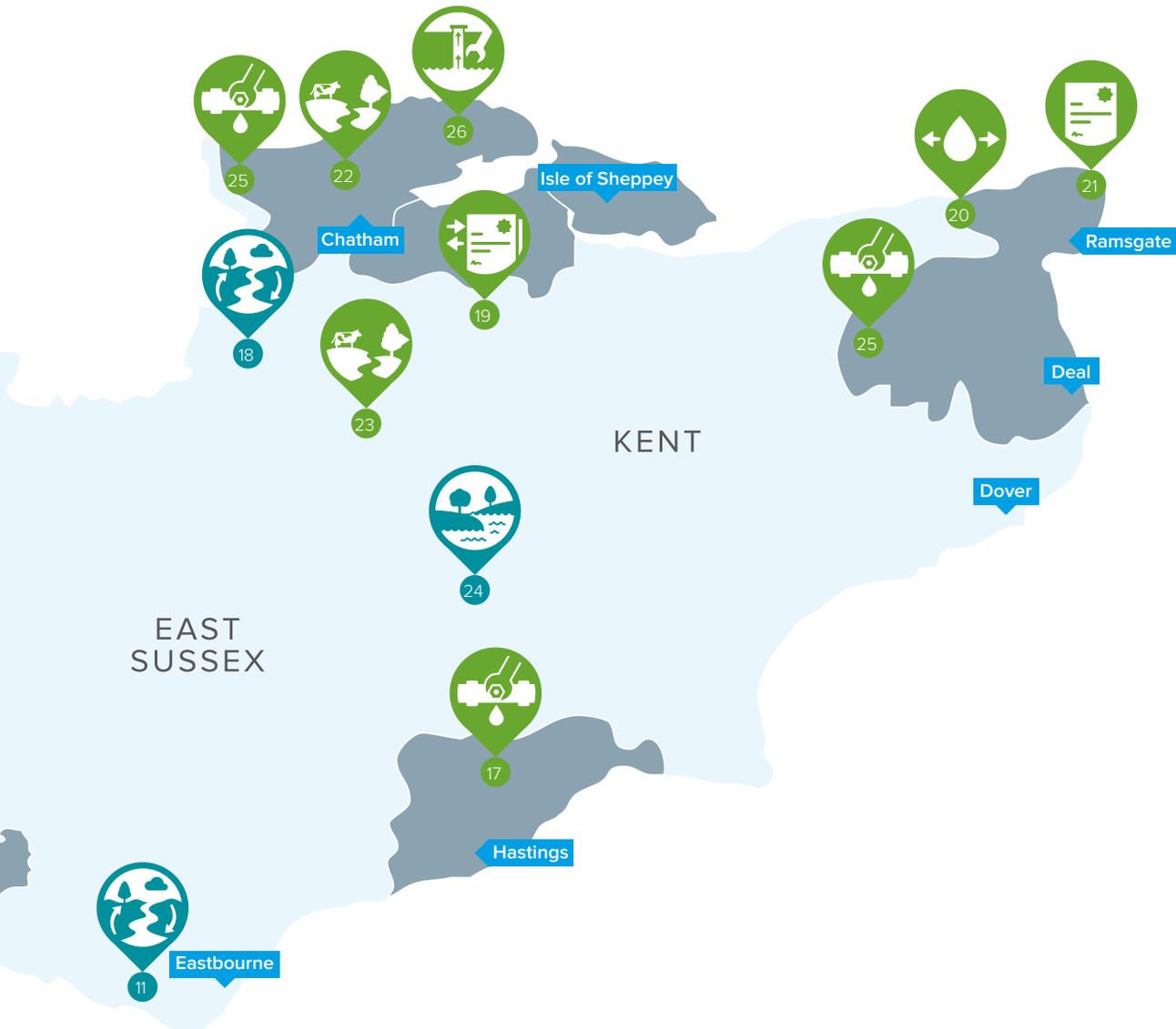
We will involve you in saving water and reduce personal water use to 100 litres per person per day by 2040. We will help by reading water meters every month, so you can track how much you're using, and we can find leaks quicker.



