



**REVISED WATER
RESOURCE
MANAGEMENT PLAN
2024: A SUMMARY**
AUGUST 2023

Foreword

Welcome to an overview of our revised Water Resource Management Plan (WRMP) 2024 and thank you for your interest in this important topic. This is a critical document, which sets out how we make sure we can continue to deliver clean, clear drinking water in the future, even in the most severe droughts.

We consulted on these plans in draft form between 21 December 2022 and 29 March 2023 and have used the feedback to help develop our revised plan which, if approved by Defra, will become our final plan.

East Anglia is one of the driest parts of the country and has been confirmed by the Environment Agency as being a Serious Water Stressed Area.

We are forecasting that there will not be enough water supplies to meet forecasted demand over the next 25 years and beyond. We need to prepare for worsening droughts. To do this we're taking a twin track approach to address this by working hard to reduce demand and putting plans in place to increase supply.

We are proud that overall leakage from our network and from our customer's homes is at one of the lowest levels in the water industry. However, we recognise that there is a lot more to do. Innovation is key and we will use all the latest technology to make our network smart as well as using satellite imagery to help us identify leaks more quickly. Reducing demand means we won't have to take so much water from the environment, or treat as much water, which will reduce the amount of energy and chemicals we use too.



We are forecasting that there will not be enough water supplies to meet forecasted demand over the next 25 years and beyond.

Increasing supply is going to need significant levels of investment. We work hard to provide the best balance between environmental protection and securing water supplies for the future, with maintaining affordable bills for customers.

The government sets targets for how much water people should use. To reduce demand and hit these targets we need to work together with our customers and with manufacturers and builders with a shared goal to use water more wisely. We also work with partners as part of a regional planning group to tackle national water resourcing issues.

A huge amount of work has gone into these plans so far, and groups of customers, stakeholders, and our customer challenge group, known as the Water Forum, have all been involved in shaping this revised WRMP.

The main plan is a large, technical document. There is also a non-technical version, called the Executive Summary which is still a detailed technical document version of the plan.

This document you're reading is called the Summary and is an even shorter document that aims to help you, our customers, understand what a WRMP is, and how it is used to plan your water services over the next 25 years and beyond. If you would like to read the full plan you can find it [here](#).

Your views have helped us take the right decisions and shape our final WRMP24.

I very much hope you find this document informative and encourage you to send in your views.



Heidi

**Heidi Mottram,
CEO**

Introduction

Our Purpose is caring for the essential needs of our communities and environment, now and for generations to come. We do this by providing reliable and affordable water services for our customers. We make a positive difference by operating efficiently and investing prudently, to maintain a sustainable and resilient business.



We provide water to **1.8m** people in Essex and **300,000** people in Suffolk

When you turn on your tap to make a cup of tea, have a shower or wash up, you expect clean, clear, and great tasting water to flow. It's our job to make sure this happens for you and that there is enough water for everyone in our communities and the environment – now and for generations to come.

The role we have in providing you with such an essential service is one we take very seriously.



Where your water comes from

In Essex we supply water to 1.8m people in and around Chelmsford and Southend and in the London Boroughs of Barking & Dagenham, Havering and Redbridge. In Suffolk we supply water to 300,000 people including those in and around Great Yarmouth and Lowestoft. Depending on where in the region you live, your water will come from one of four Water Resource Zones (WRZs):

Essex WRZ

We take water from local rivers such as the Chelmer, Blackwater, Stour, and Roman River which support winter storage reservoirs at Hanningfield and Abberton and treatment works near Maldon, Stratford St. Mary, Chelmsford, and Colchester.

In a drought year, only 33% of the water supplied comes from within the Essex WRZ, with the rest being transferred in from outside the area. This is because the water taken from our local rivers and the bulk raw water supply from Thames Water is not enough to meet demand.

Blyth WRZ

All the water supplied here is sourced from underground water-bearing rock known as the Chalk and Crag aquifers.

Hartismere WRZ

As in Blyth, all the water supplied here is sourced from the Chalk and Crag aquifers.

