Anglian Water

1. STRATEGIC DIRECTION STATEMENT 2020-2045

RESPONSIBLE BUSINESS OF THE YEAR 2017
BUSINESS IN THE COMMUNITY

THE QUEEN'S AWARDS FOR ENTERPRISE: SUSTAINABLE DEVELOPMENT 2015

love every drop.
anglianwater

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EXECUTIVE SUMMARY

FOREWORD FROM OUR CEO, PETER SIMPSON

Welcome to our 25-year Strategic Direction Statement (SDS). In it, we set out our vision for the future we want to achieve, looking ahead to 2045. It refreshes and updates our first SDS, which we published as part of the 2009 Price Review. We assess the long-term challenges we face and set the scene for delivering the outcomes we have agreed for customers and the environment in the face of these challenges. The detail and pace of action and investment will be developed in our five-year business plans, starting with PR19.

Water is our business. We handle with care and we don't cost the earth.

UNDERSTANDING OUR CUSTOMERS

In refreshing our Strategic Direction Statement, we wanted to deepen our engagement with our customers to understand how their needs and expectations are changing, and how those vary between different groups of customers. We consulted on our draft Statement in the widest sense – with customers and our partners and stakeholders. We had in-depth discussions with more than 1,300 household customers and nearly 500 non-household customers. We established an online community, which gave us an 'advisory board' made up of engaged customers with whom we could talk in depth about their needs and our plans. This hugely enriched our understanding of our customers... and changed their view of us.

Our customers welcomed our openness and transparency. They wanted to see the specifics of how we are going to deliver and shared our concerns around our challenges. In turn, they challenged us to be a leading innovator and rethink accepted industry standards for cleaning, moving and recycling water. Customers want to see us speak up and influence on the things that matter to them, to collaborate nationally and internationally, and be a pioneer in smart ways of managing water and water recycling.

In response, we've changed our long-term ambitions. Customers told us that the ambition to 'better serve customers by driving digital transformation' that we included in our draft was what they expected us to be doing as part of normal business. We agreed. We'll still need to innovate on a broad scale to deliver true digital transformation so it becomes part of ways of working.

After listening to our customers and stakeholders, we've increased our emphasis on natural capital approaches, including catchment management and working with all kinds of land managers as well as farmers. And we've stepped up our plans for smart metering and billing and for engaging with customers and developers on water efficient homes. We're conscious, too, of our wider responsibilities to our communities, exemplified by sustainable development plans, like Wisbech 2020. All five capitals: natural capital, social capital, human capital, built capital and economic capital are relevant and have informed our SDS.

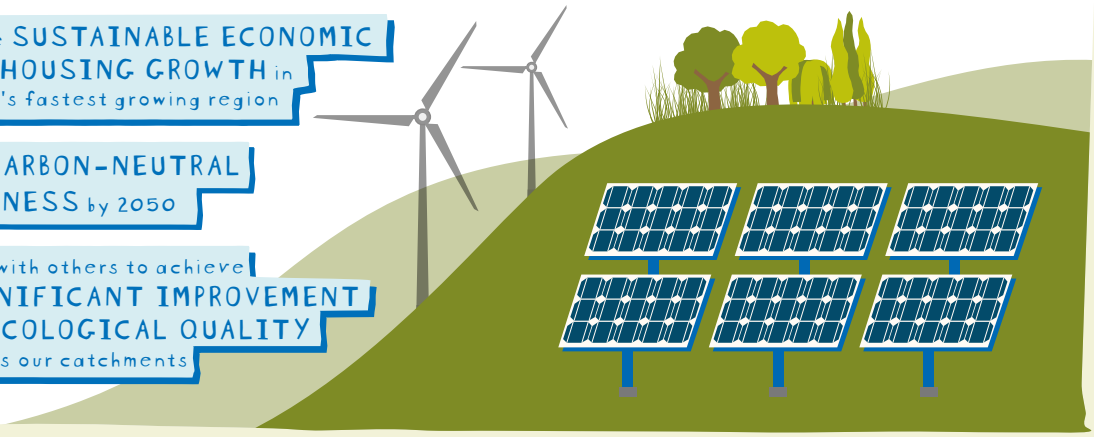
OUR AMBITIONS FOR THE FUTURE

We believe that setting stretching long-term goals helps drive us to make major improvements. We've talked to our customers about what matters most to them, and about our role in the region. We have agreed four new long-term ambitions to help guide our planning:

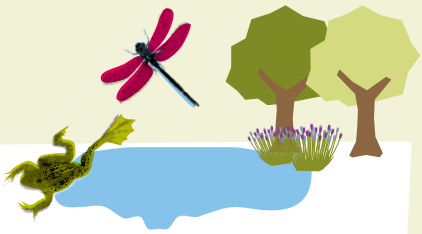
- Make the east of England **RESILIENT TO THE RISKS OF DROUGHT AND FLOODING**
- Enable **SUSTAINABLE ECONOMIC AND HOUSING GROWTH** in the UK's fastest growing region
- Be a **CARBON-NEUTRAL BUSINESS** by 2050
- Work with others to achieve **SIGNIFICANT IMPROVEMENT IN ECOLOGICAL QUALITY** across our catchments

Our customers agree that the 10 outcomes we set out in 2013 are still broadly right for them. However, we are taking the opportunity to update them to stretch ourselves further and reflect how central our people are to delivering everything we do.

Affordability remains a central concern for us. We will continue to develop the ways we support customers who are in circumstances that make them more vulnerable.



OUR WAYS OF WORKING



To continue to deliver our outcomes and transform our customer service, we'll need to strengthen and develop our ways of working. We're proud of our record of open, transparent engagement and communication and we'll continue to deepen and extend our collaboration with partners across the region. We will embed our culture of innovation and take the best of emerging digital technologies to engage with our customers and manage our networks. We will explore the opportunities that thinking at catchment scale offers to deliver new water supplies, reduce demand and reduce impacts on the environment. And we'll speak up on the big questions that affect our region's growth and sustainability to find the best approaches to serve our customers.

"Anglian Water comes across much more as a forward-thinking and proactive company. If they can scale this kind of engagement to the general population, they will be leading the way."

James W, Age: 35–54

THIS REPORT SETS OUT OUR STRATEGIC DIRECTION FOR THE NEXT 25 YEARS. IT AIMS TO CREATE A FRAMEWORK THAT SUPPORTS THE SUSTAINABLE DELIVERY OF THE OUTCOMES OUR CUSTOMERS VALUE MOST.

CONTENTS

This is Anglian Water's second Strategic Direction Statement and updates our 2007 Strategic Direction Statement
www.anglianwater.co.uk/sds

INTRODUCTION

A long-term view

Water is a long-term business. Our ability to provide excellent services for our customers in the future depends on making the right choices now. Of course, no one can know precisely what the world will be like in 25 years' time: how the needs of customers and society more broadly will develop; what future technology and markets will be like; exactly how the climate and environment will change; or what new challenges will emerge.

So this document is not a blueprint. Instead, it sets out the challenges we face and the long-term future we want to achieve. It refreshes our 2007 Strategic Direction Statement with a vision of our role as a 21st-century water company against the backdrop of increasing pressures on water resources and the environment, rapid regional housing and economic growth, an industry undergoing structural changes and increasing customer expectations.

In this volatile and uncertain future, we will pursue strategies that support sustainable growth, increase our resilience to shocks, protect the environment and leave us flexible enough to adapt to change to meet the needs of our customers.

Love Every Drop

As a business, we recognise that water is vital to the success and long-term future of our planet, our region and ourselves. So sustainability is just how we do business, all day, every day. Our whole ethos is embodied in our Love Every Drop approach that embeds sustainability throughout our operations; in 2015, it won us a Queen's Award for Enterprise, and in 2017 we were named the Business in the Community Responsible Business of the Year.

Natural capital

We are a natural capital business: we rely on healthy ecosystems to supply water, to help manage floods and to help us recycle water after it has been used. We have worked with the Anglian Centre for Water Studies at the University of East Anglia and taken advice from our Sustainability and Resilience Panel, part of our Customer Engagement Forum, to improve our understanding of the extent and state of natural capital in our region. Understanding the risks that natural capital stocks face and the opportunities for better management will help inform our decisions on how best to secure long-term water resilience, reduce flood risk, reduce our carbon footprint, enable sustainable housing and economic growth, and support healthy lifestyles. This analysis means we can map catchments where natural capital stocks are under pressure, which helps us prioritise our activities to protect them.

The pressures on natural capital, from abstraction, development, land management and other sources, interact. We will explore these interdependencies and interactions and share information with the other stakeholders that depend on and manage natural capital stocks in our region.

Outcomes: the future our customers want

In 2013, we agreed 10 long-term outcomes that we will deliver for customers and the environment. This outcomes-based approach underpins all our work: our business planning; the way we report and are rewarded for our performance; and the way we work day to day.

For this Strategic Direction Statement, we looked again at our outcomes with our customers. We believe they remain fit for purpose, but, we are taking the opportunity to update them to stretch ourselves further and reflect how central our people are to delivering everything we do. Our customers want us to use smart technology and focus sharply on improvement. They want us to stay open and transparent in our actions, putting customers first.

We will continue to deepen our understanding of how our customers' needs and expectations are changing, and how these may vary between different customer groups.

Affordability and vulnerability

Affordability is an important issue for us and for the water sector as a whole. We continue to focus on efficiency and innovation to keep bills affordable and acceptable for everyone. Affordability is not the whole picture though. Customers find themselves in various circumstances that may make them vulnerable at different points in their lives. By better understanding customers' lives and the trigger points that may tip them into vulnerable circumstances, we can find better ways to help. Customers tell us that, when life is hard, we need to make it easy to do the right thing and we can help by working with other organisations that support them.

OUR STRATEGY IS GUIDED BY THE THINGS OUR CUSTOMERS HAVE TOLD US ARE IMPORTANT TO THEM

The challenges we face today are fundamentally very similar to those identified in 2007. However, we have modernised the way we address these issues. We can't predict exactly what the world around us will look like in 2040, but we can commit to achieving the outcomes our customers expect from us, even in the face of our biggest challenges.

Why this outcome?
Our monopoly status and rising living costs make it particularly important that both our charges and our profits are perceived to be fair.

To meet this outcome...
We must be an efficient company, quick to address challenges of **affordability**, and embrace development of markets that benefit our customers. We must retain investor confidence as new **markets** and changes to the regulatory **structure of the industry** generate new kinds of risk.

Why this outcome?
Customers expect us to be prepared for future challenges. This means proactively maintaining our water and water recycling assets.

To meet this outcome...
We must **plan for the long term**, making timely investments to ensure intergenerational equity between current and future customers. We must maintain **affordability** for current customers without deferring onerous costs and risks for future customers.

Why this outcome?
In order to deliver the continuous service our customers expect, we must ensure that our business is designed to cope with disruptive events, especially those associated with increasingly common severe weather conditions.

To meet this outcome...
We must ensure our assets are designed to cope with the most severe events, such as drought and flooding, especially as **climate change** leads to an increased frequency of such events. This requires a step change over and above simply meeting increased demand from **population growth**.

Why this outcome?
Customers are increasingly concerned about the impacts of climate change. As the largest energy consumer and emitter in the east of England, we have a responsibility to reduce our ecological footprint.

To meet this outcome...
We must find sustainable ways of meeting increased demand created by **population growth**, taking into consideration the acute impacts **climate change** will have in our region.

Our approach to sustainability will have a positive impact on **affordability** and engaging in new **markets** will drive efficiency and innovation.

Why this outcome?
The natural environment is the foundation of our business and the broader regional economy. To ensure the long-term sustainability of our business, our operations must enhance rather than degrade the environment.

To meet this outcome...
We must take a proactive approach to managing **environmental pressures** that takes into account the long-term impacts of **climate change** and **population growth**.

Why this outcome?
Customers rely on our people. Attracting, developing, retaining and partnering with the best talent is therefore a bedrock of our business.

To meet this outcome...
We will champion health, safety and wellbeing; develop new talent; and nurture an efficient, customer-focused workforce.

Why this outcome?
Our activities have a broad impact on the communities we serve. We aspire to act as a responsible citizen, taking consideration of the views of community members.

To meet this outcome...
We must meet **customer expectations** of a tailored and inclusive service. One of our key roles in this area is to act as a facilitator for **economic growth**.

Why this outcome?
Customers view the provision of safe, clean drinking water as the most vital service we offer.

To meet this outcome...
We must mitigate threats to water quality generated by **environmental pressures** and **climate change**. Should new upstream **markets** emerge, new supplies must compete on quality as well as cost.

Why this outcome?
Putting our customers' perceptions at the heart of everything we do will ensure that we are making the right decisions.

To meet this outcome...
We must address challenges associated with changing **customer expectations.**

Why this outcome?
Managing increasing demand on our water and wastewater systems will be critical to ensuring we deliver a sustainable, continuous service over the long term.

To meet this outcome...
We must **plan for the long term**, taking a twin-track approach to demand management and securing new supplies in order to meet the combined impacts of **population growth**, **climate change** and **environmental pressure**.

The global context

We live on a planet with finite resources and a growing population. We are mapping our contribution to wider societal goals by aligning our activities and outcomes with the United Nations Sustainable Development Goals (SDGs).

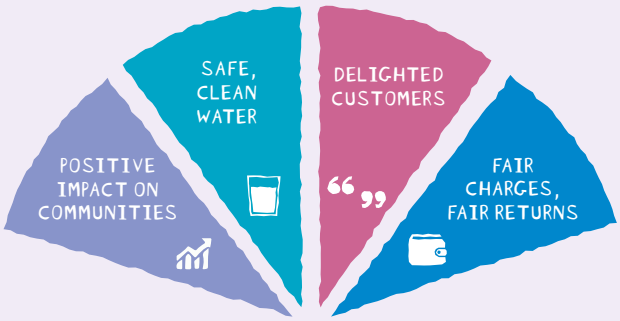
In 2015, the UN developed 17 goals 'to transform our world, to end poverty, protect the planet, and ensure prosperity for all'. We believe that we can directly contribute to many of their targets and the successful delivery of 10 of these goals.