Hampshire and the Isle of Wight

1. Introduce a catchment scheme and take action to protect against nitrates at a water source in Hampshire. ●
2. Create a network of pipes to connect two water treatment works and the Andover, Winchester and Southampton East supply zones. ●●
3. Build a desalination plant on the Solent to clean seawater for drinking water and a new pipeline to transfer this water between the Winchester, Southampton East and Southampton West supply zones. ●●●
4. Receive an extra 21 million litres of water each day from Portsmouth Water through a new pipeline (sourced from developing a new reservoir in Portsmouth). ●●

5. Apply for drought orders on the Rivers Test and Itchen and a Candover groundwater source to continue abstracting water in dry weather.
6. Recycle water from our wastewater treatment works at Sandown to increase flows in the Eastern Yar river, to then abstract and clean for drinking water. ●●
7. Recycle water from a wastewater treatment works in Portsmouth or Southampton to increase flows in the River Itchen to then abstract and clean for drinking water. ●●●
8. Reduce leaks. ● – ●●



Sussex

- 9. Recycle water from our wastewater treatment works in Ford to increase flows in the Western Rother river, to then abstract and clean for drinking water. ●●
- 10. Build a desalination plant on the tidal stretch of the River Arun to clean seawater for drinking water. ●●
- 11. Recycle water from our wastewater treatment works in Peacehaven to increase flows in the River Ouse, to then abstract and clean for drinking water. This water will be shared with South East Water. ●●
- 12. Build a new pipeline and upgrade a groundwater source and water supply works in north Sussex. ●
- 13. Refurbish a groundwater source in north Sussex. ●
- 14. Build a desalination plant in Shoreham Harbour to clean seawater for drinking water. ●●
- 15. Create an underground reservoir to store water pumped from the Rivers Rother and Arun during the winter when flows are high, to boost supplies in summer. ●
- 16. Introduce catchment schemes and take action to protect against nitrates at five water sources in the Brighton and Worthing zones. ●●
- 17. Reduce leaks. ● – ●●

Kent

- 18. Recycle water from our wastewater treatment works at Aylesford to increase water in the environment to then take out and clean for drinking water. ●●
- 19. Buy part of an existing industrial licence to abstract water. ●●
- 20. Receive water supplies from South East Water through a new pipeline to extend the South East regional grid. ●
- 21. Apply to the Environment Agency to change our licence at two underground water sources to take out more water when it's available. ●
- 22. Introduce catchment schemes and take action to protect against nitrates at two water sources in the Medway zone. ●●
- 23. Introduce a catchment scheme and take action to protect against pesticides at a river in the Medway area. ●●
- 24. Increase the size of Bewl reservoir. ●●
- 25. Reduce leaks. ● – ●●
- 26. Refurbish a groundwater source in Medway. ●

Water supply options for 2030 to 2045

This map shows how we could find extra water to provide reliable water supplies for you and local businesses for 15 years from 2030. We will review these options again in five years and they may change.