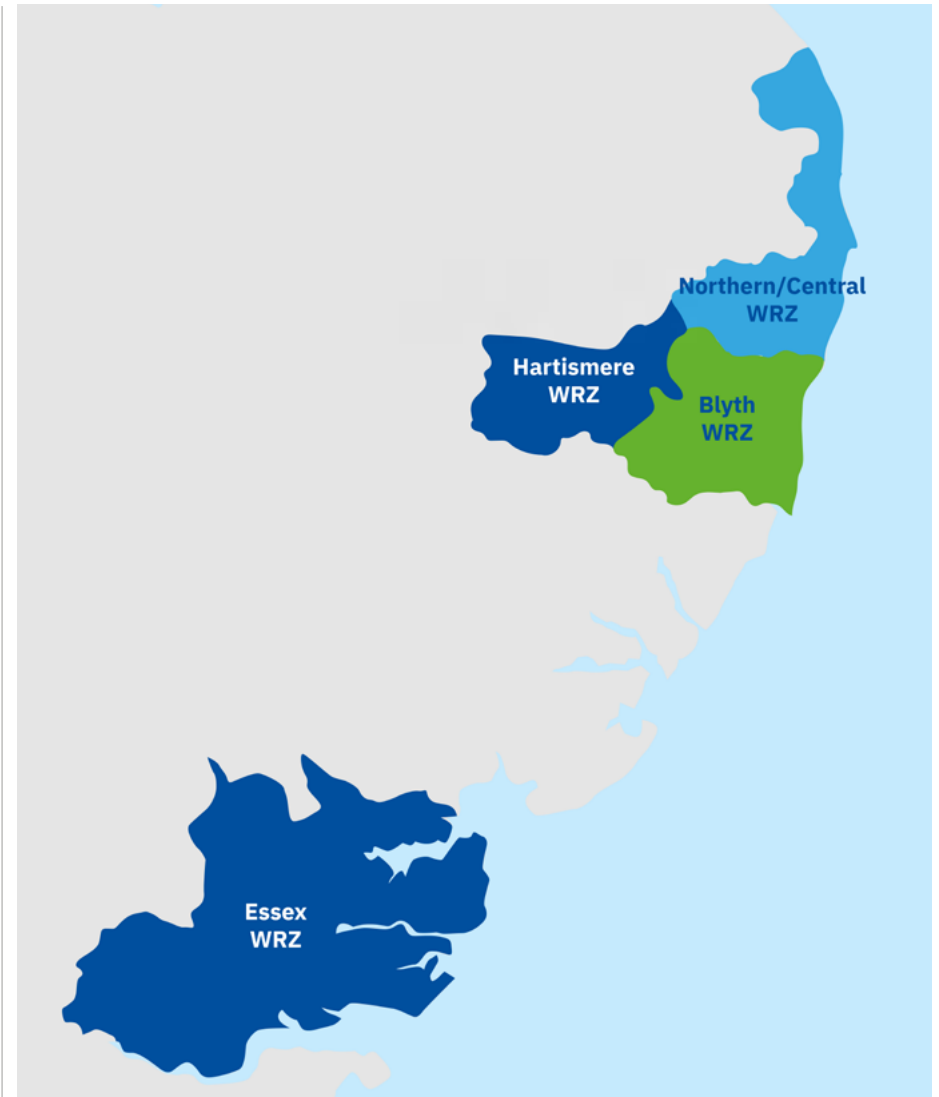
Northern Central WRZ

The majority of the water supply here comes from the River Waveney, the River Bure, and groundwater fed lakes at Ormesby, Lound and Fritton. The rest comes from the Chalk aquifer in the far north and south of the WRZ.

We're part of a wider regional group, called Water Resources East. Read more about this in [How we developed our dWRMP24](#).



Our supply area is in the driest part of the country.



Thinking ahead

Global warming is disrupting our climate and affecting weather patterns causing serious challenges to the world's water supply. It is resulting in more extreme drought, temperatures and rainstorms which cause flash floods. The water industry is so vulnerable to these climate hazards.

When we talked to our customers about this, they told us that investing now for the future to prepare for severe weather is important to them.

88%

of respondents were very concerned or a little concerned that Essex and Suffolk are water stressed areas

While we know the climate is changing, we can't be certain how quickly it will change and how this will affect rainfall and the availability of water, so we have tested our supplies against a range of different scenarios.

To do this, we have used the UK Climate Projections (UKCP), which is a set of tools and data that shows how the UK climate may change in the future.

The latest projections are called Climate Projections 2018 (CP18) and can be found [here](#). The climate change modelling shows us that both Essex and Suffolk are seriously water stressed areas. This means that demand for water in the future will be greater than the available water supply.

However, to make sure we have a reliable water supply for years to come, we need to do some careful planning - and our Water Resource Management Plan (WRMP) is where we do this.



Protecting our environment

As part of updating our WRMPs every five years, we agree a list with our regulators of environmental improvement actions we will take to further improve the environment around the rivers we use, our reservoirs and our land.

But our care and respect for the natural environment goes far beyond any legal requirements. We want the best outcome for the environment, in particular when our customers are in support of this and we can deliver these improvements in a way that is affordable for customers.

We're adopting low-carbon options where possible, and would like to build a new reservoir in North Suffolk and embracing nature-based solutions as a priority.

Working with the Environment Agency (EA), from 2020-25 we have many initiatives in place to make sure our rivers and aquifers (a body of rock that holds groundwater) are in the best possible environmental health.

This covers things like measures to protect eels, reducing the risk of spreading Invasive Non-native Species (INNS) or offering grants to farmers to help them reduce pesticides in river water.

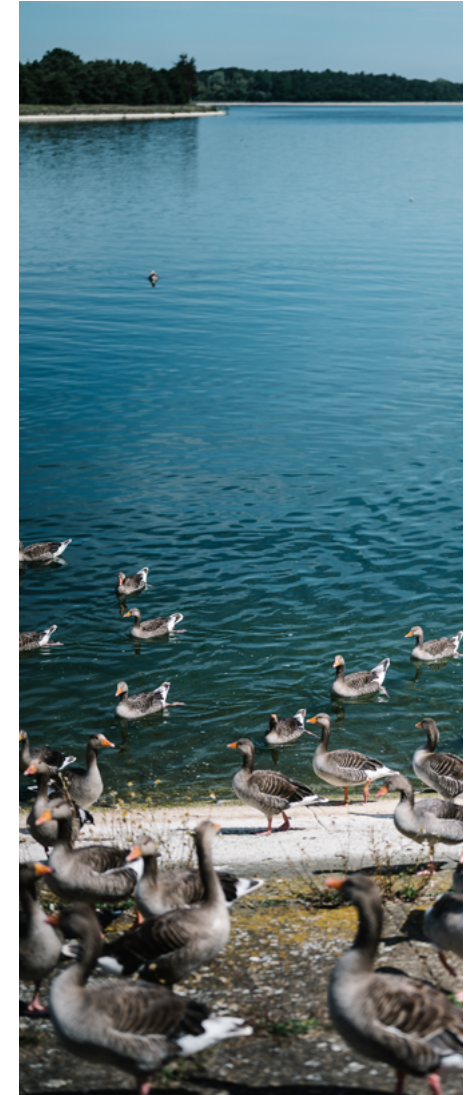
We've agreed with the Environment Agency to reduce how much water we take from aquifers from 2030 to make sure important groundwater dependent ecosystems including rivers and wetlands such as those in the Norfolk Broads, are not adversely impacted as populations grow and the climate changes.

Working in partnership is key to improving habitats and we continue to work collaboratively to increase biodiversity and address the impacts of climate change, for example, in the Trinity Broads in Norfolk and in the Blackwater and Layer Brook catchments in Essex.

For 2025-30, we've worked closely with regulators and stakeholders to identify what more we can do for our local environment. We've been thinking big with our overall aim being to create resilience in rivers and aquifers so they can support healthy habitats and diverse and abundant wildlife in the face of climate change, as well as having enough water for our customers' needs. We have now agreed a programme of work with the Environment Agency.