SMART BUSINESS

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

With training programmes such as those we have sponsored at the College of West Anglia in Wisbech, we hope to *substantially reduce the proportion of youth not in employment, education or training* (target 8.6)

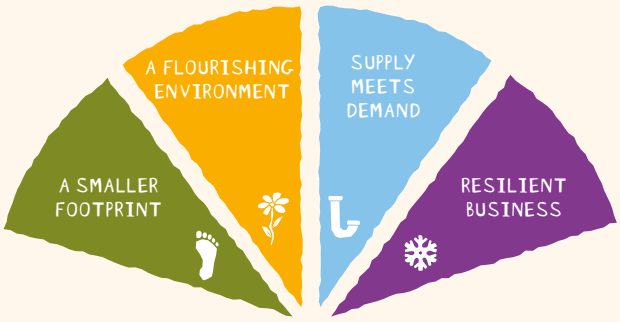
SMART COMMUNITIES



UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

In our Shop Window, we are collaborating with our supply chain to focus our effort on projects that will *achieve the sustainable management and efficient use of natural resources* (target 12.2)

SMART ENVIRONMENT



UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Our work to develop Water Resource East will *strengthen resilience and adaptive capacity to climate-related hazards and natural disasters* (target 13.1)

Building closer relationships with the agricultural community in our region through our catchment and coastal management programme is *helping to reduce pollution from land-based activities* (target 14.1)

The positive management of our Sites of Special Scientific Interest (SSSIs) and our wider biodiversity programme is helping to *reduce the degradation of natural habitats, halt the loss of biodiversity and prevent the extinction of threatened species* (target 15.5)

PART 1

THE CHALLENGES WE FACE

"OUR BIGGEST CHALLENGES ARE CLIMATE CHANGE, GROWTH AND ENVIRONMENTAL PROTECTION"

The challenges we identified in 2007 still face us now, especially climate change and growth. In addition, new environmental protection measures are being introduced.

THE CHALLENGES WE FACE

When we published our Strategic Direction Statement in 2007, we set out what we believed to be the main challenges facing the Company in the years to 2035, of which the most significant were climate change and growth.

That assessment has since been borne out by events. It also called for a radically different approach to that traditionally taken by water companies. Maintaining a reliable, safe and affordable service in the face of these challenges requires a much broader strategy and a truly collaborative approach with our customers and a wide range of other stakeholders.

We still face pressing challenges from climate change and growth. In addition, new measures to protect the environment are being introduced. Particularly in our region, these three factors combine to put stress on our services, especially in relation to water supply and flood risk management.

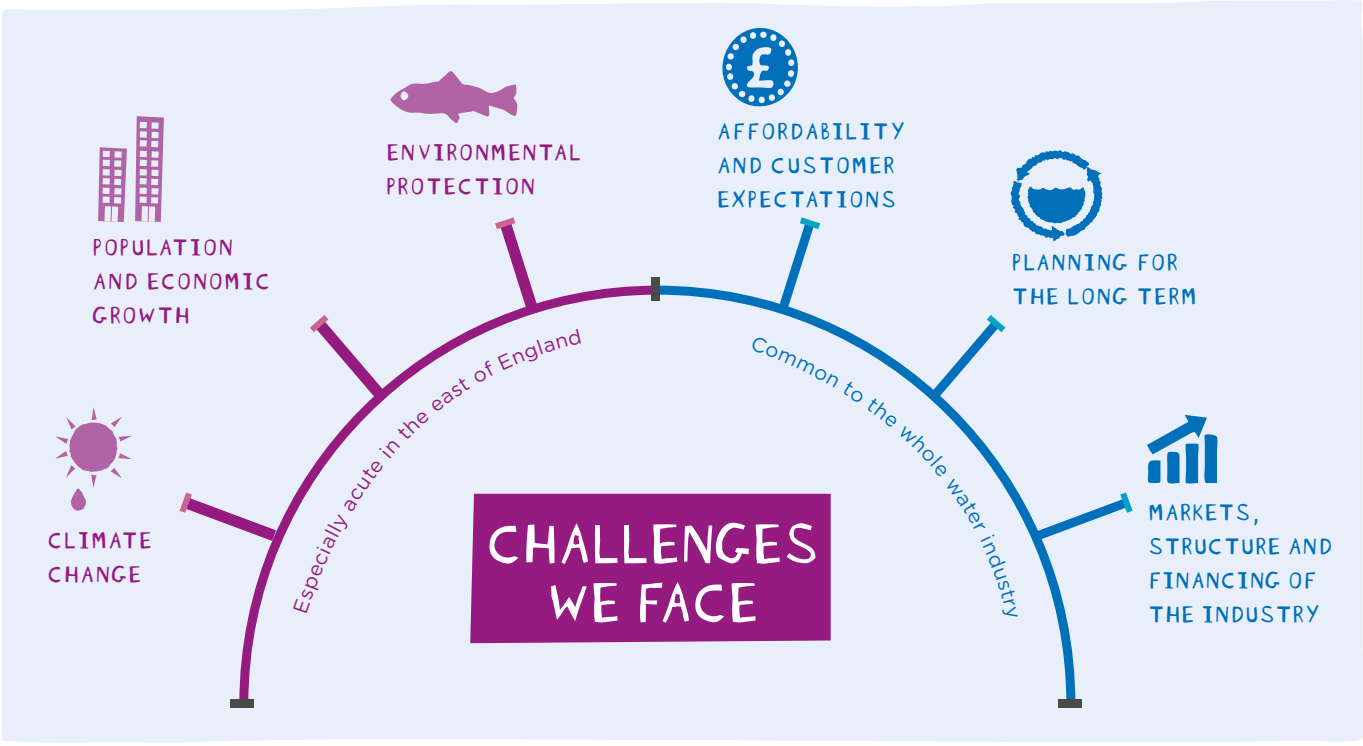
Our region expects rapid economic and housing growth over the next 25 years and beyond. We must play our part in facilitating sustainable growth with timely and efficient delivery of infrastructure and services.

The resilience of our supplies and operations to the most extreme climate change impacts – particularly protracted drought and intense flooding – are significant long-term concerns. We expect environmental protection measures and population growth to create a supply–demand deficit. To ensure the resilience of our water supplies, we will need to invest in both innovative demand management approaches and new supplies, which could include cross-regional transfers and/or a new impounding reservoir.

Customers expect us to be prepared to cope with the challenges we face. We must also ensure that bills are affordable and the costs of delivering long-term benefits are shared fairly between current and future customers.

Many of our assets are ageing. We do all we can to extend their useful life, but at some point they will need replacing. In addition, materials used in many New Town developments have proved to be short-lived and these too will need to be replaced, creating a wave of investment need in the coming years. We will also need to invest in new technologies that allow us to monitor and control our processes, assets and systems from source to source.

Finally, structural changes underway in the water industry and those planned for the future will present new challenges, but also significant opportunities. We need to continue to secure long-term, stable investment and embrace the opening of markets and other structural changes as an opportunity to increase efficiency and add value.



THE CHALLENGES WE FACE
CLIMATE CHANGE

OVERVIEW

The world's climate is changing and national risk assessments reveal this poses a serious threat to the water sector.

A drier climate in future would mean reduced water availability for public water supply, agriculture, industry and the environment.

Our region is particularly vulnerable to climate change impacts because it has low rainfall, is low lying and has a long coastline.

We are exposed to the impacts of climate change across all our operations: we face water scarcity and drought, but also increased risk of flooding and service disruptions.

We face significantly increased risk of flooding from all sources – rainfall, rivers, coasts and groundwater.

We need to use all the options available to increase our resilience to drought and flood, including behaviour change, improved systems, investment, planning and resources.

Basing extreme weather risk analysis on past experience will no longer be sufficient.

The world's climate is changing

All the 2009 UK Climate Projections (UKCP09) scenarios suggest summer rainfall will decrease and winter rainfall increase at the 50th percentile. Defra, Ofwat and water company risk assessments identify priority risks to water supply and flood resilience. The key impacts of climate change for the water sector are expected to include the following:

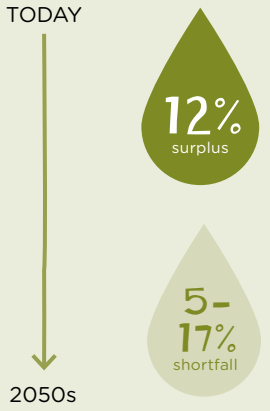
- Lower summer rainfall
- More intense rainfall events
- Increased evaporation
- Increased coastal erosion
- Less groundwater recharge
- Warmer summers
- Increased flood risk of all types, including coastal
- Higher sea levels.

National risk assessments show climate change poses a serious threat to the water sector
The UK Climate Change Risk Assessment 2017 Evidence Report assigned the highest urgency category to mitigating the risks of cascading failures from interdependent infrastructure networks; risks to infrastructure services from coastal, river, surface water and groundwater flooding; and risks of sewer flooding due to heavy rainfall. New policies and stronger coordinated, cross-sector efforts are needed to deliver more ambitious reductions in water consumption and establish strategic planning of new water-supply infrastructure. (www.theccc.org.uk)

By the 2050s, the demand for water will exceed the available supply in many catchments in England, and some in Wales and Scotland.

Without further action, the demand for water during drier periods may not be met in many areas.

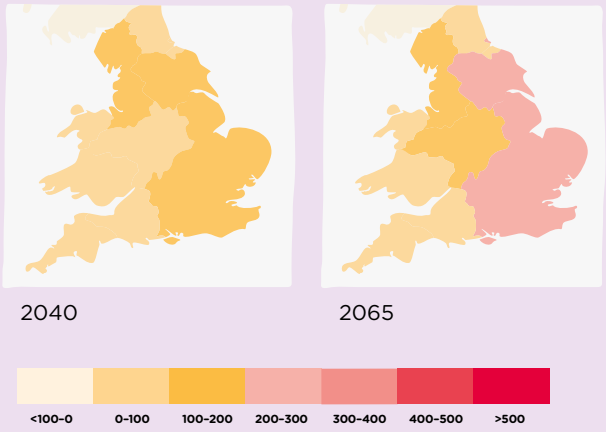
www.theccc.org.uk



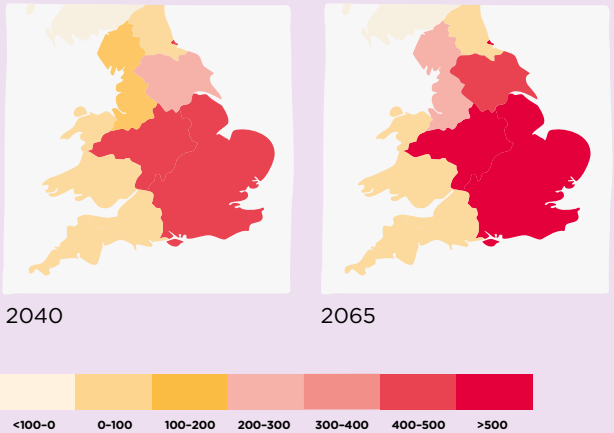
A drier climate would mean reduced water availability for public water supply, agriculture, industry and the environment

The maps below show the climate change impact on water availability (deployable output) by region – 2040 and 2065 – under median and dry climate change scenarios.

MEDIAN CLIMATE IMPACTS



DRY CLIMATE IMPACTS



Source: Water UK (2016) Water Resources Long-Term Planning Framework

Our region is particularly vulnerable to climate change impacts because it is dry, low lying and has a long coastline

Ours is the driest region in the UK with low rainfall (71 per cent of UK national average) and high evaporation losses, particularly in arable farming areas.

Water resources are scarce: 59 of our 129 river catchments are already over abstracted or over licensed.

We are exposed to the impacts of climate change across all our operations

Water supply

Less water will be available: median and drier climate change scenarios could cut the water available by between 5 per cent and 17 per cent by the 2050s.

We face a higher risk of drought: a moderately dry future could treble the risk of losing piped supplies, resulting in a need for standpipes.

Unless managed, demand for water will increase: both household and non-household customers are expected to use more water in a drier, warmer climate.

Sewerage

Intense rainfall increases the risk of sewer and surface water flooding, leading to increased damage caused by overflows of polluted water into the environment.

Service disruption

More frequent flooding (from rivers and coasts) and coastal erosion increase the risk of disruptions to our services.

Our network's resilience could be reduced. Increased risk of flooding may lead to changes in asset failure. Long spells of dry weather cause pipes to fail more often.

Environmental and drinking water quality

We already have limited dilution capacity for wastewater effluent and some of our rivers already have high nutrient loading. If unmanaged, lower flows in drier summers are likely to increase the risk of pollution incidents.

Some of our aquifers are vulnerable to diffuse pollution. Intense downpours could result in increased nitrate and pesticide run-off, lowering the quality of water entering our systems. Some areas are vulnerable to saline intrusion as sea level rises.

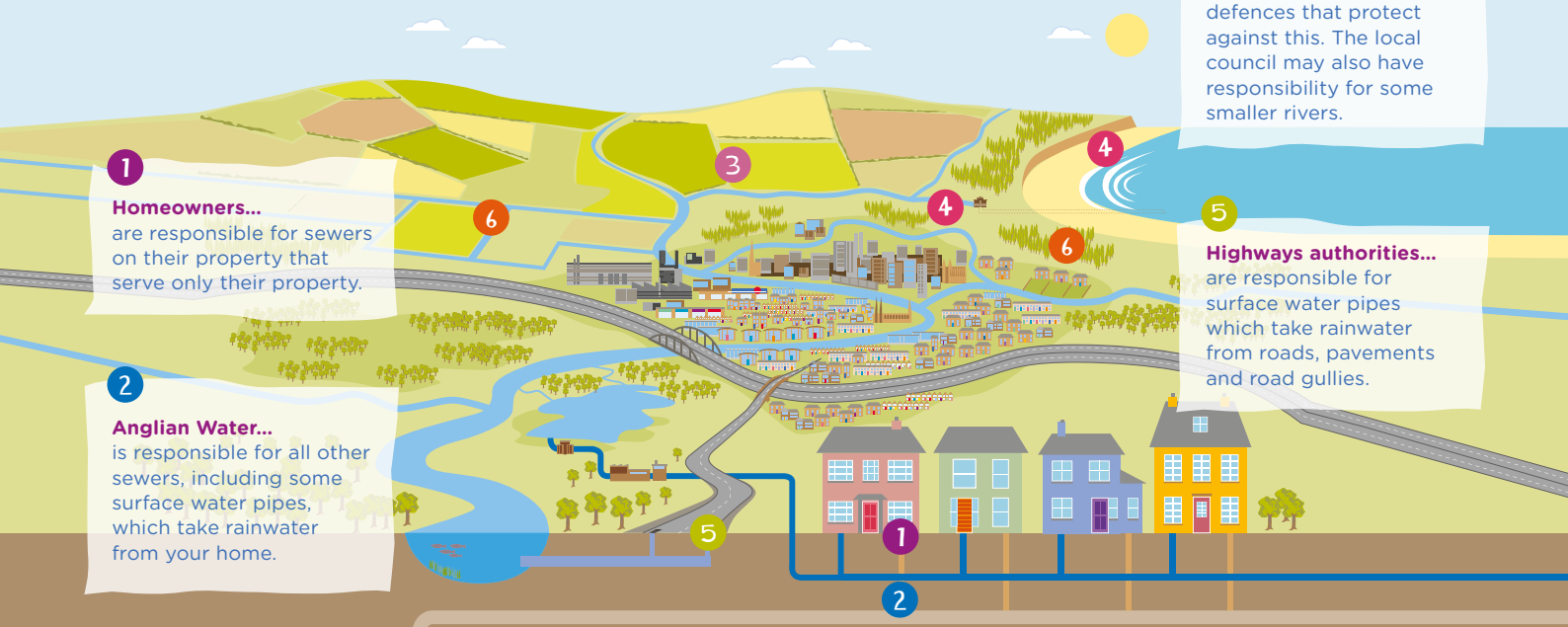
We also face increased risks of flooding. We expect climate change to mean more intense rainfall and rising sea levels, meaning we face significantly increased risk of flooding from all sources: coastal, rivers, surface water and groundwater.