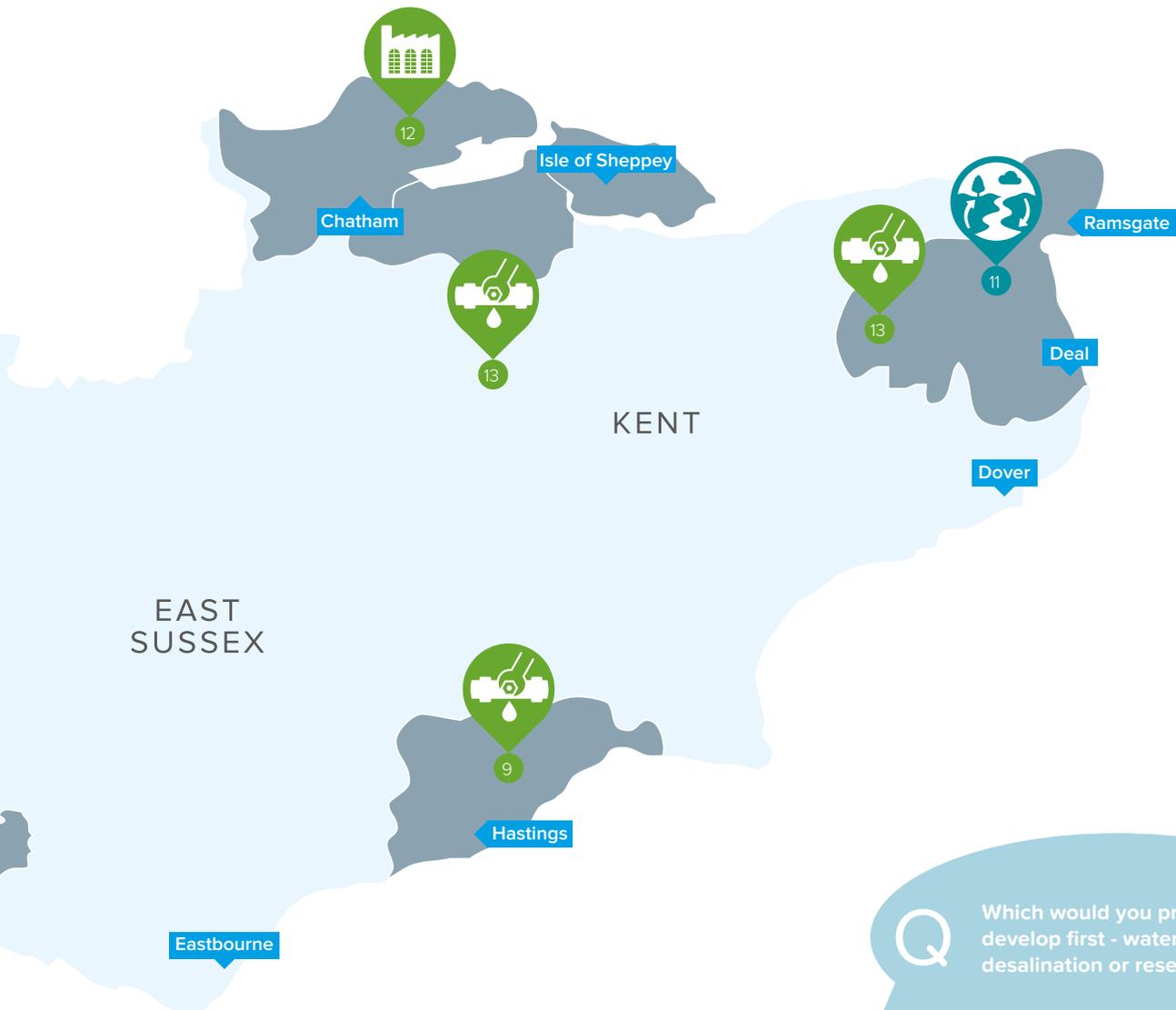


Hampshire and the Isle of Wight

- 1 Bring in a new supply of water (from the River Avon) with a new pipeline through the New Forest to extend the regional grid. ●●
- 2 Upgrade groundwater sources on the Isle of Wight. ●
- 3 Upgrade a groundwater source in the Kingsclere zone to supply more water. ●
- 4 Reduce leaks. ● – ●●

Sussex

- 5 Upgrade a groundwater source in the Brighton zone. ●
- 6 Introduce a catchment scheme to protect against nitrates at one water source in Sussex North. ●
- 7 Create a new reservoir near Pulborough. ●●
- 8 Upgrade a water treatment works near Pulborough. ●●
- 9 Reduce leaks. ● – ●●
- 10 Build a new pipeline to extend our network in Sussex and link Brighton to Shoreham. ●●



Q Which would you prefer us to develop first - water recycling, desalination or reservoirs?

Kent

- 11. Recycle water from our Weatherlees wastewater treatment works to increase flows in the River Stour to then take out and clean for drinking water. ●●
- 12. Recycle water from Sittingbourne wastewater treatment works so it can be used again for industry. ●●
- 13. Reduce leaks. ● – ●●



What we'll do across the South East:

We will involve you in saving water and reduce personal water use to 100 litres per person per day by 2040. We will help by reading water meters every month, so you can track how much you're using, and we can find leaks quicker.



Water supply options for 2045 to 2070

This map shows how we could find extra water to provide reliable water supplies for you and local businesses for 25 years from 2045. We will review these options again in five years and they may change.