The water industry cannot solve these issues alone and we know that working in partnership with land managers, NGOs, local authorities, regulators, regional groups and the government can help us to achieve greater things for our environment and our people.

We're part of Water Resources East, read more about this [here](#).



Purpose of draft WRMP24

Over the following pages you will find a summary of our draft Water Resource Management Plan 2024 (dWRMP24).

The main revised dWRMP24 can be found [here](#).

We held a public consultation on our draft WRMP24 between 21 December 2022 and 29 March 2023.

We have since reviewed all of the responses we received and using them, have prepared a revised draft WRMP24 which subject to Defra approval, we envisage will become our final Plan.

The key change in this revised draft WRMP24 is that we may be required by the Environment Agency to further reduce how much water we abstract from the River Waveney and River Bure catchments. This is to make sure these important habitats are protected. If required, this will mean we have to develop additional new water supply schemes. Further information on this is provided on [page 22](#).



What is a Water Resource Management Plan (WRMP)?

The Government needs all water companies to plan for at least the next 25 years.

While our WRMP24 focuses on the next 25 years, we've looked ahead to 2100, because it can take a long time to design, cost and deliver the right schemes. We test multiple scenarios and monitor things that might change, so we're ready to adapt our plan if needed.

The main aim of a WRMP is to estimate how much water our customers and businesses will need in the future (demand) and consider this against the water that will be available (supply), and then look to find the best solutions to meet any future challenges.

We consider a range of options and put forward our preferred plan by looking at which ones provide the best value.

WRMPs are submitted to Defra (Department for Environment, Food and Rural Affairs) by all English and Welsh water companies every five years.

The WRMP is our plan for just one area of our business and forms part of our overall Business Plan for PR24 (the price review in 2024 where all water companies present their plans to Ofwat covering the period April 2025 to March 2030, and Ofwat decides what level of service we need to provide our customers, and what level we can set customer bills at).

More in-depth information can be found on our website www.nwg.co.uk/wrmp.

Our plan covers...

Supply

- Water available from 'raw' water sources including reservoirs, rivers, and underground sources.
- The amount of 'raw water' we can take without harming the environment.
- The effect of climate change demand for water and available sources.
- The amount our water treatment works (WTW) can reliably supply.

Demand

- Estimates of how much water people will use in the future.
- Impacts of population and housing growth.
- Our water efficiency plans to help customers save water.
- Saving water because of water meter installation.
- Reductions in leakage.

Outcomes

By planning, we will have sufficient water available to meet the forecast demand for water to 2065.

What's changed since our last WRMP in 2019?

In our WRMP19 (Water Resource Management Plan in 2019), we reported we had enough water to meet demand up to 2060 and did not need to take any action to increase supply.

Our plan committed we would reduce leakage by 17.5% by 31 March 2025 and promote water meters and water saving to our customers. Covid-19 and the associated lockdown restrictions has meant that fewer customers have chosen to switch to a water meter, but we are working hard to catch up and get back on track to meet our 2025 targets.

For our WRMP24 we, along with other water companies, have some new requirements from our regulators.

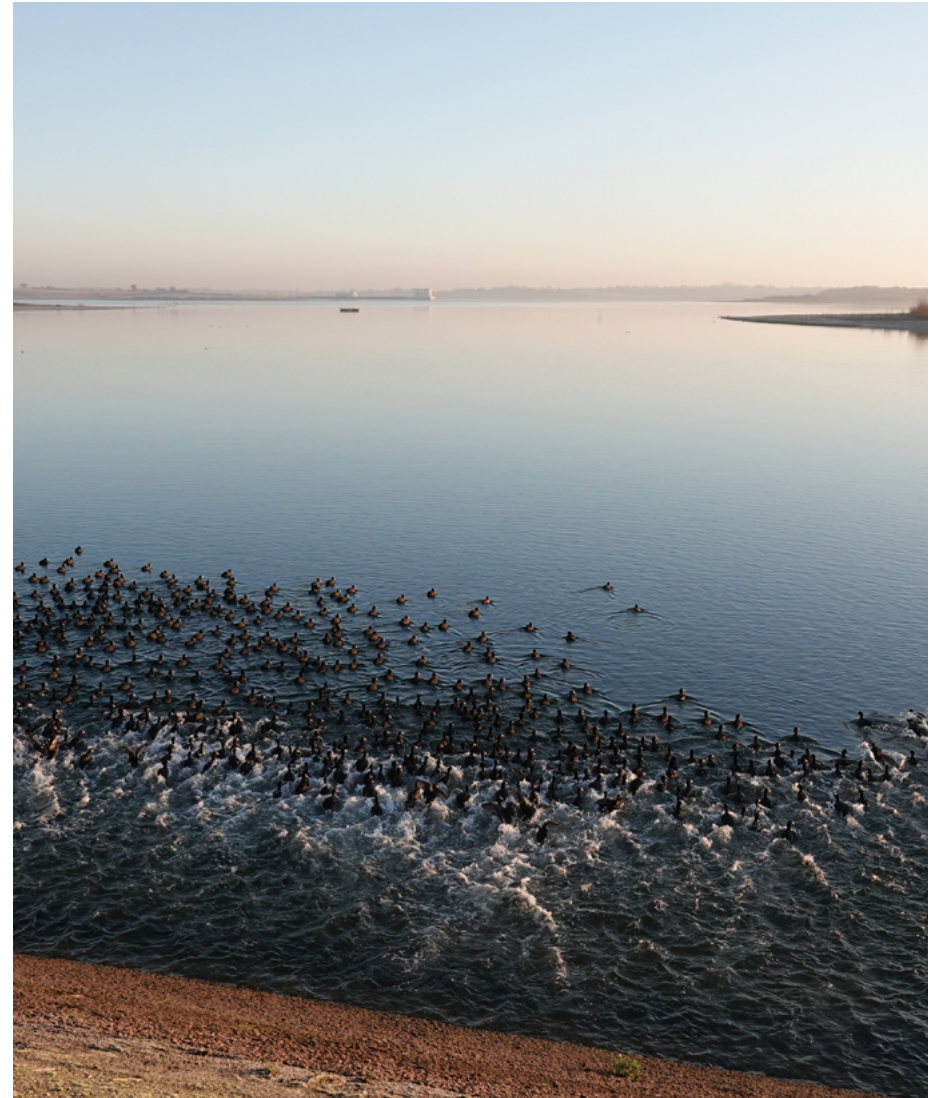
From 2040, we need to plan for extreme drought that could happen on average once every 500 years (in our WRMP19 it was once every 200 years), increasing the level of resilience that we need to plan for. At the same time, new information on the impact of climate change shows the effects on the amount of water available may be bigger in the future than previous data projected.