Rising sea levels and more frequent and intense storm events increase the risk of coastal and river flooding. The risk of coastal flooding for the Anglian region is high: one-fifth of the region is below sea level and it has the fastest eroding coastline in Europe. Around 250,000 of the region's properties, some eight per cent, are at risk of all types of flooding. Under climate change, Anglian Water's assets will be vulnerable to localised flooding, which threatens the water recycling network and customers' homes and can shut down treatment works.

Responsibilities for flooding are complex, as shown in the figure below. We will work collaboratively with key partners to continue to manage the risk to customers, both from interruptions to their service due to flooding of our assets, and possible flooding from our assets.

MANAGING DRAINAGE IS A SHARED RESPONSIBILITY

Although often interconnected, our region's network of drains and sewers is managed and maintained by a number of different organisations and agencies.



1 **Homeowners...**
are responsible for sewers on their property that serve only their property.

2 **Anglian Water...**
is responsible for all other sewers, including some surface water pipes, which take rainwater from your home.

3 **Lead Local Flood Authorities...**
The Flood and Water Management Act 2010 made County Councils and Unitary Authorities the Lead Local Flood Authorities (LLFAs) for their area. They are responsible for preparing and maintaining a plan for dealing with the risks of flooding from surface water, groundwater and ordinary watercourses. They do this in consultation with all the agencies and organisations listed here, and the public. They also have to investigate any significant flooding incidents and publish the results.

4 **The Environment Agency...**
deals with flooding from rivers and the sea and is responsible for the flood defences that protect against this. The local council may also have responsibility for some smaller rivers.

5 **Highways authorities...**
are responsible for surface water pipes which take rainwater from roads, pavements and road gullies.

6 **Individual landowners and Internal Drainage Boards (IDBs)...**
are responsible for maintaining the land drains that channel away excess water from farmland. The IDBs are also responsible for managing water levels in low-lying areas like the Fens.

THE CHALLENGES WE FACE
POPULATION AND ECONOMIC GROWTH

OVERVIEW

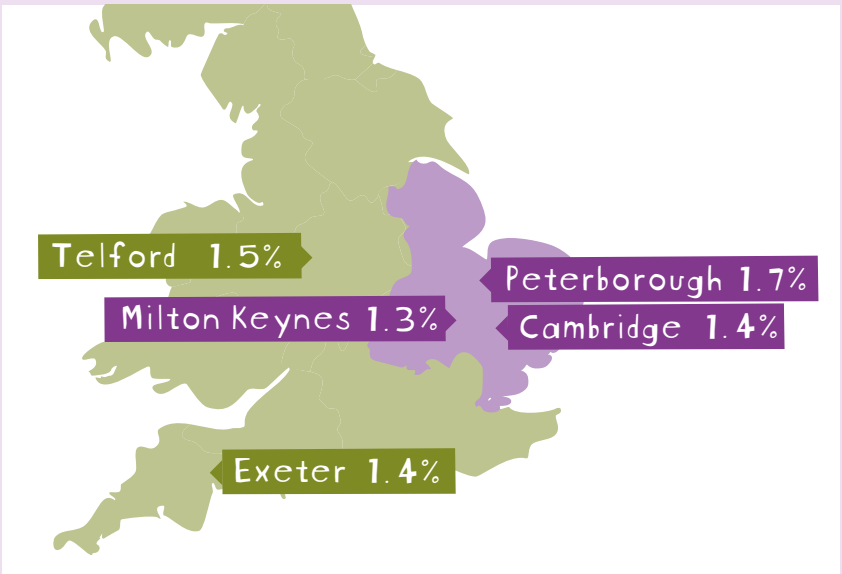
We have a vital role in facilitating new housing and commercial development.

Fast growth in areas that are already water stressed will put more pressure on our services.

Growth and development means increased demand for water supply and water recycling services.

An increase in the urban land area increases the risk of flooding.

5 FASTEST GROWING CITIES BY HOUSING DEVELOPMENT



Source: Centre for Cities (2017) Cities Outlook 2017
www.centreforcities.org/wp-content/uploads/2017/01/Cities-Outlook-2017-Web.pdf

We have a vital role in facilitating new housing and commercial development

The National Infrastructure Commission found that a "lack of sufficient and suitable housing presents a fundamental risk to the success" of the corridor connecting Cambridge, Milton Keynes and Oxford. While the primary cause was identified as a lack of joined-up planning and a shortage of available land, the report noted that "utility companies, local authorities and developers are not always effectively co-ordinated".

We want to enable sustainable economic and housing growth here in the UK's fastest growing region. We are finding better ways to coordinate planning with local authorities and developers to identify areas where demand for our services will increase, and ways of incentivising developers to build in a way that minimises the impact on demand.

Fast growth in areas that are already water stressed will put more pressure on our services

Our region has three of the five fastest growing cities, by housing growth, as classified by the Centre for Cities. The regional population is expected to increase by 20 per cent (around one million) over the next 25 years compared with population levels in 2011–2012. This would mean around 500,000 new properties for us to serve. These forecasts are sensitive to local factors and regional and global trends, particularly when it comes to migration, where issues such as the UK's exit from the EU may have an impact. For example, the ONS principal projection is for an increase in population from 64.6 million in 2014 to 74.3 million in 2039. Of this growth, about half is due to migration, and half due to more births than deaths. The main variants range between 73.7 million (low migration) to 81.3 million (high migration) by 2050.

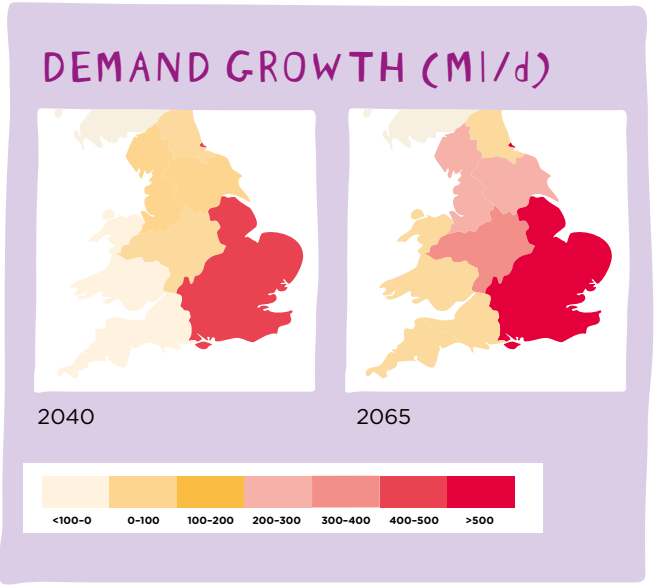
Population and economic growth is uneven across our region. Growth rates in coastal Suffolk and Norfolk are expected to be low. Other areas, particularly Cambridgeshire, show much higher than average rates. Growth coincides with areas where water and water recycling services are already under pressure and environmental resilience is low; where rivers are at or close to limits of environmental capacity for effluent discharge; where there are elevated risks of flooding; where water catchments are over licensed or over abstracted for water resources; and where water and water recycling infrastructure is at or close to capacity.

Growth and development means increased demand for water supply and water recycling services

Water supply

If not properly planned for, the future risk from growth to water supply is substantial: demand for public water supply will increase significantly, even if highly efficient rates of per capita consumption are achieved.

If the increased demand is not matched by supply, our customers would face an increased risk of water-use restrictions, low pressure problems and supply interruptions.



The figure above shows the demand growth (Ml/d) in 2040 (left) and 2065 (right) under the medium demand scenario in the Water UK Water Resources Long-Term Planning Framework 2016, that is, the impact of growth on demand using ONS medium population forecast and the report's own 'Business as Usual' demand management strategy.

Water recycling

The main pressures that growth and development present to our water recycling services are:

- pollution risk due to overloading of the network, leading to an increased likelihood of sewers surcharging
- risk of breaching discharge consents due to increase in biological loading of influent to water recycling centres, should we fail to make sufficient investment in growth schemes
- increased sludge to manage, which also presents opportunities in the new markets for sludge
- more housing being situated near water recycling centres, leading to an increased risk of odour and nuisance complaints.

An increase in the urban land area increases the risk of flooding

The risk of overloading sewers is increased by higher flows in our networks, a larger area of impermeable surfaces and the associated increase in surface run-off. This leads to a higher risk of sewer and surface water flooding and a higher risk of pollution incidents where flows escape from our systems.

THE CHALLENGES WE FACE
ENVIRONMENTAL PROTECTION

OVERVIEW

Measures to protect the environment will reduce the amount of water available for abstraction.

New pollutants and higher standards will increase the need for reduction at source and treatment at end-of-pipe.

We are working with the rest of the sector to provide a 21st-century drainage system.

Agriculture and water are closely linked.

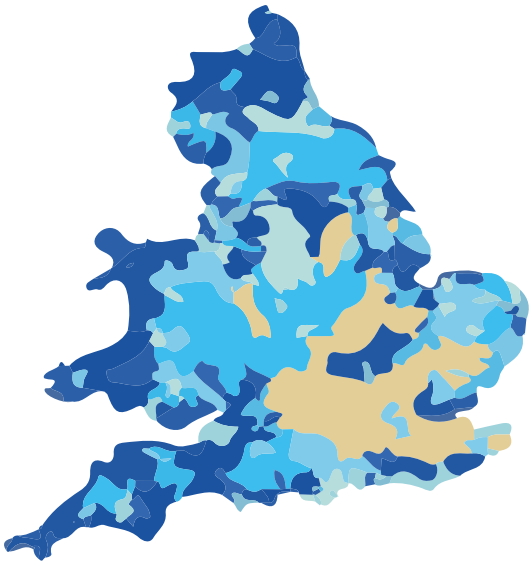
The departure of the UK from the EU, which has been the source of much of our environmental legislation, may lead to changes over the long term.

Measures to protect the environment will reduce the amount of water available for abstraction

We value the environment: our business depends on a healthy, flourishing environment to supply clean water and receive recycled water after treatment. Our area is home to important wetland ecosystems that need protecting. Well-functioning ecosystems are likely to be more resilient to shocks and disturbances.

The need to protect the environment, combined with our relatively low rainfall, means that many catchments in our area have no water available for further abstraction.

WATER RESOURCE RELIABILITY

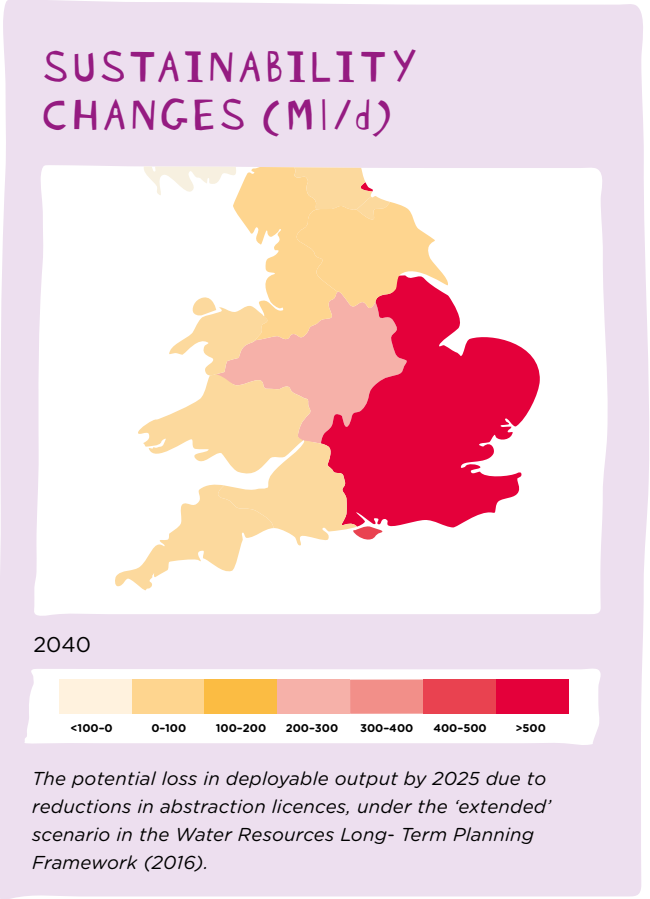


Percentage of time water would be available for new licences

- **Water available less than 30% of the time**
- **Water available at least 30% of the time**
- **Water available at least 50% of the time**
- **Water available at least 70% of the time**
- **Water available at least 95% of the time**

Source: Environment Agency (2012), The Case for Change: Current and Future Water Availability

Not only will little water be available for further abstraction, but in places we will need to reduce the amount we abstract. These reductions in abstraction licences from groundwater could introduce sudden, significant increases in our supply deficit, unlike more gradual changes due to climate change and population growth. In our region, these could be very large. Our neighbour, Affinity Water, may face even larger reductions, which it may seek to compensate for with transfers from our region.



The potential loss in deployable output by 2025 due to reductions in abstraction licences, under the 'extended' scenario in the Water Resources Long- Term Planning Framework (2016).

New pollutants and higher standards will increase the need for reduction at source and treatment at end-of-pipe

The outcome of investigations into the impacts of chemicals in discharges to the environment and the feasibility of achieving tighter standards – for example, for phosphate – could drive significant changes over the coming years. Emerging threats to drinking water quality and environmental quality include micro-pollutants, micro-plastics, chemicals and endocrine disruptors. We will work with our partners to identify where these can be reduced at source and/or treated at end-of-pipe.

We are working with the rest of the sector to provide a 21st-century drainage system

In 2013, the Government challenged the water industry to consider the performance and capacity of the drainage system and consider better the links to drainage planning and the environment. This arose from concern about the impact of combined sewer overflows (CSOs) and the risk that frequent discharges could have a detrimental effect on the environment, and mean that we fail to deliver the standards set out in the EU Urban Waste Water Treatment Directive.

Changing climates, population growth and the spread of towns and cities all put greater pressure on drainage systems. The ownership and governance of drainage systems is complex. They are also vulnerable to misuse and abuse. The impact of novel substances used in medicines and pesticides entering the environment is unknown.