Hampshire and the Isle of Wight

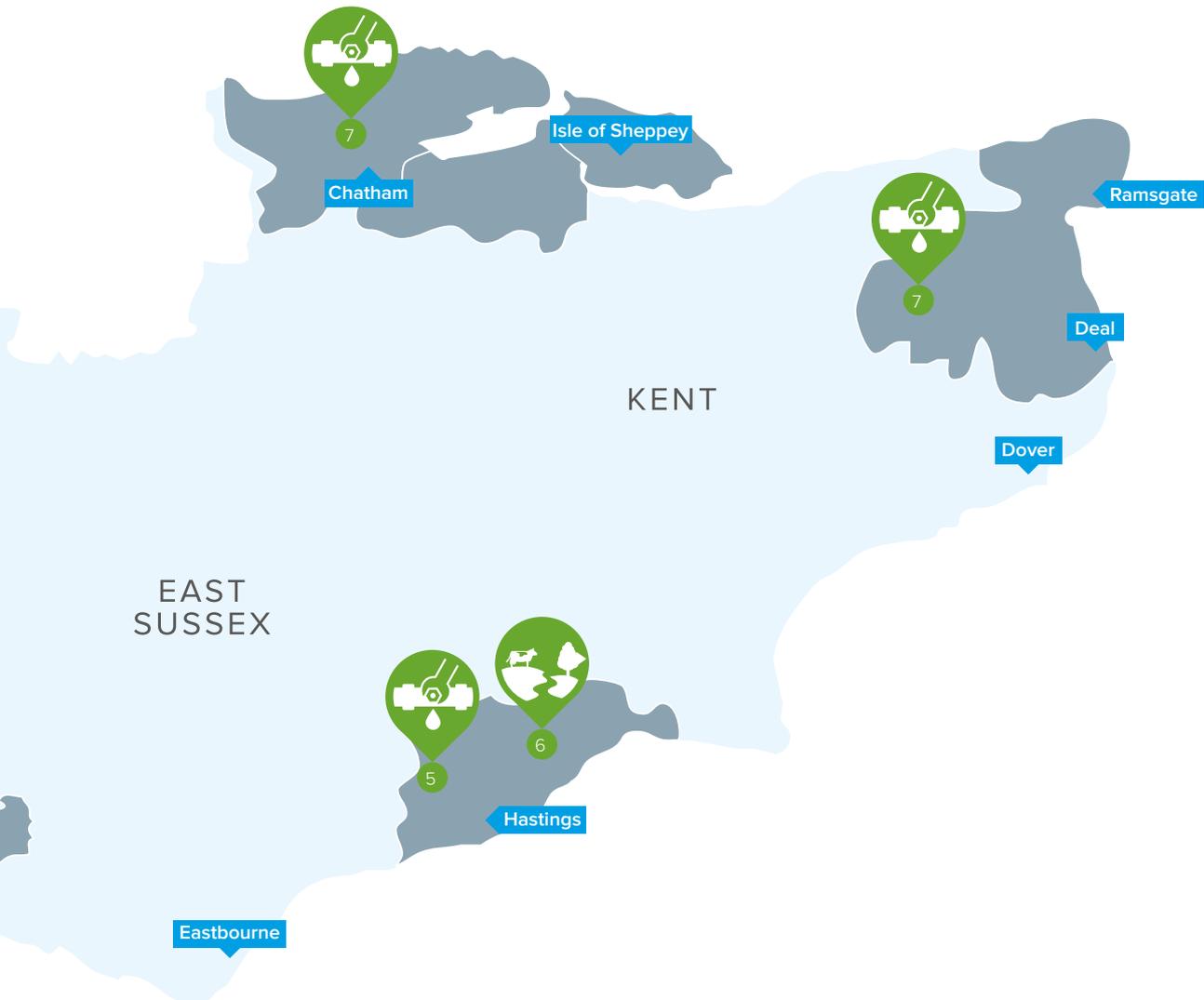
1. Create a new storage reservoir at a lake near the River Test in the Southampton East zone. ●●
2. Build a desalination plant near Sandown on the Isle of Wight to clean seawater from the English Channel for drinking water. ●●
3. Reduce leaks. ● – ●●

Sussex

4. Create a new reservoir filled from the River Adur near Blackstone in Sussex. ●●
5. Reduce leaks. ● – ●●
6. Introduce catchment schemes and take action to protect against pesticides reaching Darwell and Powdermill reservoirs. ●●

Kent

7. Reduce leaks. ● – ●●



Q Would you like to get involved in developing our solutions to provide water, for example, community schemes to save water, developing water recycling and desalination options or in any other way?



What we'll do across the South East:

We'll ensure every new measure we take to supply water in the next 50 years will maintain our high-quality drinking water standards and protect public health.



Your chance to have your say



We're keen to hear your thoughts on our plans to provide reliable water in the South East for the next 25 to 50 years.

We're consulting on this between **March 5**, and **May 28, 2018** and we will share all your responses with the Department for Environment Food and Rural Affairs (Defra).

There are lots of ways you can have your say.

- 1** Fill in the questionnaire with this document and post it to Defra in the envelope provided (the postage is already paid).
- 2** Take part in our online survey at southernwater.co.uk/haveyoursay.
- 3** Email Defra at water.resources@defra.gsi.gov.uk, putting Southern Water draft water resources management plan in the subject line, and copying in wrm@southernwater.co.uk, wrm@ofwat.gsi.gov.uk and water-company-plan@environment-agency.gov.uk
- 4** Write to Defra at:
Secretary of State (DEFRA)
Water Resources Management Plan Consultation (Southern Water)
Water Resources
Department for Environment, Food and Rural Affairs
Area 3D
Nobel House
17 Smith Square
London
SW1P 3JR.