We also need to make sure there's enough water because the amount of water the Environment Agency (EA) permits us to take from the environment from existing sources will reduce from 2030. This is to make sure we take water in a way that is sustainable for the environment.

We are forecasting significant increases in water demand from businesses in Suffolk over the next ten years, beyond the level of growth we predicted in previous plans, further increasing the pressure. This includes requests for water from poultry farms, meat processing and energy sectors.



The environment also needs its fair share of water, so we are planning to leave more water in the environment than it currently needs to allow for climate change.



How we developed our dWRMP24

The water sector concluded that regional solutions will be needed to help solve national water resourcing issues and so over the previous 10 years, five regional water resource planning groups have been set up.

Along with Anglian Water and Cambridge Water, we're a core member of Water Resources East (WRE). Regulators, NGOs and The energy and agricultural sectors are also represented. We all work together to set out how the supply of water in the East of England will be managed for the next 25 years and beyond.

Our revised dWRMP24 links to the wider WRE regional plan, which has been developed at the same time.

Read more about WRE and the regional plan [here](#). We predict a baseline, an initial estimate of how much water will be available and what we think customer demand will be from 2025 to 2100.

Supply:

how much water we can take from existing rivers and reservoirs and treat at existing water treatment works. It considers climate change and any future changes to how much water the EA lets us take from the environment.

Demand:

how much water homes and businesses will need in each year of the planning period. It considers existing demand as well as new demand in the future from population growth.

We then compare the supply demand balance. We do this to see if there could be a water supply shortage (not enough water) or surplus (extra water) predicted at any point across the planning period.



We have tested the resilience of our water supply systems to an extreme drought.

Importantly, the baseline forecast is for a drought year (extreme drought), and we do this to make sure we won't run out of water, even in an exceptionally dry year. We need to be prepared for worst case scenarios and this is the best way to do that.

From 2040, we are required by our regulators to plan for extreme situations so that we don't need to impose extreme restrictions on water use more than once every 500 years. For example, if we needed to restrict water and only supply it at certain times of day or put standpipes in public places for people to draw water from instead of it being supplied to their homes.

As we go through the modelling process to predict how much water will be needed and how much water will be available, there are lots of factors to think about including laws and risks, but we follow guidance from the Environment Agency (EA) and work with external auditors to check our planning process is strong. Click [here](#) to read more detail about this.

Because we are forecasting for a long time into the future, there are uncertainties including how quickly the climate will change and how this will affect rain fall and river flows, so we're ready to adapt our plan if needed.

Since the WRMP24 consultation, our customers and stakeholders have continued to help shape this plan. We carried out three phases of research to help us understand which options for our plan had the most support. The research took place in the form on online questionnaires, panel surveys and face to face surveys. For more information on this click [here](#).

We have revised our preferred best value plan. Defra will then either approve our plan or ask us to make some further changes.

How safe is your water supply in the future?

We are predicting that without our intervention, demand for water could significantly exceed supply in our Essex and Suffolk supply areas and so we need to put plans in place now to make sure we have enough water in the future.

When we enlarged Abberton Reservoir between 2010 and 2014, we invested £150m and increased its storage by 60%, or 15billion litres, helping to secure the water supply in the region.

However, we now need to take further action to reduce demand and increase supplies, particularly in Suffolk. This is because:

- The Environment Agency (EA) is reducing the amount of water we are allowed to take from aquifers and rivers in 2030 to make sure there is enough water left for the environment.
- Non-household (business and industry) demand for water is increasing.

Climate change means drier summers. As temperatures in England are forecast to increase there will be a reduction in the amount of water available, particularly in rivers during the summer. However, almost all our groundwater sources are resilient to climate change. Partnerships with other water companies through Water Resources East and Water Resources North, further support the resilience of our future water supply.



Our region is classified as a seriously water stressed area by the Environment Agency and is prone to drought.



Water supply and demand

Supply side measures are the things we can do to increase the amount of water available to customers. Because we are predicting demand will outweigh supply if we don't intervene, this means we need to look at the different options to increase the supply of water to our customers.

These are things like new boreholes, water treatment works and reservoirs, desalination (the process of turning sea water into drinking water) and water re-use (recycling wastewater and treating it until it is clean and safe to drink).

Demand side measures are the things we can do to reduce the amount of water needed by customers.

We can't do this alone. The Government has a target to reduce personal water consumption (the amount used per person per day) to 110 litres per day.



That's about **seven** buckets of water per person per day!

We're delighted that last year Defra announced plans to introduce mandatory water efficiency labels for white goods, meaning customers buying showers, baths, taps, toilets, washing machines, dishwashers and garden related products would be able to see how water efficient those products are.

Building laws will also require new homes to be built with the 110 litres per person per day target in mind too.

You can play your part by using water wisely and making some simple savings.



Did you know leaving the tap on when you brush your teeth can waste 6 litres a minute?

There are more water saving tips [here](#).

17% of energy use in the home is used to heat water*. Saving water can also help lower your energy bills too.

[Try our water and energy calculator](#) to see how much you use, you might be surprised.

The government has also set a target to reduce business demand by 9% by 2038 and 15% by 2050. We cannot meet this target alone and so, among others, will work collaboratively with businesses, water retailers (business only), local authorities and the Environment Agency to help businesses become more water efficient and to make sure all new commercial and industrial development is water efficient from the start.