The Water UK-led 21st-Century Drainage Programme is a collaborative response to these concerns and is looking at: defining and managing drainage capacity; addressing CSOs that operate frequently; sewer misuse; groundwater inundation of drainage systems; drainage infrastructure deterioration; and communication, engagement and enablers of progress. We expect to continue to work to improve outcomes in these areas over the coming years.

Agriculture and water

Our region is predominantly agricultural. Food production is worth £1.3 billion Gross Value Added (GVA), following an increase of 36 per cent over the last five years. It is important for national food security: we produce half of the UK's sugar, a third of its potatoes, and a quarter of its wheat. All these crops need water and agricultural inputs. This means there are other significant and important pressures on water supplies, and the nature of potential pollutants in our area differs from others: we have a higher exposure to plant protection chemicals, such as metaldehyde, and nutrients, such as nitrogen.

We are and will remain actively engaged with Government, farmers and environmental bodies to look for solutions that may give farmers greater opportunities to manage their land for environmental benefits.

The departure of the UK from the EU

The departure of the UK from the EU, which has been the source of much of our environmental legislation, may lead to changes over the long term. Agricultural policy is likely to be reformed.

CLIMATE CHANGE, GROWTH AND ENVIRONMENTAL PROTECTION COMBINE TO INCREASE RISKS TO RESILIENCE

These three challenges are the most significant for our region. They pose a real threat to the resilience of our water and water recycling services.

Climate change, growth and the need for greater environmental protection work in combination to put greater stress on our water and water recycling services. They all point to higher demand for water from people, agriculture and the environment. As a result, we anticipate water scarcity and greater risk of destructive flooding. The impacts of climate change and growth are often felt in areas that are the most vulnerable or environmentally sensitive.

As an illustration, our 2015 Water Resource Management Plan showed that over the years to 2040, our supply–demand balance is at risk from growth, climate change and the reductions in deployable output that we will make to restore abstraction to sustainable levels. In the worst case combination, the impact could approach 567 Ml/d, equivalent to approximately 50 per cent of the water we put into supply.

In the definition of Ofwat's Resilience Task Force, resilience is the ability "to improve our ability to cope with, and recover from, disruption, and anticipate trends and variability in order to maintain services for people and protect the natural environment now and in the future". As the background risk of drought is increasing from the factors cited above, and as evidenced in the recent Water UK report on long-term water resources, we need to take action over the coming years to ensure a resilient future for our region. To do this, we will take a collaborative, multi-sector approach. For example, we have already begun multi-sector water resource strategic planning through Water Resources East (see next page), and long-term sewerage planning to meet customer expectations and the needs of the environment. We are working with developers and local authorities to improve the approach to newbuild properties and we are building flood partnerships to prevent flooding and to improve recovery for our customers after floods occur.

Implications and opportunities

How we work with others, including our customers and regulators, to address this risk will be a major determinant of future success, with improved demand management a key element of our approach.

It will become increasingly difficult to maintain levels of service with our existing infrastructure capacity and configuration. Given the increased challenge in the future we are committed to improving the resilience of our region to drought and flood. We are likely to need to invest, both to maintain and to enhance resilience, which could give rise to affordability pressures. This means we will need to drive even greater innovation and financial, carbon and resource efficiency. We need to change customer, supplier and employee behaviours to drive efficiency, emissions reduction and innovation.

Maintaining, optimising and enhancing our systems requires investment, as well as more efficient and innovative operations. However, a larger customer base presents opportunities: to ease affordability challenges by sharing the cost over a larger group doing more to encourage changes in behaviour to increase resilience; and presenting greater opportunities for water efficiency. We also have substantial scope to generate cost-effective renewable energy, saving customers money, but this requires upfront capital investment.

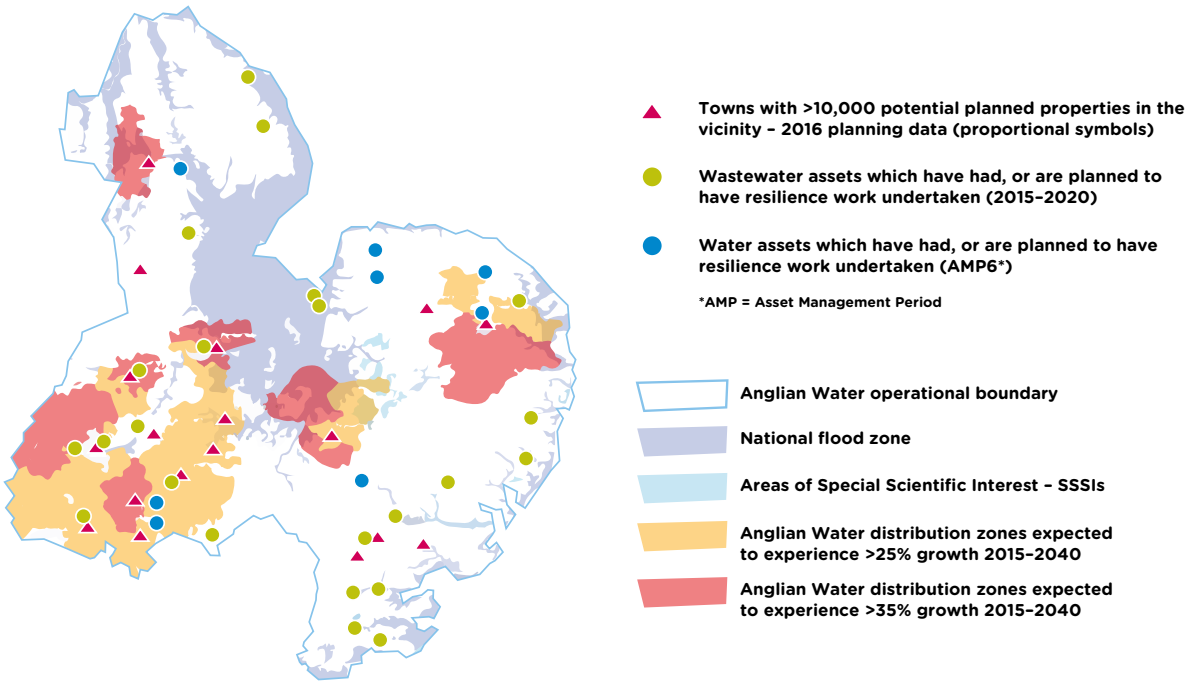
We will work with the Environment Agency to clarify where our abstractions may be causing damage and what needs to be done to rectify it. As we describe under 'Supply meets demand' we will take an adaptive planning approach that is flexible enough to cope with changes in abstraction volumes.

We will need to work collaboratively with others, for example, through catchment management approaches as end-of-pipe solutions are not sustainable. Catchment-based solutions can mitigate climate change and population growth impacts and bring significant efficiency gains. Stakeholder and community engagement are essential to a successful approach. They can apply to urban as well as rural settings and the potential benefits are significant.

Finding out more about the extent and state of natural capital in our region will help us to identify more opportunities for sustainable approaches that protect and enhance the environment.

We will need to engage with our customers and stakeholders on new approaches and explore and encourage the acceptability of water re-use and sustainable drainage.

AREAS OF GROWTH AND FLOOD RISK IN THE ANGLIAN WATER REGION



Sources: Environment Agency, ONS, Local Government and Anglian Water

Water Resources East

We are championing new collaborative approaches to ensure safe, reliable supplies of water far into the future.

Water Resources East (WRE) is a leading example of collaborative, multi-sector planning to address the long-term challenges and uncertainties faced by water supply, agriculture and energy generation in the east of England.

Established by Anglian Water, and independently chaired, the group brings together all of the area's water companies as well as farmers, conservationists and regulators to develop a long-term, joined-up plan for water stewardship.

WRE will be central to delivering a reliable, sustainable and affordable system of water supply in the East to 2045 and beyond. It will produce an overarching strategy and supporting action plan that is resilient to the challenges faced by the region, delivering more efficient, robust and cost-effective solutions than would be offered through traditional approaches.

The key strands being explored by WRE are:

- more efficient planning, provision and use of infrastructure
- more affordable investment programmes and consequently lower bills for customers
- sharing of ideas, expertise and best practice between sectors
- facilitating multi-sector investment approaches to ensure water resources are resilient to future challenges
- encouraging collective ownership of the future challenges faced by abstractors.

WRE

To find out more, visit www.waterresourceseast.com

THE CHALLENGES WE FACE
AFFORDABILITY AND CUSTOMER EXPECTATIONS

OVERVIEW

Political instability and economic volatility creates uncertainty surrounding future household incomes.

We must balance the competing priorities of keeping bills affordable, and investing in our operations and infrastructure to maintain levels of service expected by customers.

We will provide the support needed by customers in vulnerable circumstances.

Customers' expectations are rapidly changing.

Political instability and economic volatility creates uncertainty for future household incomes

The economy has been slow to recover from recession in the late 2000s and retail price indices continue to outstrip income growth. Ofwat's Affordability and Debt report for 2014/15 revealed that 24 per cent of UK households were spending more than three per cent of their income on water bills, with 11 per cent spending over five per cent of income on water bills. Generally speaking, financial resources are more limited, and the cost of living is a greater struggle for many of our customers today than when we published our first Strategic Direction Statement.

We must also be prepared to respond efficiently and effectively to any possible future impacts of the UK's decision to withdraw from the European Union. The ramifications of 'Brexit' are still uncertain and our business must remain flexible and able to adapt to these as they emerge in time.

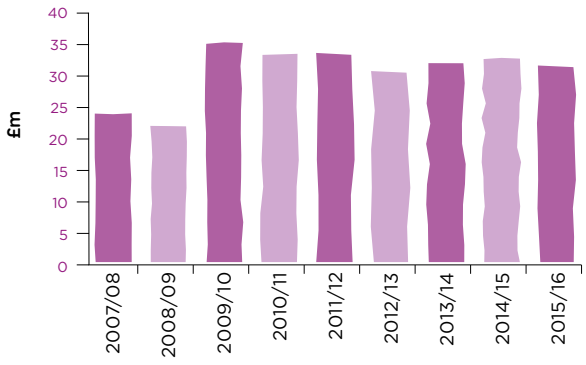
We must balance the competing priorities of keeping bills affordable, and investing in our operations and infrastructure to maintain levels of service expected by customers

Although steady or declining over the last few years, water bills have increased overall since privatisation, with revenues being used to fund essential ongoing investment and improve outcomes for customers. In 2016/17, Anglian Water's domestic customer bills averaged £410.52.

Water debt is a low priority for customers experiencing economic hardship. Across the UK water industry, outstanding revenue has increased by approximately 17 per cent from £1.9 billion in 2010 to £2.2 billion in 2014, according to Ofwat's 2014/15 Affordability and Debt report. In the Anglian Water region, our bad debt charge increased from £24.2 million in 2007/08 to £31.9 million in 2015/16. The annual cost of recovering and writing off bad debt stands at £16.50 per bill, compared to a national average of £21.

We are mindful of the needs of customers who have difficulties paying their bills. Water is essential to life and customers cannot be disconnected. Water companies need to be proactive and innovative in finding ways to help customers who cannot pay their bill and in pursuing money owed to them by those who refuse to, while accounting for the significant costs incurred by doing so.

Anglian Water bad debt charge (£m)



We must support customers in vulnerable circumstances

Water companies' ability to support customers in vulnerable circumstances is hindered by the reality that customers' willingness to pay for social tariffs that subsidise vulnerable customers is significantly lower than existing bad debt subsidies.

Social tariffs are funded by cross-subsidy, so it is important for water companies to set these at a level that does not have negative implications on affordability for their customer base as a whole. Support for customers in vulnerable circumstances should relieve affordability issues, not compound them. Anglian Water currently offers a range of social tariffs for customers in vulnerable circumstances and those experiencing affordability issues.

Social tariffs are also based on self-registration, so tackling vulnerability requires consistent engagement with customers that is sensitive to their circumstances. A decline in the availability of face-to-face debt advice services means that it will be increasingly left to water companies themselves to offer support to customers.

The costs and resourcing pressures associated with supporting customers experiencing water affordability issues are only likely to increase, due to the combined effects of slow economic growth, welfare reform and an ageing population.

The level of bad debt in the water industry is approximately three times higher than that of the energy sector, despite water and sewerage bills being around a third of the cost of average energy bills. This is largely because customers cannot be disconnected.

APPROXIMATELY 20% OF ANGLIAN WATER CUSTOMERS SELF-IDENTIFY AS 'VULNERABLE'

Customer expectations are changing in rapid and unprecedented ways

The 'silent service' business model of old is no longer fit for purpose. Digital communications and social media have boomed in recent years and have fundamentally changed the way our customers interact with us, and we with them.

Customers are unwilling to accept service interruptions and incidents, even relatively minor ones. A step change in resilience will be required to meet demand for a truly continuous service, especially as the impacts of climate change, environmental pressure and population growth continue to intensify.

Though customers believe that our core water and water recycling services should be the priority, they are increasingly aware of environmental and social impacts. In particular, customers are concerned about the impacts of climate change and support Anglian Water taking measures to mitigate its ecological footprint.

THE CHALLENGES WE FACE
PLANNING FOR THE LONG TERM

OVERVIEW

The timing of necessary investments involves trade-offs of cost and risk between current and future customers.

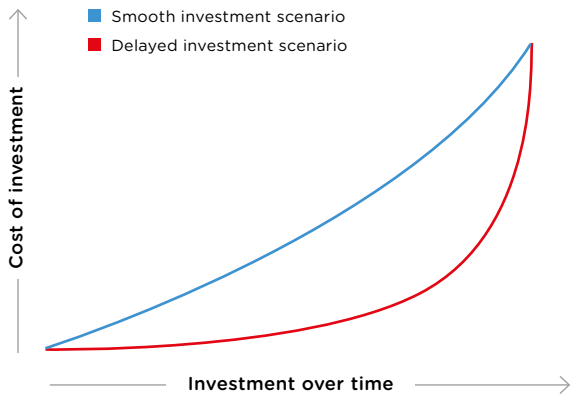
We need to ensure our assets are suitably maintained to enhance our resilience to growth and climate change. Specific concerns for Anglian Water are mains replacement and refurbishment of water towers.

The timing of necessary investments involves trade-offs of cost and risk between current and future customers

We have a responsibility to ensure services are provided for both current and future customers. We must reconcile the need to keep current bills affordable with the need to plan for future challenges, such as population growth, climate change and environmental pressure. The timing and scale of these needs are inherently uncertain.