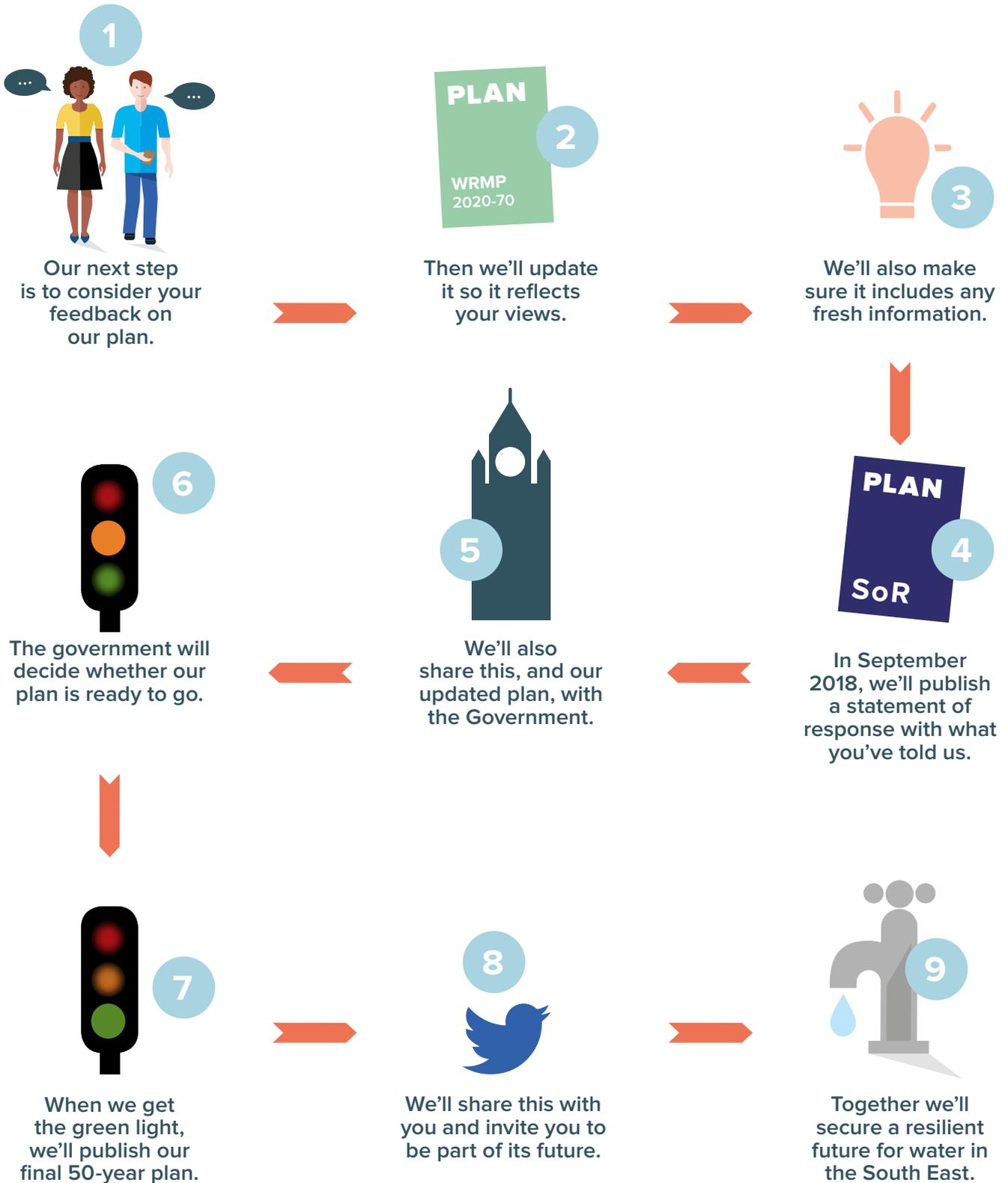
For every questionnaire Defra receives during the consultation we'll donate £1 to WaterAid to support access to healthy drinking water round the world.



Did you find the information you needed in our consultation? What else would you like to know?

If you'd like more information before sharing your feedback, download our draft WRMP technical summary and annexes at southernwater.co.uk/wrm.

What happens next





Get in touch
futureplans@southernwater.co.uk

Track our progress
southernwater.co.uk/haveyoursay

Follow us on Twitter
[@southernwater](https://twitter.com/southernwater)

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The full version of our draft WRMP includes a summary document and technical annexes. You can find these at southernwater.co.uk/wrmp.

Find out more and get involved at southernwater.co.uk/haveyoursay.