Demand for water

Households

The local authority and Office for National Statistics (ONS) forecasts a 24.5% increase in population in Essex and a 11.3% increase in population in Suffolk by 2050. An average of 8,638 new homes are expected to be built each year.

We're predicting that customers will use less water in the future thanks to water meters and wanting to be careful with how much water they use as we become more aware of the effects of climate change.

The current levels of water use and our forecasts for 2050:

	Avg. litres used per person per day in 2020/21	Avg. litres used per person per day in 2050 forecast	Avg. litres used per person per day in 2050 after we implement our plan
1 megalitre is 1 million litres			
Customers with a water meter	162.37	132.20	112.27
Customers without a water meter	168.23	143.00	112.77

Non-households (NHH's)

We forecast an increase in the amount of water used by businesses and industry over this period because of a growth of new businesses in the area, such as new free ports and power stations in Essex and new food processing and cosmetic factories, and a nuclear power station in Suffolk.

Until we develop new resources (2030), we are currently unable to agree to new requests for water in our Hartismere Water Resource Zone where it will be used for non-domestic purposes, such as processing and manufacturing.

	Average megalitres used per day for all NHH's in 2020/21	Average megalitres used per day for all NHH's in 2050 forecast if we don't take any action now	Average megalitres used per day for all NHH's in 2050 after we implement our plan.
1 megalitre is 1 million litres			
NHH's	61.1	89.2	89.2

Reducing demand

Water meters

Our long-term vision is for all households to have a water meter because they are an effective way to reduce water use.

By law we must install a meter for any customer who requests one. Being on a meter means you pay according to how much water you use, rather than by the rateable value of your property. Since 1990 all new homes have a water meter.

We've seen a drop in customers requesting water meters during Covid-19 and might not meet our targets for 2025.

We began installing smart meters outside houses that are currently unmetered in Dagenham in Essex in 2021. The customers weren't automatically charged by the meter but are given comparison bills to show them how they would have been charged, had they been using the meter. They can then decide whether to switch to metered billing or not.

Smart water meters (like smart gas and electricity meters) are self-reading meters that help you keep track of how much water you're using and how much it costs.

They're not to be confused with pre-payment or pay-as-you-go-meters.

When you know how much water you're using you can make responsible choices for yourself, your household, and your local community. They're a great way to reduce water demand and we've set ourselves a challenging target for all our meters to be smart by 2035.

As Essex and Suffolk are both classified as serious water stressed areas and are prone to drought, our strategy is to increase our smart metering programme – and introduce compulsory smart metering for all households in these areas.



By 2035 all properties will have a smart meter.

Along with helping customers to save water, this will help convey how they can contribute to drought resilience by reducing their demand for water. This must be done alongside reducing leakage.

We're also introducing smart meters for business users and providing water efficiency support for some business users for the first time since 2017 (when business retail competition was introduced).

We will also replace all existing water meters with a smart meter by 2030 in Suffolk and 2035 in Essex.

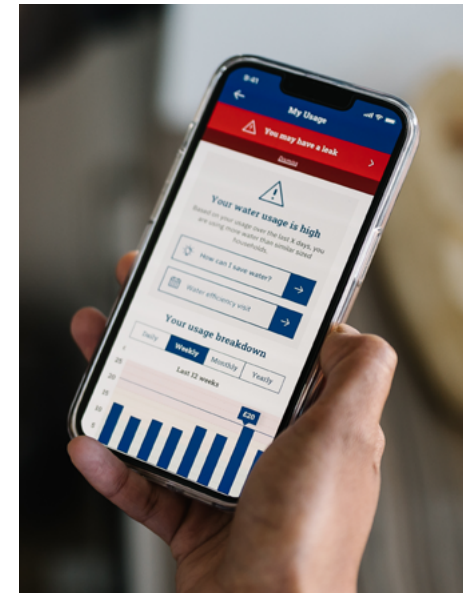
In some areas we're already installing smart ready water meters – this means the meter isn't smart enabled just yet, but it can be connected to the network at a later date, once there is a mast available to connect to.

Until then, we can drive by or walk by to read the meter meaning you will only be billed for how much you use.

Once connected to a network the meter will send us readings automatically, using a secure network.

Any customer who has previously had a meter installed and had chosen not to switch to measured bills will be automatically moved onto a measured tariff.

Over 2025-30 we're working hard to promote the benefits of having a smart meter as a way of helping to reduce demand.



What are the advantages of a smart meter for me?

- Track your water usage on our app with hourly, daily, weekly, and monthly views.
- By saving water you reduce your carbon footprint and could also reduce your energy bills.
- Get an alert if there's a potential leak in your home.
- No more estimated bills.
- We don't need to visit your home to read your meter.

You can find out about all the benefits in [this video](#).

In most cases the meter will be free unless you decide you want it to be in a different place to where we recommend.

Non-households (businesses) can also benefit from more accurate bills, easier and faster leak detection, higher energy and water savings and less impact on the environment.

What customers said:

Compulsory metering divided our customers but was supported overall by 58%. Even though it was one of the least supported solutions, customers saw that it has its positives and its negatives.

Future customers (younger people who aren't yet bill payers) show lower support for compulsory metering, with only 14% 'definitely supporting' it.

Our customers said support for compulsory metering is dependent on individual circumstances. They expressed empathy and concern towards those who have larger families and are on a low income.

As the cost of living and utility bills rise, we understand it's a difficult time for many. If you're struggling to pay your bills or falling into debt, please [get in touch](#).

There are many ways we can help you, from payment breaks and low-income discounts to advice on saving water which can help lower your energy bills too.



Compulsory metering will mean a 3-7% reduction in water use.

Promoting water efficiency

We have been coming up with innovative ways to encourage our customers to use water wisely for more than twenty years. So that we can all play our part in protecting our environment, we are aiming for customers to use 118 litres per person per day by 2040 (110 litres per person per day by 2050) but need your help to achieve this.