We must also ensure that we maintain and replace our assets appropriately so that future customers do not face a sudden spike in investment need. Maintenance expenditure since privatisation has largely been based on rolling forward levels from the past. So far, thanks to innovation and targeted repair, this level of expenditure has been sufficient to continue to provide the same level of service from our assets. However, for underground assets the rate at which we as an industry are replacing them implies asset lives of hundreds of years – far longer than what we know we can expect in reality. This is likely to be an ongoing strategic challenge over the next 25 years. Therefore, at some point, the rate of replacement must inevitably increase.

Future investment requirements



Failing to make timely investments could lead to sharp increases in need in the future. This could lead to sharp spikes in bills to our customers, which would create difficulties that could be avoided with a smoother profile of bills that could be achieved if appropriate long-term planning is undertaken.

Maintaining and replacing our assets

Across the water industry, assets that were installed in the early to mid-20th century are reaching the end of their lives. Important examples for us are some types of water mains and sewers, and water towers. We are extending the life of our assets through innovation, calming networks (managing pressure to reduce bursts), and targeting repairs and maintenance. We will continue to explore new technologies to help us do this even more effectively.

Mains replacement

Much of our mains network is ageing. We have nearly a quarter of the UK's stock of mains that were laid before 1900. Many of our mains were laid in the 1950s, 1960s and 1970s when the New Towns were developed, which used materials that have since been found to be short-lived.

Old cement pipes are in use across our raw water, water distribution and sewerage networks. Pipe failures can cause significant service interruptions. The age profile of these pipes means that the burst rate is increasing: on our clean water networks, the rate increased from 22 per cent to 30 per cent between 2007 and 2017.

We have a large stock of iron mains dating back to the 1880s, which are prone to leakage.

We also have significant lengths of uPVC pipes in our water distribution network, much of them linked to the New Town developments. These will need replacing over the long term. The burst rate on uPVC pipes has increased from 27 per cent to 37 per cent between 2007 and 2017.

Sewer replacement

As our region is flat, sewage can stay in the network longer. This means that hydrogen sulphide can build up and erode concrete, leading to a risk of sewers collapsing.

We have recently taken on sewers which were privately owned, and the associated pumping stations. At the current rate of replacement, sewers will be replaced on average after 2,000 years, well beyond the actual asset lives.

Many of the private sewers we adopted are made of pitch fibre, which softens and collapses with age. We have begun mapping these sewers and identifying what materials they are made of, but this work will continue over several Asset Management Periods.

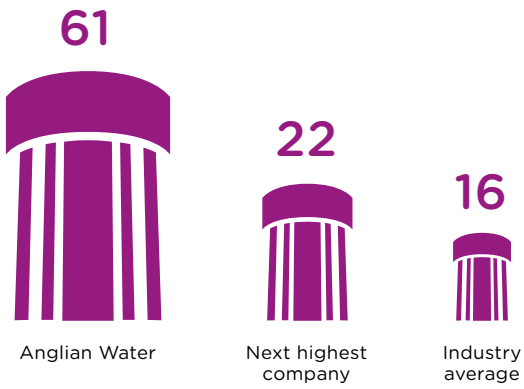
Water towers

Another consequence of operating in a flat region is that we have more water towers than other water companies (32 per cent of the UK's stock of water towers are in our region). Many of these were built in the 1950s and are reaching the end of their expected lifespan. These structures are expensive to refurbish and deteriorate relatively rapidly, as they tend to be located in exposed areas.

From an operational perspective, the 141 towers in our water distribution network are critical to ensuring a continuous supply of safe, clean drinking water to our customers.

We face a long-term investment need to maintain, refurbish and, eventually, replace our water towers.

Number of water towers per one million properties served



Interdependence with other infrastructure

Infrastructure assets are highly dependent on each other. For example, in a flood, power cuts can slow recovery efforts and a sewer collapse under a road or railway can cause transport disruption. There are more than 17,000 locations where our assets such as pipes and sewers cross other infrastructure assets such as roads and railways. We need to understand better the interaction between our infrastructure and that of other sectors in current networks and future ones.

THE CHALLENGES WE FACE MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

OVERVIEW

Significant changes to the structure of the UK water market are expected over the next decade; there will be new markets and more competition.

How reform is implemented may affect the financing of our business and its operation.

New regulatory approaches may provide less certainty, but can also offer new opportunities.

We are working to ensure our customers benefit from the introduction of markets.

Significant changes to the structure of the UK water market are expected over the next decade

The market for non-household retail competition opened in April 2017, but the Government has yet to decide whether to extend the market to domestic retail competition. Anglian Water Business, operating in the non-household retail market, has been separated from Anglian Water Services, which remains in the wholesale and domestic retail markets.

Abstraction reform is also currently under consideration by Defra and has the potential to enable more efficient allocation of water resources among users, depending on implementation.

Ofwat has been seeking to introduce markets upstream of retail. The first to be introduced will be in bioresources (sludge) and water resources from 2020 onwards. While the market for bioresources will include existing sludge treatment assets, for water resources it will initially be for new water resource assets. Markets are also being introduced for direct procurement for major new assets.

New markets raise questions about additional price controls to cover the new markets. They also offer new opportunities for innovation in how services are delivered.

Extensions to further markets (such as treatment) remain a possibility in the next 25 years, although it would appear the opportunities in these markets are more limited and the concerns more pronounced. How reform is implemented may affect the financing of our business and its operation.

New regulatory approaches may provide less certainty, but can also offer new opportunities

Dividing the business like this carries some risk. It could affect our 'source to tap' approach to drinking water (see the 'Safe, clean water' section), and reduce the synergies that vertical integration allows.

However, it also offers new opportunities. For example, opening markets for sludge could help lead to innovation (see 'A smaller footprint' section).

Moreover, our region is likely to need major new water resource assets in the next 25 years. New markets will mean that such resources can be delivered in the most efficient way – whether that is through trading, new entrants, direct procurement or building our own.

We are working to ensure our customers benefit from the introduction of markets

We will continue to work with our partners in the sector to ensure that markets are introduced where they are most likely to be of benefit to customers, and in such a way as to maximise benefits and opportunities and reduce any concerns, particularly around investor confidence.

Sustainable, resilient and fair financing of our business is essential for long-term resilient growth. The World Economic Forum identifies climate change and water availability as areas of significant concern for investors. Our company, and the wider industry, must show that it is taking the necessary steps to increase resilience in order to bolster confidence. Without long-term, stable investment, it is impossible for companies like ours to secure the financing required to provide vital services at no additional cost to the taxpayer.

In addition to this, we believe that flexible regulation has a role to play when looking for new, innovative approaches to investing in infrastructure. One such example is the exploration of multi-sector financing – a possible model for both spreading capital costs and sharing the benefit of new assets.

PART 2

OVERCOMING OUR CHALLENGES

"GETTING THINGS RIGHT FOR OUR CUSTOMERS AND OUR ENVIRONMENT"

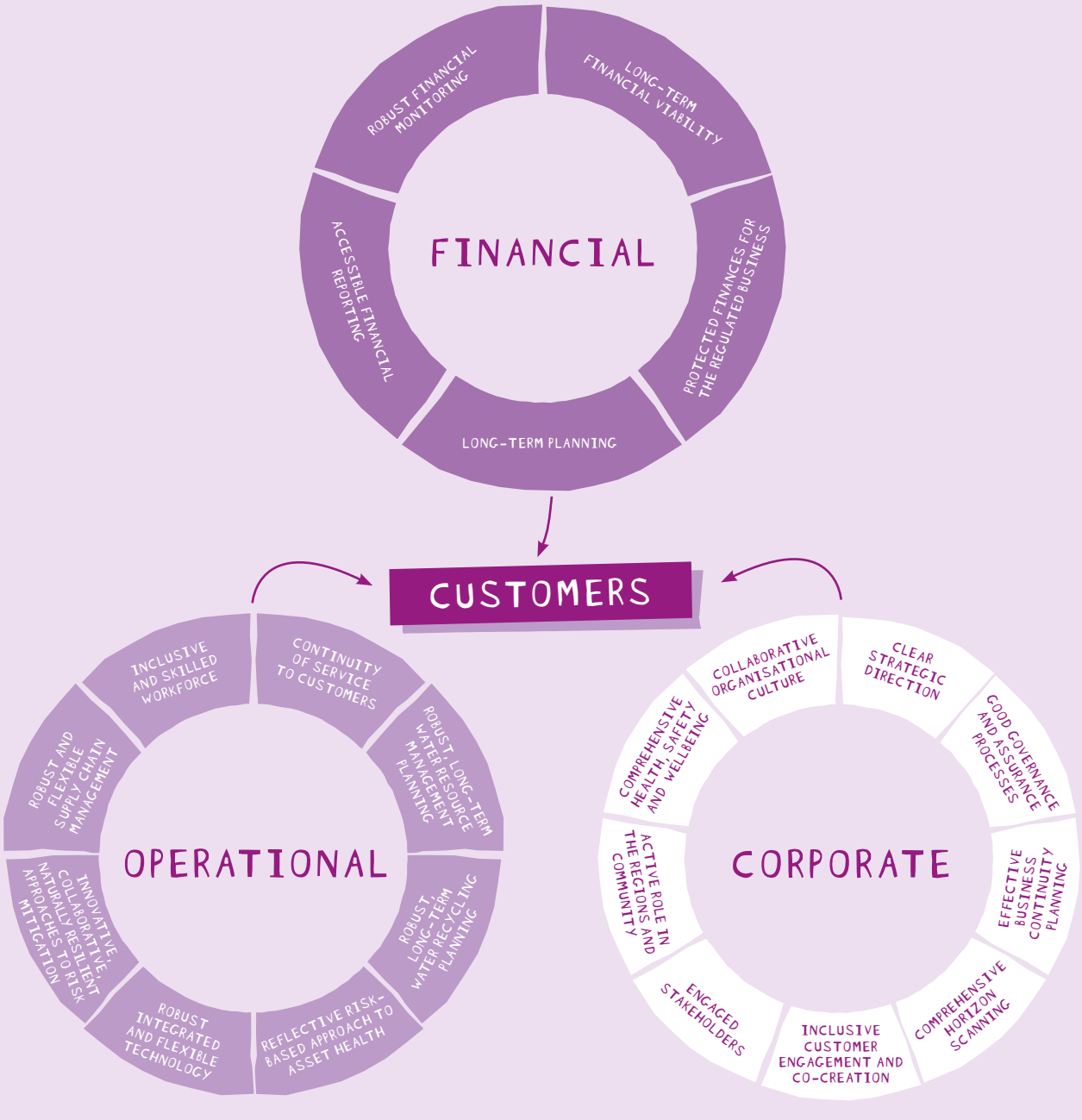
With our customers, we developed 10 customer-centric outcomes that describe the future we are working towards.

We have also driven our innovation efforts through our Innovation Shop Window approach.

RESILIENCE IN THE ROUND

The challenges we have described pose threats to our resilience – our ability to avoid, cope with, and recover from, disruption – across our business. So, we have developed a framework to think about resilience in the round: operational resilience, which includes resilience to drought and flood, financial resilience and corporate resilience. This framework is designed to enable us to think about how we manage risks over the short term alongside longer-term trends and lower likelihood risks. We will use it to test our current and future plans to empower us to become a truly resilient water company.

OUR RESILIENCE FRAMEWORK



INNOVATION SHOP WINDOW

We do not know what our business could look like in 25 years' time, or the context within which it will need to operate. We do know we need to protect our customers, environment and assets, whatever the future holds. So we have to learn to be more agile and responsive, challenge our traditional approaches, and make the most of collaboration, innovation and engagement.

We are looking for answers through our Newmarket Innovation Shop Window: a real-world location where we drive innovation through collaboration across our business, supply chain and the entire man-made water cycle. By concentrating innovation in one place, we unlock synergies between new technologies and different ways of working. This accelerates our learning and allows us to improve customer service, environmental stewardship and the efficiency of our business at a much faster pace. In this respect, our Shop Window is a microcosm of what a future water company looks like, today.

The strength of the Innovation Shop Window is the sheer number of partners engaged and number of projects running simultaneously. As of March 2017, just one year into the Shop Window initiative, there are already 98 organisations working on 62 projects, with more coming on board all the time. These projects are designed to solve the most challenging questions facing our industry.

While the Shop Window provides a base for accelerated learning, it will ultimately create benefits right across our region as successful findings are applied and rolled out more widely. For example, thermal imaging technology used to identify hard-to-locate leaks has already been rolled out to Norfolk and Suffolk, having been pioneered in the Shop Window.

WORKING TOGETHER TO FIND NEW WAYS OF WORKING

The real benefit of our Innovation Shop Window is through opening up collaboration and innovation. This is only possible because of the strong alliances we have built with our supply chain, with our Water Innovation Network and with SMEs. Collaborating with our partners in the Anglian Water region and beyond gives us access to some of the best minds and innovative ideas, with the opportunity to apply fresh thinking to old and new problems. Our alliancing model means our partners are invested financially and emotionally in our goals. Our Shop Window can be seen as a test bed for entrepreneurs to showcase and develop their ideas, which in turn, facilitates local economic growth and employment. Increasingly we see our customers as key stakeholders in shaping our future, so we are also experimenting with new ways of engaging them around the key challenges facing our industry.

TAKING AN ALL-ROUND VIEW

By concentrating innovation across the entire man-made water cycle into one catchment, our Shop Window initiative allows new technologies to interact with the environment and one another to become more than the sum of their parts. We don't yet know the full extent of these natural synergies, but we are excited to find out what we can learn about our future business.

ASPIRATIONAL GOALS TO DRIVE TRANSFORMATION

We believe ambitious, aspirational goals are powerful drivers for change. They provide a clear direction for our business and inspire our people and partners about what can be achieved. In the Shop Window, we have set ourselves seven. We don't yet know for certain how we will make these goals a reality, but they are already transforming the way we work.

OUR SHOP WINDOW GOALS

80 LITRES PER PERSON PER DAY

Effective demand management will be crucial to ensuring long-term water availability. While we continue to reduce our own water footprint through eliminating leakage and bursts, helping our customers to achieve more sustainable consumption levels is also important. We want properties in the Shop Window area to reduce their water usage by over a third, to as little as 184 litres per property per day. This broadly translates to 80 litres per head per day, in comparison to the current national average of 150 litres. We are using complementary approaches to reduce consumption, including installing smart meters and water-efficient household fittings, and customer engagement grounded in behavioural economics.

100% CUSTOMER SATISFACTION

Customers are at the heart of everything we do, and since we launched our Love Every Drop business strategy in 2010, we have set ourselves the ambitious goal of achieving 100 per cent customer satisfaction. In the Shop Window we are focused on meeting that. By addressing the issues that matter most to our customers, such as leakage, flooding and pollutions, we are already in a strong position to reach our customer satisfaction target. But we are also looking into new ways of interacting with our customers in the Shop Window, to improve customer engagement and satisfaction.

ZERO LEAKAGE AND BURSTS

We are already leading our industry in terms of our low leakage levels, having gone further than any other company in response to what our customers told us was important to them. Yet, we still lose millions of litres of water every day through leaks that are hardest to find. We are trialling novel leak-detection technology – including satellite and thermal imaging drones – which is helping us to locate otherwise hard-to-find leaks, especially in widespread rural areas, in a time and cost-efficient way. Being able to identify leaks in this way also enables us to prioritise repairs and catch small leaks before they develop into bigger problems, such as burst mains and supply interruptions. These technologies also help to reduce carbon, cost and disruption to our customers, by removing the requirement for manual surveys and allowing us to accurately pinpoint leaks before excavation.

ZERO POLLUTIONS AND FLOODING

Pollutions and flooding are bad for our environment and disruptive to our customers. In our Shop Window, we are looking at innovative, integrated techniques for managing our sewerage catchments to eliminate the causes of flooding and pollutions. This includes enhanced modelling and monitoring of sewerage networks; novel sewage treatment methods; and sustainable surface water management.

100% COMPLIANT AND CHEMICAL-FREE DRINKING WATER

We are committed to continuing to supply our customers with excellent-quality drinking water. However, the long-term cost and availability of some of the chemicals we use to achieve this is uncertain. Elsewhere in Europe, the use of chemicals in drinking water treatment has been eliminated. We are conducting an innovative study into how we achieve the aspirational goal of '100 per cent compliant and chemical-free drinking water'.

CARBON NEUTRAL

We have already made huge strides in reducing our energy consumption and lowering our carbon footprint across operations and capital delivery. Nonetheless, to run our operations, we still need to spend around £70 million on energy, emit around 450,000 tonnes of CO_2 each year and remain dependent on third parties for our energy. Our ambition is to achieve energy and carbon neutrality in the Shop Window, to understand how we could replicate this across our business. We are looking into both demand-side and supply-side options to meet our goal, from energy-efficient treatment processes to on-site renewables.

BUILD A CIRCULAR ECONOMY

The man-made water cycle is inherently circular: we abstract water from the environment to provide our customers with a vital resource, before taking away their sewage and treating it, and recycling the water back into the environment. In the Shop Window, we aspire to increase the sustainability of this end-to-end process and eliminate the very concept of waste, for instance through integrated catchment management, water footprinting, and low-carbon materials and treatment processes.

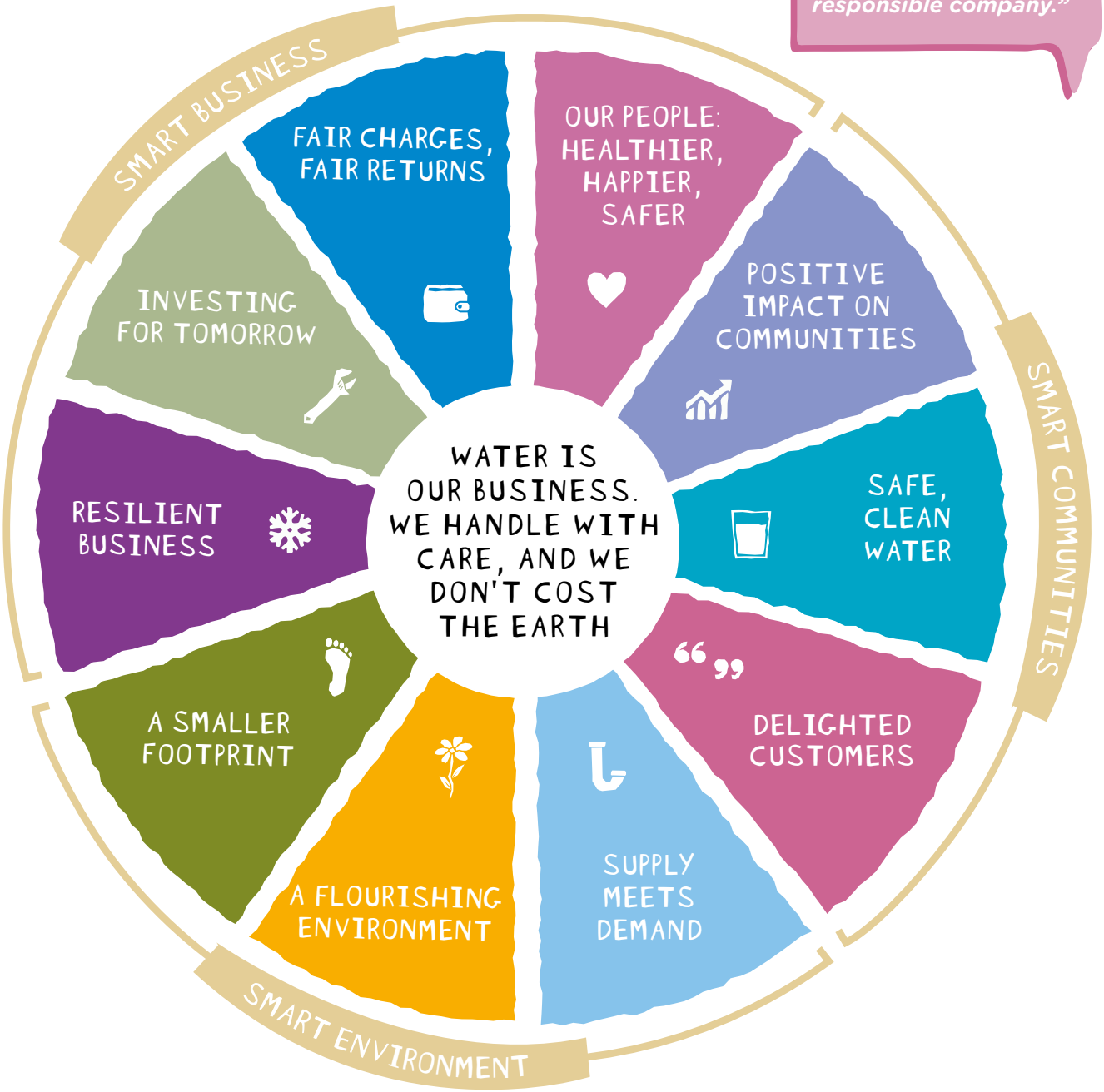
THE OUTCOMES OUR CUSTOMERS EXPECT

"They address the challenges of everybody."

Our 10 outcomes describe the future we are working towards. Developed with customers in 2013, we refreshed and updated our outcomes in 2017 to stretch ourselves even further.

"Anglian Water is continuing to make plans for problems that we face today and ones that may or may not be around in the future."

"Anglian Water's vision is to continue to provide clean water to every household (in drought or flood and without leaks) whilst ensuring that it operates as an environmentally responsible company."



SAFE, CLEAN WATER

Customers tell us that delivering safe, clean water is the most important thing we do. We must ensure the highest quality of water from source to tap, proactively responding to water quality risks as and when they arise.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Protect and improve raw water quality at source.
- Increase the resilience of our treatment processes.
- Safeguard quality across our distribution system.
- Ensure water is safe and clean inside the home.

OUR SUPPLY SYSTEM FROM SOURCE TO TAP

HOW OUR CHALLENGES AFFECT THIS OUTCOME

ENVIRONMENTAL PROTECTION

The Anglian Water region is vital to the UK's agricultural sector and is home to a huge number of farms. This means we are particularly affected by raw water quality issues associated with agricultural run-off. End-of-pipe solutions to remove pollutants come at a significant cost to our customers.

We believe that this risk needs to be managed at a catchment level and are committed to working with farmers and landowners to address this. We also need to work with the Environment Agency to reduce our abstraction where necessary.

CLIMATE CHANGE

Climate change projections suggest there will be lower, slower river flows in the future. This means pollutants will be less diluted. When combined with changing temperatures, this will have an impact on the ecology, microbiology and quality of water sources, and potentially our treatment processes too.

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Safe, clean water is seen by customers as the most vital service Anglian Water provides. Water quality issues undermine customer confidence and have significant reputational and financial impact.

Our customers expect us to find the most efficient treatment processes that minimise any impact on their bills. This means that we need to seek alternatives to end-of-pipe solutions.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

Our current operating model is vertically integrated and means quality control is managed holistically from source to tap. As upstream competition for water supply emerges, it will be imperative that new supplies compete on quality as well as price. This is the only way to ensure that water quality issues are addressed at the most efficient point in the chain.

Protect and improve raw water quality at source rather than relying on end-of-pipe treatment

Improving the quality of raw water entering our systems reduces the amount of treatment that is needed.

Catchment management is about preventing pollution from getting into raw water sources, rather than relying on end-of-pipe solutions, while delivering other benefits for the economy and environment. Building on the success of our approach to managing metaldehyde, we will continue to develop relationships with land owners and managers in our region to understand the challenges and opportunities to safeguard raw water sources and reduce the load of other pollutants entering watercourses. We will advance existing models to understand where the high-risk and priority areas are, and make projections about which initiatives will deliver the greatest benefits.

Where appropriate, we will engage with the Environment Agency, Government, land managers and industry on other potential pollutants, such as microplastics, plant protection chemicals, and personal care products, to minimise the amount that enters the environment.

To increase our resilience and make sure our customers benefit from competition to supply water, we will explore transferring water from other regions, and increase the connectivity of our own supplies. Of course, we will put measures in place to make sure that imported water does not cause any deterioration in quality. We will also consult with our customers on the acceptability of different sources used, as we know hardness, taste and odour can vary in different areas.

Increase the resilience of our treatment processes

Some water treatment works are 'too critical to fail'. That is, people would suffer unacceptable interruption to their supply if the works shut down. We will therefore increase the resilience of our water treatment works and implement multiple barriers to water quality failure, as outlined in our 'Resilient business' outcome.

We will consider how the nature and concentration of pollutants may change in the future and invest to ensure our works can cope. We will build on the experience we are gaining in our Shop Window to strive for an aspirational goal of chemical-free water treatment and 100 per cent compliance with drinking water quality standards.

Safeguard quality across our distribution system

We will continue to maintain our water networks and storage points to make sure that water quality is the highest it can be across our whole distribution system.

Regular inspections and maintenance of our service reservoirs and water towers will continue to form an important part of our water quality strategy. Preserving the structural integrity of our storage points to prevent ingress and reduce risk of bacteriological failures will remain a priority.

We have over 10,000km of cast iron mains across our region. If these iron pipes are unlined, they can cause issues with discolouration. Our mains renewal strategy will include replacement of these pipes and help us ensure a water supply that is acceptable to our customers.

We believe that the development of intelligent, self-monitoring water networks will allow us to take action immediately and avoid disruption for our customers. We discuss this in more detail in the 'Resilient business' section.

Ensure water is safe and clean inside the home

There are a number of issues to address when we look to ensure that water in homes is safe and clean. The two most significant challenges for our customers are the presence of lead and the risks of dual supplies in sustainable homes.

Our standard approach to stopping lead leaching from pipes is to dose water with orthophosphoric acid. However, phosphate is a finite resource, and we rely on imports, whose prices are high and volatile. We will continue to seek alternatives to dosing.

As more sustainable homes are built, dual supplies are becoming more common. As we discuss in the 'Supply meets demand' strategy, separating grey water and drinking water has the potential to reduce domestic water demand. However, we must work with customers, plumbers and developers to make sure that the mains water supply is properly connected and protected from the risk of any misconnection.

We will continue to work with our customers and organisations such as the Water Regulations Advisory Scheme (WRAS) to ensure that everyone looks after water quality in their homes and businesses and always uses a WaterSafe plumber, a national accreditation body for competent and qualified plumbers.

Lead pipe replacement

DELIGHTED CUSTOMERS

Our 'Delighted customers' outcome is all about putting customers at the heart of what we do. The world around us is changing, and we must be sure to listen and respond to our customers' changing concerns and expectations. This means utilising new methods of customer engagement, embedding a customer-driven culture across the whole business.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Better serve our customers by driving digital transformation across our business.
- Embrace new, engaging approaches and digital technology to make things as easy as possible for our customers.
- Continue to drive improvements throughout our operational practices and planning.
- Deliver excellent service to our retailers.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

AFFORDABILITY AND CUSTOMER EXPECTATIONS

What customers expect of their services, how much they are willing to pay, and how they want to communicate and engage with companies is changing. Other industries have led the charge in the digital space, introducing systems and processes to make things easier for customers. We know that we must embrace more modern, innovative ways of doing things, that fit with what our customers want.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

Market reform has created a whole new customer base in the water industry; non-household retailers. Along with potential future changes to the structure of the industry, this means we need to be capable of tailoring the services we offer to particular customer groups. Being sure to create a level playing field is increasingly important in competitive markets.

We recognise that expectations vary between different customers and that these expectations will change over time, so we must remain flexible and responsive to the needs of individuals. We know that new technologies and digital approaches will be key to the successful delivery of our 'Delighted customers' outcome.

Embracing new, engaging approaches and digital technology to make things as easy as possible for our customers

Providing a great service to our customers is business as usual for us throughout everything we do. However, we know we can't be static and the way we deliver our customer service strategy must continue to develop over time. We will need to embrace new technologies and processes to make things easier for our customers.

Other sectors have paved the way in delivering enhanced service to customers, especially through the utilisation of digital technologies. We are making a step change in how we leverage these technologies for the benefit of all of our customers: from providing consistent experiences across multiple contact channels to enhancing our service through behind-the-scenes technology. For example, smart meters will allow us to provide customers with the information they want, in the way they want it. We will also continue to develop and implement solutions to support our employees in delivering excellent customer service.

We recognise that the digital world is fast-paced, that new technologies are constantly in development, and that this in turn serves to influence customer expectations. Collaborative working between our Customer Service and Communications Teams, as well as our innovative technology alliance, will be critical in ensuring we stay ahead of new trends.

Continue to drive improvements throughout our operational practices and planning

The continuous supply of safe, clean drinking water and water recycling services is vital to our customers. We will need to modernise our operating model to ensure we are able to effectively deliver these services.

By adopting a proactive model of operational management, we will be better equipped to reduce the frequency and severity of incidents, such as supply interruptions, water quality events, sewer flooding, pollutions, low pressure, leakage and bursts. In our 'Resilient business' outcome, we outline how increased connectivity, monitoring and automation of our operational assets will support us in maintaining continuity of our core services.

When things do go wrong, we will respond efficiently and effectively to restore service. This will be supported by increased use of advanced data analytics, near real-time monitoring and automation of our operational assets. In addition, better connected, highly responsive employees will support us to deliver excellent levels of service.

"Considering they have no competitors customers could change to, it does surprise me the lengths they are going to to ensure satisfaction. It is comforting to know there are still large companies looking at the whole picture."

Delivering excellent service to our retailers

The introduction of non-household competition has created a whole new customer base – retailers. We will ensure a level playing field and deliver the same high-quality service to all competing retailers.