Every customer who commits to using less water helps us to reduce the amount of water that we will need to take from rivers, lakes and groundwater and treat at our treatment works. This means more water is retained in the environment and that we use less chemicals and energy, all of which is an environmental benefit too.

We have lots of ways to help you save water, energy, and money. From 2025-30 our plan is to help our customers to be more water efficient.

Using data, we can spot who our top 5% highest water users are. Those customers might not know they have a leak or there may be another reason they are using a lot of water. There are many ways we can help from offering tailored advice and free water saving devices, [free repairs of leaking toilets](#) and help finding leaks.

Our goal is to help them achieve genuine long-term water savings through behaviour change action.

We can also offer water efficiency visits to customers who currently don't have a water meter installed and again, offer tailored advice to help them understand the many ways in which they can use less.

We'll continue to communicate the importance of identifying and repairing leaking toilets, taps and overflows. We can help you find a Water Safe plumber too. We'll also offer rebates to customers who install a high efficiency toilet.

Working with house builders we want to install a device to the water meter that regulates the amount of water into the home without compromising any of the customer's appliances. Initial research shows this would save around 34 litres per property per day.

For customers living in blocks of flats or who own multiple properties we have a dedicated team of leak advisers to liaise with homeowners, landlords and associations. Their job is to find and fix leaks to eliminate the 5-8% of toilets that leak every day.

Our online educational resource for schools aims to change the water use behaviours of future generations at a large scale. Known as The Ripple Effect, this work will be adapted for Early Years, Key Stages 1, 2 and 3 as well as colleges and universities. The Ripple Effect isn't just focused on schools as the tool can be used by parents and community groups too. The content can be used towards eco school status, fun activities for after-school clubs as well as

in Scout and Brownie groups.

We'll increase our future bill payers' awareness about the impact to the environment, the effects of climate change and how they can become a water efficient generation.

Our website is becoming a one stop online digital engagement platform for water efficiency and will provide customised advice, services, information, and guidance to change behaviour on a large scale. This platform will be accessible whenever you want to engage with us at times when your water consumption may change - whether that be moving home or having a baby – the platform will help you understand your water use and how that will impact our supply-demand balance on micro scale to support our wider plans.

We're also part of a nationwide campaign to support and increase awareness of water saving with support from Waterwise and all water companies.



Did you know a leaking toilet can flush £200 a year down the drain?

What customers said:

This was the option with the second highest level of overall support (81%) – behind company-side leakage reduction (86%). Water saving devices also had significant support amongst respondents. They feel this can be a positive solution as it will help save money and reduce their environmental impact. Some respondents were skeptical how effective these devices can be. Focus group respondents also highlighted how education is key.

Reducing leakage

We don't want to waste precious water through leakage, and we know this is important to our customers too. They especially want us to repair visible leaks quickly.

For 2020-25 some of our key projects have included:

- Investing in our systems and models . This allows us to get better at predicting how much water will be needed and how much water will be available. It means we have more confidence in knowing where

water is being consumed. Smart water meters will significantly improve our understanding of how and when people use water and help us and our customers to find leaks more quickly.

- Installing pressure reducing valves which automatically adjust the pressure throughout the day, depending on the flow in the network. This minimises the excess pressure in an area, reducing the flow rates from customer taps and any leaks.

- Reducing leakage by looking at new ways to find and fix leaks using digital twins (virtual models that replicate our network), acoustic loggers (a little device that can 'listen' for leaks and alert us) and satellite surveys.

We talked to customers about why leakage occurs and how some of it comes from big bursts, largely due to extreme weather, but most of the leakage comes through tiny invisible leaks (leaking water isn't always visible above ground), all along our vast network of pipes and are very hard to find.

Innovation will be a key. We're trialling new technology to help us find and fix leaks more quickly and have been awarded funding from the Ofwat Innovation Competition to help us do this.

One of our biggest projects is the National Leakage Research Centre which will provide the facilities to accelerate new ideas in this space and help us towards our future goals.

A hydrophone is a microphone designed to be used underwater for recording or listening to underwater sound and we plan to permanently install these in our network. This will allow us to quickly identify when and where a leak has occurred on our network so that we can reduce the amount of water lost.

The pipes that connect your home to our network can also leak. These pipes are the customer's responsibility, although a lot of people don't know this.

We've already been involved in exciting trials working with a company called Origin who are developing a product called "No Dig" which will enable us to repair leaks from inside the pipes, reducing the need for digging up the road and disrupting traffic. This groundbreaking product is a gel that can be pumped into the pipe, it will squeeze through any gaps to seal the surrounding ground and prevent water from escaping.



We will reduce leakage by 40% by 2050

Our customers told us:

Company side leak reduction had the highest support of all the options for our plan as a first solution. It has low impact on wildlife and helps reduce wastage, making the network more efficient.

We don't have any plans to further reduce water pressure because there is only a finite number of areas where we can reduce pressure without compromising customer levels of service.

There is a government target nationally to reduce leakage by 50%. In the water industry, we have always been a leading company in the field of reducing leakage and because of this, trying to further reduce our already leading performance would be too difficult. The cost for us to further reduce leakage goes up more rapidly when you reach a certain point because we would need to replace many pipes, and this would not be in the best interests of customers in the region.

Therefore, we aim to reduce leakage by 40% by 2050 instead. This is still a very challenging but achievable target.

As 2050 is a long time in the future though, we will review the target as our plan adapts over time. For example, as more people move to smart meters, we will have more data and can improve our knowledge as well as finding and fixing leaks faster.

Increasing supply

Reducing demand for water alone isn't enough to make sure we have a plentiful supply of clean, clear drinking water in the future.

We have also had to investigate what the least cost, best value, and best for the environment options are to increase the supply of water available to our regions.

In Essex

Our plan contains the following schemes.

Linford Water Treatment Works

We will build a new water treatment works to treat water from both an existing and a new borehole. A borehole is a deep, narrow well that taps into naturally occurring underground water. This scheme will be complete by 2027.