We believe excellence can be achieved by taking a proactive, flexible approach and working in collaboration with retailers and the market operator. Supporting retailers to deliver excellent service to the end user is important to us as we strive to facilitate economic growth and prosperity in our region.

Ensuring that retailers are satisfied with the service we provide will require us to learn from continuous engagement and adapt our offering based on their feedback to deliver excellent customer service.

SUPPLY MEETS DEMAND

Increasing pressures on water resources mean we face both short-term and long-term challenges in matching supply to demand. As a resource-efficient business we need to continuously reduce demand and leakage. We'll take a collaborative approach to identifying any options that may help us to enhance our supply in the future.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Using risk-based adaptive management to plan for an uncertain future.
- Effective demand management including reducing leakage.
- Facilitating water-efficient housing.
- Identifying affordable, resilient long-term supply options.
- Long-term adaptive planning for water recycling.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

CLIMATE CHANGE

The challenges of climate change, population growth and environmental pressures combine to increase the gap between the water available for supply and the demand from our customers. In the wastewater part of the water cycle, the same challenges mean that demand for drainage and sewerage capacity will increase. Water and water recycling services underpin growth and development – planners and developers must be confident that our infrastructure will be delivered at the right pace. These challenges are all set to increase well into the future.

AFFORDABILITY AND CUSTOMER EXPECTATIONS

In the current economy, our customers rightly expect improved levels of service from us without increased bills, yet we cannot defer investment if it would mean unacceptable, steep price increases for future customers.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

The introduction of upstream competition to supply water may give us lower cost solutions to developing supplies. We also hope that it will encourage multi-sector provision of water resources to maximise efficiency in the region as a whole.

PLANNING FOR THE LONG TERM

The impacts of population growth, climate change and environmental pressures will take time to become clear, but we need to be preparing now for an uncertain future. Investment should be made at the optimal time to balance cost and risk.

Using risk-based adaptive management to plan for an uncertain future

Our Water Resource Management Plan is the primary vehicle for delivering this outcome on the water side. Our overarching plan for supply and demand is to continue to reduce leakage and per capita consumption, and we expect to choose demand-side options before supply-side options wherever it is reasonably likely that the benefits will outweigh the costs.

The future for supply and demand is characterised by long-term uncertainty related to growth and climate change and short-term risks associated with droughts, environmental compliance and exports via bulk supply agreements. Where supply-side options are still required, we will take an adaptive approach to planning for major infrastructure to maintain the balance between supply and demand. This allows us to identify the 'least regret' options and those that perform well in a range of futures, rather than optimising for a single scenario.

We will work collaboratively with our stakeholders, neighbours and supply chain both to get a richer understanding of the vulnerabilities in our region and to find the most efficient and effective ways of meeting demand. To support this approach, we initiated Water Resources East (WRE) (see page 19). This regional multi-sector partnership will help identify how much extra supply we need in the east of England; where and when deficits will occur and what the alternative options for new supplies are. WRE facilitates effective engagement between stakeholders and will help us develop more affordable long-term strategies that maximise the use of available resources.

Effective demand management

We will continue to develop a demand management strategy that is stretching, evidence based and integrated. We consider demand management in the widest possible sense, including any potential activities that could reduce future demand for treated water supplies. We will develop targets in an integrated fashion, recognising key dependencies and basing decisions on evidence and robust cost–benefit analysis. We will learn lessons from delivery of our 2015–2020 Outcome Delivery Incentives (ODIs) for leakage and per capita consumption (PCC) to inform development of our future strategy.

Household efficiency

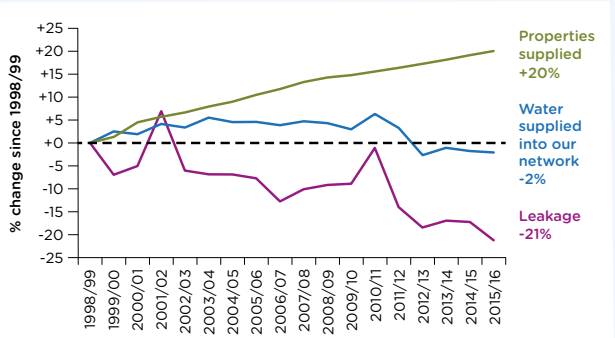
We are committed to supporting our customers towards more sustainable household water consumption levels. Not only will this reduce demand on finite water resources, it will help to reduce customer bills.

At 86 per cent, we have one of the highest levels of meter penetration of any water company and we look to increase this further. Intelligent metering forms a vital part of our household water efficiency strategy. Learning from our experience in Colchester and Newmarket, we will expand our smart metering programme across the region. This will be supported by innovative, consistent and personalised engagement with our customers around water efficiency, underpinned by behavioural economics approaches.

As water scarcity increases, the importance of working multilaterally to encourage responsible water stewardship among customers will become more apparent. We will develop relationships with retailers in the new non-household market and work with them to help business customers improve their water efficiency.

Leakage

In our view, the Sustainable Economic Level of Leakage (SELL) takes a narrow view of the economic cost of water that does not recognise its true value to society, wider economic growth and the environment. Leakage is a waste of our valuable natural capital, and we should not ask customers to make significant changes to their own water use while our leakage levels are high. So, we will continue to seek to outperform both the SELL and other Water and Sewerage Companies on leakage. Innovation will play a vital role in our leakage strategy over the next 25 years. Through our Shop Window initiative, we will accelerate learning around network management in the pursuit of an aspirational target of zero leakage and bursts.



Facilitating water-efficient housing

Well-designed modern homes can greatly reduce the amount of water their inhabitants need to use. We see two main routes: water-efficient homes and sustainable infrastructure associated with new development.

At a property level, homes might be made more water efficient, for example, by fitting water-efficient bathroom fittings and rainwater harvesting systems.

On large-scale developments, the design of on-site infrastructure can reduce the burden on the supply and recycling networks. For example, separate systems for potable water uses and for recycled non-potable uses (for example, toilet flushing or garden watering) can reduce the demand for potable water supply. Sustainable urban drainage systems can reduce the impact on the water recycling system.

We will explore the scope for incentivising water-efficient development through the infrastructure charging scheme and for funding the additional cost of sustainable drainage infrastructure. We will work with land developers and home builders to explore potential pilot solutions associated with various scales of development. A key consideration to facilitate such approaches will be to ensure that the regulatory mechanisms for remunerating investment are agile enough to recognise these innovative approaches.

Identifying affordable, resilient long-term supply options

Both our own company assessments and the Water Resources Long-Term Planning Framework point to a need for supply options to meet future demand and provide a resilient service, even with very stretching demand-reduction strategies.

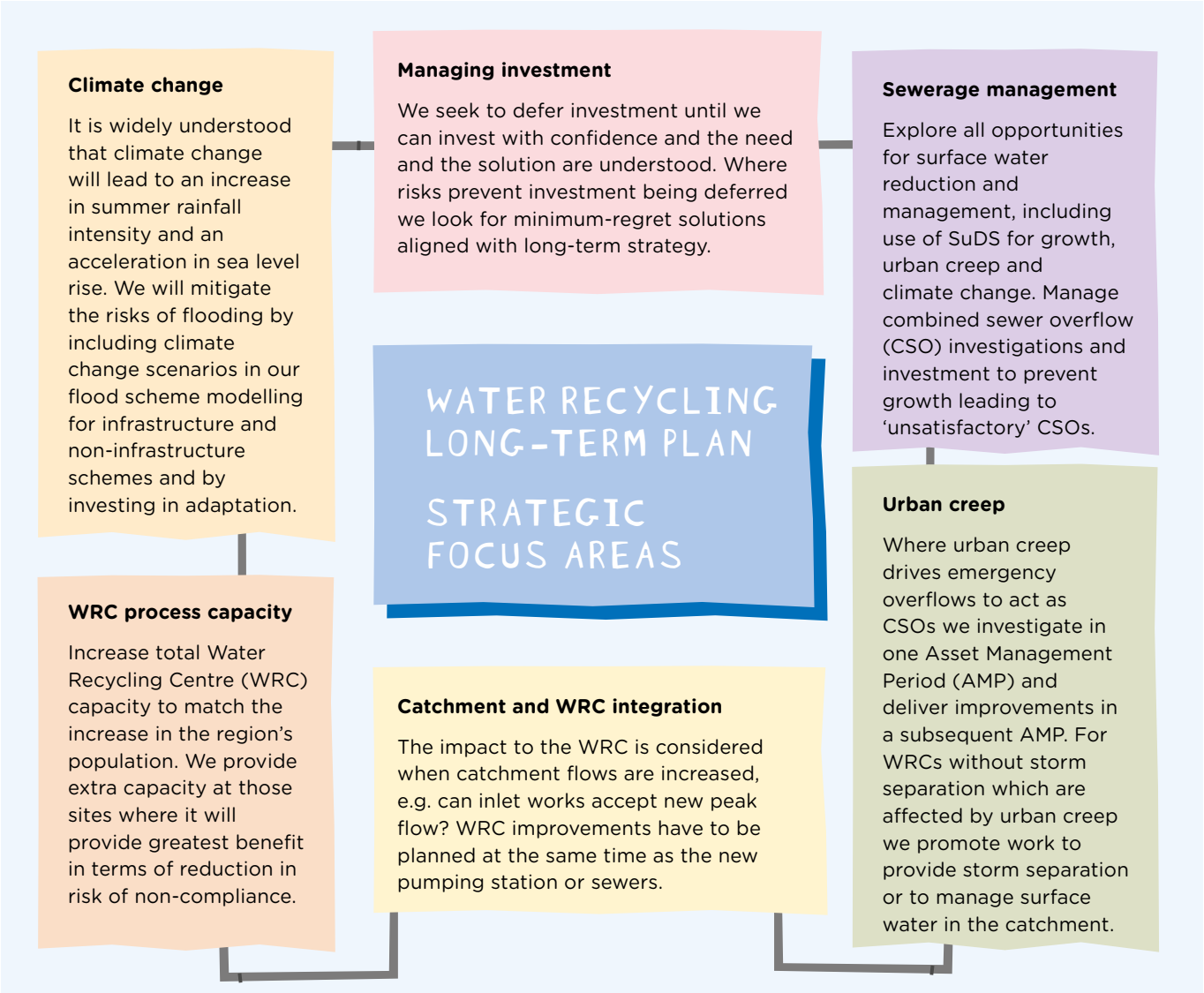
Supply infrastructure requires significant investment and has long lead times. We will ensure we have robust, well-tested plans that pursue a cost-efficient strategy, while not foreclosing options that may turn out to be cost beneficial if a different scenario emerges.

Our WRMP will explore increasing our regional connectivity, interregional transfers and associated storage, desalination and effluent re-use.

Long-term adaptive planning for water recycling

Similar to our strategy on the water side, we will apply a twin-track approach to ensuring our water recycling systems are capable of meeting the six strategic aims set out in our Water Recycling Long-Term Plan (see below).

Where feasible we will implement demand management strategies, for example, by strategically removing surface water from combined sewers and maintaining the serviceability of our water recycling infrastructure. However, in some high-growth catchments, supply-side options such as increasing the capacity of our sewers and water recycling centres will be inevitable.



Making the right investments

We have a responsibility to keep customer bills affordable, so ensuring confidence in our investment decisions is a key priority. The development of long-term adaptive plans will allow us to defer investment until we know where supply–demand deficits are going to manifest and which investment option will resolve the deficit most effectively.

This new approach to generating investment horizons requires us to develop and monitor key indicators, such as capacity trends, which trigger investment in new infrastructure at precisely the right time to meet increases in demand. To achieve this, we will dedicate investment to investigations in one AMP and delivery of the optimal solution in the following AMP.

Where risks are so significant that investment cannot be deferred, we will look for minimum-regret solutions to resolve supply–demand deficits in our water recycling systems.

Sewerage management

We are working with Water UK to promote the 21st-Century Drainage Programme, addressing key challenges to our sewerage systems including population growth, urbanisation and climate change.

Our overall aim for our water recycling network is to retain flows within our sewerage network, which will reduce incidents of flooding; reduce pollution events; minimise our impact on communities and satisfy our customers; and reduce reactive total expenditure (totex) costs.

On the demand side, we expect to see an increase in surface water entering our sewerage network due to increased rainfall as a result of climate change and increased run-off as a result of urban creep. We will identify opportunities to remove surface water from our network or control flow, employing sustainable attenuation and drainage solutions where feasible. At least one-quarter of our sewerage capacity schemes will incorporate sustainable solutions.

Where increased demand on the network is a result of population growth alone – rather than surface water infiltration – it will be necessary to increase the capacity of some strategic sewers.

Water recycling process capacity

Water recycling centre flow and biological capacity increases will be required to meet increased demand generated by population growth. Investments will be prioritised at sites where it will provide greatest benefit in terms of mitigating risk of compliance failure.

Catchment and water recycling centre integration will be essential to meeting our ‘Supply meets demand’ outcome. Where catchment flows are increased, expansion of, or improvements to, the process at the receiving water recycling centre will be planned simultaneously.

A FLOURISHING ENVIRONMENT

We depend on the natural environment to deliver sustainable services to our customers. So we must ensure that our activities enhance the environment rather than damage it. Mounting environmental pressure combined with legislative change are key long-term challenges that we need to address, alongside our partners.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Minimising the impact of our operations on the environment and working with others to reduce theirs through catchment management and reducing abstraction.
- Conserving habitats and biodiversity.
- Engaging with policy development.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

ENVIRONMENTAL PROTECTION

Changes in legislation will impact environmental quality over the long term. Britain's departure from the EU may create both opportunities and obstacles to delivering environmental benefits.

POPULATION GROWTH

Housing and population growth will increase the biological loading of influent to water recycling centres. In high-growth areas, we may need to expand treatment capacity at our water recycling centres to minimise impact on receiving watercourses.

CLIMATE CHANGE

Climate change projections suggest there will be lower, slower river flows in the future. This means pollutants will be less diluted. When combined with changing temperatures, this will have an impact on the ecology, microbiology and quality of water sources, and potentially our treatment processes too.

AFFORDABILITY AND CUSTOMER EXPECTATIONS

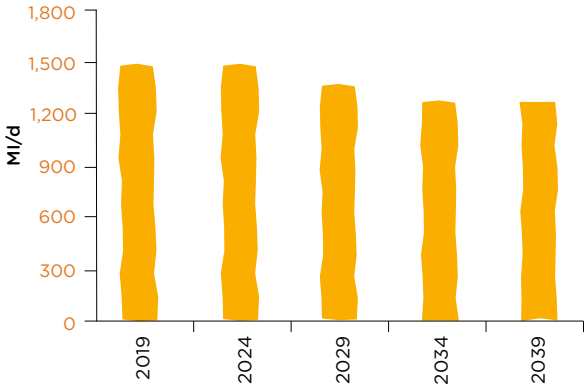
Customers are increasingly aware of environmental issues. There is an expectation that companies reduce their impact on the environment, but not at great cost to customers. To meet this challenge, we will need to become more efficient.