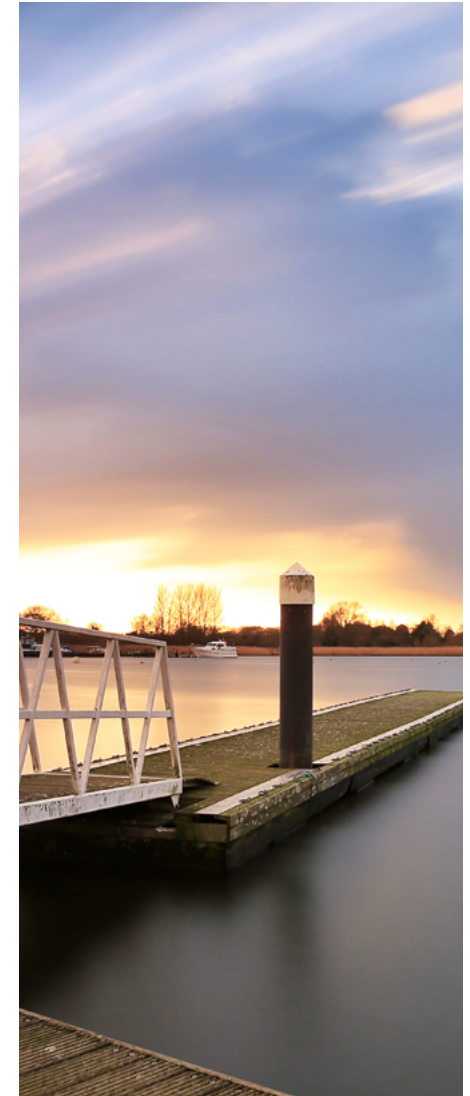
Langford and Langham Nitrate Removal

We will build a new nitrate removal process at our Langham and Langford WTWs in Essex. This is because the nitrate concentrations in river water during the autumn and winter are staying elevated for longer. Nitrate is a naturally occurring compound formed from nitrogen and oxygen atoms. It occurs naturally in all surface water and ground water although higher concentrations tend to occur only where fertilisers are used on the land. To make sure we can continue to meet the very strict drinking water quality standard for nitrates, we now need to install new processes to remove it.

We will take a twin track approach and also continue to work closely with land managers to try and reduce the amount of nitrates in river water that comes from using fertilisers.

Langford WTW Upgrade

In addition to the nitrate removal scheme, we are planning to build a new process using clarifiers (settling tanks generally used to remove solid particles from liquid) to help us treat water from our Abberton reservoir. We will also install UV (Ultra Violet) to eliminate cryptosporidium which is present in river water.



In Suffolk

Linking our Water Resource Zones

Our plan is to build new pipelines that will allow us to move water around our network from places with extra water to areas with a water shortage. These new pipelines will connect our Blyth, Hartismere, and Northern Central WRZs.

Northern Central WRZ has a small surplus initially so once the new pipeline is built, it can share water with Blyth and Hartismere WRZ.

We can build a pipe much quicker than anything else so we are forecasting that these schemes will be ready by 2028. The benefit here is that we'll be able to move water to areas that have less, meaning our customers in those areas can have a reliable supply of water in the future.

New treated water storage reservoirs

We will build new treated water storage reservoirs in Hartismere and Northern Central. These reservoirs are small in comparison to Abberton, for example. They usually hold a few days' worth of supply but would give us extra resilience in Suffolk in the future.

New pipeline

We will install a new pipeline from an existing well near Bungay to a nearby water treatment works by 2030 to increase capacity in the area.

River Waveney Nitrate Removal Scheme

We are going to build a new nitrate removal process at our River Waveney WTWs near Beccles in Suffolk. This is because the nitrate concentrations in river water during the autumn and winter are staying elevated for longer. Nitrate is a naturally occurring compound formed from nitrogen and oxygen atoms. It occurs naturally in all surface water and ground water although higher concentrations tend to occur only where fertilisers are used on the land. To make sure we can continue to meet the very strict drinking water quality standard for nitrates, we now need to install new processes to remove it.

We will take a twin track approach and also continue to work closely with land managers to try and reduce the amount of nitrates in river water that comes from using fertilisers.

Lowestoft and Caister water reuse schemes

Water recycling plants treat wastewater to a high standard and release it back into a river or reservoir. Thinking about wastewater being reused as drinking water can be off-putting but our drinking water has the strictest limits on it for cleanliness and a reuse plant strips everything out. It's like the process for desalination which turns sea water into drinking water.

We would buy wastewater from Anglian Water. Once treated we would discharge very clean water from the water recycling plant into a river where it would mix with river water, and travel for a distance of at least a mile, before being taken into an existing water treatment works that has spare capacity, where it would be made clean and safe to drink.

The water recycling scheme at Lowestoft would be ready by 2030. It's likely that we could build this quicker than we could build a new reservoir. The scheme at Caister is not needed until 2045.

Our adaptive plan

Our best value plan is an adaptive plan in case available water supplies and customer demand turn out differently to what we have forecast.

We have tested our plans and where there is a risk of our supply and demand forecasts out turning differently, we have identified alternative investment programmes which may require supply schemes to be built earlier or may require different supply schemes to those in our preferred plan. We have adaptive investment programmes for the following:

- **High customer demand:** If customer demand (per capita consumption or PCC) remains significantly higher than we have forecast.

- **Abstraction Sustainability:** If environmental investigations in 2023/24 and 2025/26 conclude that the amount of water we are permitted by the Environment Agency to abstract from rivers and groundwater each year must be further reduced.
- **North Suffolk Reservoir:** If the detailed design stage (commencing Autumn 2023) confirms that the Norfolk Suffolk reservoir can be delivered one year earlier than currently is the case, then we would look to deliver it rather than Lowestoft Reuse, the latter of which is less preferred from an environmental perspective.

There will be certain points in the future where we are required to make progressive decisions. Depending on all of the above, we might need to adapt or change our plans. Further detail is included in our Executive Summary and of course in our WRMP24 main report.



In Essex

High Customer Demand Adaptive Programme

This programme is only needed if customer demand, known as per capita consumption or PCC, does not come down in the coming years as quickly as we are forecasting it too.

We will review PCC every June and decide in 2026 whether this programme is needed. The programme might require a new scheme called Southend Water Reuse. Water Reuse plants treat wastewater to a high standard and release it back into a river or reservoir. Thinking about wastewater being reused as drinking water can be off-putting but our drinking water has the strictest limits on it for cleanliness and a reuse plant strips everything out. It's like the process for desalination which turns sea water into drinking water.

Once treated we would discharge very clean water from the water recycling plant into Hanningfield Reservoir where it would mix with reservoir water before being taken into our water treatment works where it would be made clean as normal and safe to drink. We have spare capacity at Hanningfield Reservoir to treat water so installing a new pipeline to Hanningfield makes this a good option.

However, there is an alternative to building Southend Water Reuse scheme which is to delay the improvement in our levels of service for the most extreme drought restrictions (Level 4) until 2035. Currently, our plan is to not impose extreme restrictions (e.g. rota cuts) more than once every 200 years on average, improving to no more than once every 500 years on average in 2031/32. Deferring this change to 2035 means we avoid the need to build Southend Water Reuse.

We are a water only company, we don't provide your wastewater services. These are provided by Thames Water or Anglian Water, depending on where you live. We would buy wastewater from Anglian Water.



In Suffolk

North Suffolk winter storage reservoir Adaptive Programme

Winter storage reservoirs are generally manmade structures where excess water is collected during periods of heavy rainfall over the winter. A winter storage reservoir is a low carbon option that is great for the environment in many ways. We don't have to use a large amount of electricity as it is low level pumping (Suffolk is relatively flat) and only over relatively short distances. It will also allow us to create hectares of natural habitat to help wildlife to thrive in the area. For example, when we expanded Abberton Reservoir we created one of the best wetland sites for birds in the country.

Our best value plan is to complete Lowestoft Water Reuse scheme first because we think we can deliver it more quickly. However, we're going to complete further work to see if we can build the North Suffolk winter storage reservoir more quickly and instead of the Lowestoft Water Reuse scheme. In the long term, a reservoir is a better and more environmentally friendly option. We will complete further detailed designs by 2026 and will then decide whether we construct the North Suffolk Winter Storage Reservoir or the Lowestoft Water Reuse Scheme.

Abstraction Sustainability Adaptive Programme

Since we published our draft WRMP24 for consultation, we have been asked by the Environment Agency (EA) to plan for further reductions in the amount of water we can abstract from rivers and lakes in the Norfolk Broads. The EA hasn't confirmed what the annual reduction in water abstracted from our existing sources should be. We have assumed a reasonable worst case scenario to make sure our plans are as robust as can be. The extra reductions in water abstracted from existing Broadland sources (in the worst case scenario) would cause new supply deficits, meaning there would not be enough water to supply demand.

In this instance, and to maintain a supply surplus, we may need to develop the North Suffolk Winter Storage Reservoir and the Caister Reuse scheme as well as our preferred plan. We will agree with the EA whether we need to do this once it has completed its investigations in 2024.

What our customers say:

Winter storage reservoirs and new pipelines had high support at all stages of the research. Wastewater reuse schemes (which was tested as water recycling plants) was amongst the four options with the highest support. Water recycling plants appealed to focus group respondents thanks to the 'recycling' element and the high amount of water generated. Among future customers water recycling plants is the most supported demand option.

Delivering our plans affordably

We know that clean and clear water is a priority for our customers. The investment that Ofwat allows for these plans will help us to continue to provide this essential service long into the future, but the cost of investments will be added to customer bills.

We know that this is a difficult time for customers with the current cost of living pressures that we are experiencing. Alongside our dWRMP24 we continue to work hard to make sure that our bills remain affordable for all.

There is a lot more that water companies need to do in the future than has been delivered in the past meaning we require a much larger investment across all areas of our business, for example, meeting the Government's targets to reduce storm overflows will represent 'the largest infrastructure project to restore the environment in water company history'. (Storm overflows operate in times of heavy rainfall and act like a relief valve on the sewer network to protect homes from sewer flooding).

We are working hard with our partners to meet the challenge, but the scale of new work is substantial.

We have developed our plans with our customers in mind to manage the impact on customer bills while making sure there will be enough water in the region in the future. We will consult customer and stakeholders to understand their preferences and priorities on the final WRMP in 2024 and then the draft PR24 Business Plan as a whole 'acceptability research programme' later in 2023.



What is zero water poverty? We currently define water poverty as when a household spends more than 3% of its disposable income on water and sewerage charges.

We will be able to give a more holistic view of the possible impact on bills across all services so we can build future plans that meet those priorities and balance the need for investment with affordability.

The impact of the 'best value plan' that we are proposing would be around an 11% impact on charges in the region.

As the cost of living and utility bills rise, we understand it's a difficult time for many.

If you're struggling to pay your bills or falling into debt, please [get in touch](#).

There are many ways we can help you, from payment breaks and low-income discounts to advice on saving water which can help lower your energy bills too.



Response to our consultation and next steps

Thank you to everyone who responded to our draft WRMP24 consultation.

The consultation took place from Wednesday 21 December 2022 to Wednesday 29 March 2023.

The consultation was open to all although statutory consultees included:

- The Secretary of State, Defra
- Ofwat
- Environment Agency
- Consumer Council for Water
- Natural England
- Local Authorities within our supply area
- National Park Authority
- English Heritage
- Navigation Authorities

We have reviewed all the consultation responses and have used these to develop our revised draft WRMP24. We have prepared a consultation Statement of Response which confirms how we have taken account of each response.

The Statement of Response, revised draft WRMP and this customer summary document, can be found on our website [here](#).

Defra will review our revised draft WRMP24 in Autumn 2023 and will either direct us to publish it as a final plan or will direct us to make further changes. We envisage that we will publish our final WRMP24 in late Autumn 2023.