Minimising the impact of our operations on the environment

The nature of our business means our operations have the potential to affect the environment, both positively and negatively. Using robust evidence, we will continue to work with the Environment Agency and other stakeholders to identify where our operational assets may be having an impact on the environment. We will agree affordable measures that can help meet European and national Water Framework Directive targets.
We set out our strategies for reducing the impact of our operations on the environment on the next page.

"At the end of the day, I water the plants, have a shower. They're all relevant, if people can save water it's good for the environment."

Projected deployable output based on reduction in abstraction licences



We expect that measures to protect the environment will reduce the amount of water we can abstract by 200 Ml/d by 2040.

Sustainable abstraction

Our region's water bodies need a certain level of flow to maintain their quality. We will continue to work with the Environment Agency to identify where our abstractions damage the environment and, where they do, we will find ways to restore abstraction to sustainable levels.

Preventing pollution

We will use a combination of hard and soft solutions to minimise pollution incidents attributable to our assets, focusing on removal of surface water from our sewerage networks to eliminate overloading during storm conditions. Investing in sustainable drainage systems (SuDS) where feasible will help to deliver this outcome.

Managing discharges to the environment

We will continue to control our impact on watercourses by treating final effluent to a high standard, in line with increasingly stringent consents. Where population and economic growth leads to additional biological loading, we will expand or optimise our treatment processes to cope with this. In line with the Bathing Waters Directive, we will continue to prevent pollution of our coastal waters and increase the number of our beaches achieving the 'Excellent' classification.

Working with others: Integrated Catchment Management (see 'Safe, clean water' section)

As well as managing the impact of our own operations, we have a role to play in helping others minimise their impact on the natural environment. Integrated Catchment Management not only helps to improve the quality of raw water at source and reduce the need for treatment, but also helps to reduce pollution. We will take a 'Catchment to Coast' approach to find and reduce pollution to maintain the excellent standards of our region's coastal waters.

Conserving habitats and biodiversity

Taking care of our Sites of Special Scientific Interest (SSSIs)

We will continue to bring our SSSIs into favourable condition to meet the 50 per cent and 95 per cent targets and exceed them where possible, as is our legal duty. We will identify priority habitats on our land and work with operational colleagues to implement appropriate management.

Delivering our biodiversity duty

We are committed to delivering our biodiversity duty under the Natural Environment and Rural Communities (NERC) Act 2006. This means we consider the conservation of biodiversity when going about our business, and relates to habitats and species of principal importance, many of which are found on our operational assets. Identifying and managing important areas of wildlife habitat on our landholdings will be a long-term priority.

Contributing to landscape-scale conservation in our region

We will identify landscape-scale projects across our region and identify what role our landholdings could play in delivering project targets. We will implement measures where we can do so effectively and with the resources available.

Engaging with policy development

We are committed to complying with all environmental legislation and ensuring legislation benefits the environment and our customers. To support this, we will continue to engage with Government, the Environment Agency, Natural England and Ofwat on future environmental regulation. Although the UK is leaving the EU, decisions made in the EU will likely continue to affect us and so we will continue to engage with the European Commission and other bodies, through EurEau and directly.

The Water Framework Directive is one of the most influential pieces of environmental legislation. We will continue to seek clarity on what is meant by "no deterioration" under the Directive. With our partners and regulators, we will investigate opportunities to protect and improve the environment more efficiently following the UK's exit from the EU.

A SMALLER FOOTPRINT

We are becoming the sustainable business that our customers and stakeholders expect us to be through the application of reduced carbon, circular economy and natural capital approaches. We are doing this in a way that also reduces costs, allowing customers to see benefits directly in their bills.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Minimise the carbon impact of our business and become carbon neutral by 2050.
- Apply circular economy thinking across our business to maximise resource re-use.
- Preserve and enhance natural capital such as the water environment.

OUR CARBON GOALS

Operational carbon

To exceed a 7% reduction in real terms in operational carbon by 2020 from a 2015 baseline.

Capital carbon

To deliver a 70% reduction in capital carbon by 2030 from a 2010 baseline.

Become carbon neutral by 2050

HOW OUR CHALLENGES AFFECT THIS OUTCOME

CLIMATE CHANGE

Our dry, flat, low-lying region is particularly at risk from the impacts of climate change. We therefore need to lead by example in our efforts to reduce our carbon footprint.

POPULATION AND ECONOMIC GROWTH

We must find efficient methods of delivering infrastructure and services to a growing customer base, which reduce demand on scarce resources and limit both capital and operational carbon as far as possible.

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Sustainable approaches often lead to lower costs and therefore lower bills for customers. Customers also increasingly expect companies to operate sustainably.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

Opening the water sector to new markets in bioresources and water resources provides opportunities for innovation to drive more sustainable services overall.

Minimise the carbon impact of our business and become carbon neutral by 2050

Understanding our carbon footprint was just the beginning. The flat nature of our geography means that we use more energy than most companies to pump water to our customers. We are also an asset-heavy industry, meaning we are responsible for considerable capital carbon in our distribution and treatment assets.

We've been meeting our ambitious commitments to reduce both operational and capital carbon since 2010. In line with Paris COP21, we will work towards carbon neutrality by 2050. We will work towards this ambitious goal by following our Low Carbon, Low Cost strategy.

- Collaborate with our supply chain, design and delivery partners to reduce capital carbon and cost.
- Reduce energy consumption in operational activities, by eliminating the need for some activities or finding alternative ways to operate.
- The majority of our current renewable generation comes from our Combined Heat and Power (CHP) sites but our sites can also host other forms of renewable generation, such as wind or solar. We plan to increase the amount of energy we generate from all these sources to meet our goal.

Apply circular economy thinking across our business to maximise resource re-use

We recognise that our very operation is a circular system: abstracting water from the environment and treating it for public water supply needs, before collecting it as sewage, treating it and returning it to the natural environment. However, we must also recognise that this system does not stand apart and is inherently interconnected with others. Understanding this enables us to look for opportunities to maximise the re-use of scarce resources.

For example, in our water recycling services, we already turn what has traditionally been considered 'wastewater' into valuable inputs into other processes and industries. Biosolids are re-used in a variety of ways, from returning nutrients to agricultural land from digested sludge to generating heat and power from our CHP plants. The water itself can be re-used in industry or agriculture, reducing the amount that needs to be removed from the environment for those purposes – and what is not used in these ways is returned to the aquatic environment.

In the future, we expect to also produce gas to the grid and transport fuel. As technology advances we also anticipate that it may become cost effective to mine biosolids for other materials derived from scarce resources, such as micro-plastics.

Preserve and enhance natural capital such as the water environment

We support the Natural Capital Committee's recommendation that Ofwat should encourage water companies to promote natural capital catchment-based approaches in their PR19 business plans.

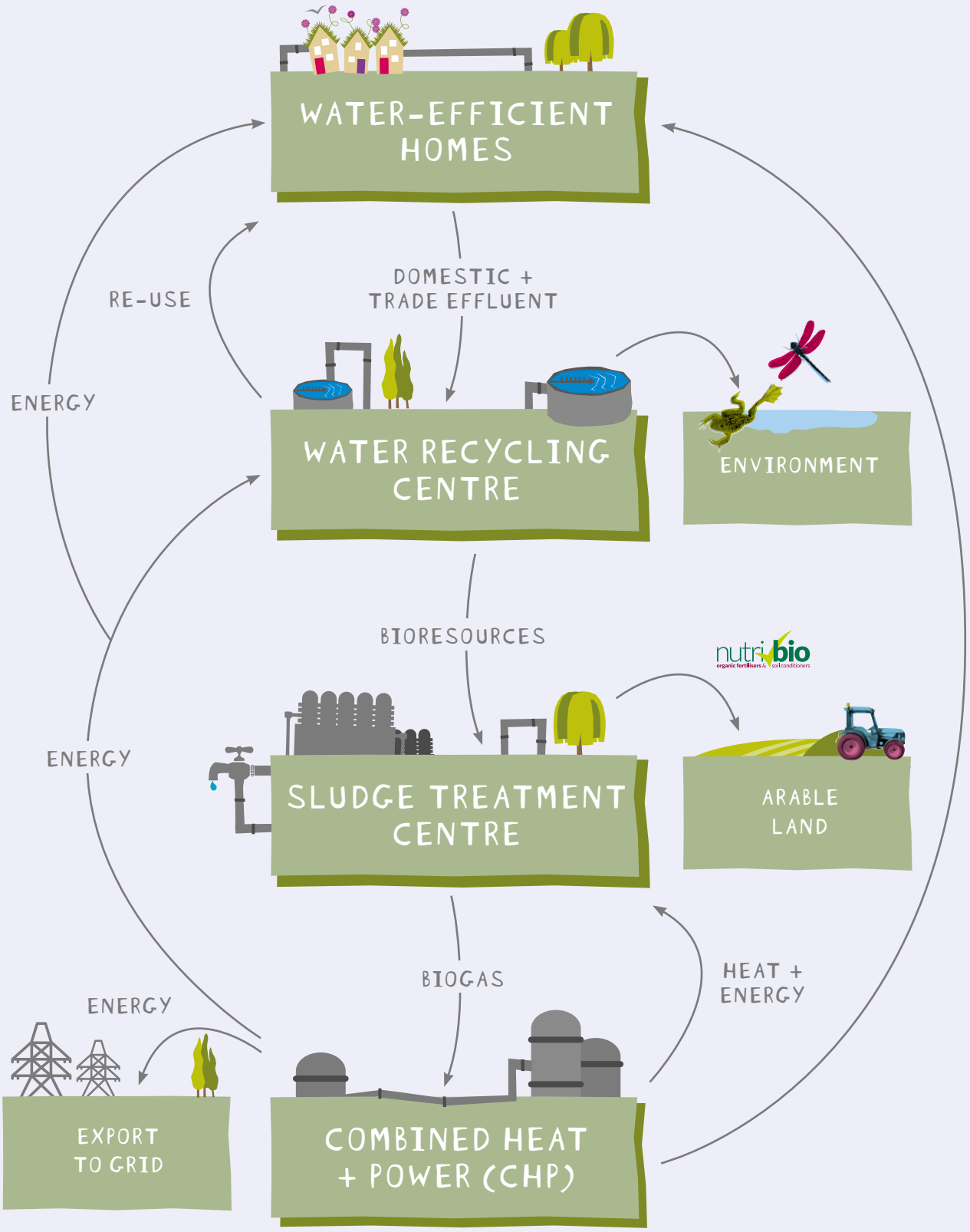
Every litre of water we use in our business is natural capital that has to be taken from the water environment. Even though the vast majority of this water is returned to the environment, while it is in our systems it is not available to meet the needs of the environment, agriculture or other industries. In times of drought, there may not be enough to meet all of these needs. Therefore, we have a duty to fully understand our water footprint and seek to reduce the amount we need to directly supply to customers or to build and operate our assets. Water footprinting is more complex than carbon footprinting but we are working to develop this area within our business.

As well as reducing the demands we place on this natural capital we also see ourselves as key players in the stewardship of water resources, with a role to enhance them where possible. We have a holistic vision for catchment management, beyond protection of water sources from pollutants. By working together across sectors, we can ensure that everyone gets the most out of this precious resource, and identify opportunities for innovative approaches and shared funding. We therefore see value in taking a lead on natural capital approaches to water resources in pilot areas in our region. If this proves effective, we would seek to apply this thinking more widely.

Natural capital stocks are a shared resource. So it makes sense to share information about them with other organisations in shared geographic areas, like catchments, or Local Enterprise Partnerships.

We also know that the pressures on natural capital interact with one another. We'll seek to understand these interdependencies better as well as how they impact the overall natural capital outcome. We'll look to help identify solutions that act across multiple areas and multiple drivers.

CIRCULAR SYSTEMS: WASTEWATER TREATMENT



RESILIENT BUSINESS

Our customers need our services to operate around the clock, whatever the conditions. Our assets must therefore be able to cope with the impacts of disruptive events, in particular droughts and flooding.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Increase our resilience to drought.
- Improve our resilience to flooding.
- Improve understanding of risk throughout our business and among our customers.
- Mitigate risk from catastrophic water treatment works failure.
- Increase our operational resilience through inter-connectivity, energy resilience and cyber security.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

CLIMATE CHANGE

We expect more frequent, more severe weather events as the climate changes. Our low-lying coastal area is exposed to the risks of floods from coasts, rivers and surface water. Conversely, our position in the dry South East means we also face a real and growing risk of severe drought.

POPULATION AND ECONOMIC GROWTH

As populations grow, the demand for water increases and the rate of urbanisation increases the pressure on sewers and the drainage network. A larger population also means that more people will be exposed to these risks, increasing the impact of any events that do arise.

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Extended periods of loss of service, as might be experienced in a severe drought, are unacceptable to our customers. Customers expect unavoidable interruptions to be dealt with quickly and with minimum impact on them. Bills must be affordable so we must deliver resilience without a sharp increase in bills, and without passing the cost unfairly onto future customers.

New jobs and homes and a thriving economy, driven by research and enterprise, all require resilient infrastructure and good water management. The area we serve hosts world-renowned research institutions, hubs for innovation and new technology, and is the key provider of agricultural services, food and drink in the UK. The area boasts more than 700,000 jobs and provides more than £30 billion to the economy per annum. However, without resilient water management, these leading industries like farming and food and drink production will suffer. More than that, there can be no new housing, no new businesses and our environment will decline.

Droughts and floods, like those that followed each other in 2012, and coastal surges, like the one in December 2013, are all more likely and our infrastructure needs to be resilient enough to deal with this. Very often, taking steps to reduce these risks can be the key to unlocking growth and prosperity.

Improve our water supply systems' resilience to drought

Unlike some other pressures on the supply-demand balance (See 'Supply meets demand' outcome), the threat of drought is immediate and requires a step change in our water supply systems to increase resilience.

We have explored our vulnerability to drought, building on our response to the drought of 2012, which severely stressed our systems, and on the Long Term Water Resources Planning Framework, which tested England and Wales's water supply systems against the kinds of drought we might expect under climate change.

It is clear that a failure of the water supply system, that is, when piped supplies are not available, is unacceptable to our customers. Furthermore, while it is possible to replace piped supplies with standpipes or tankered supplies at a relatively local scale for a relatively short period, these solutions are not likely to cope with a widespread regional drought.

Given the other pressures on our customers' spending, it is clear that bills must remain affordable. We will therefore seek efficient ways of increasing our resilience that offer high cost-benefit ratios.

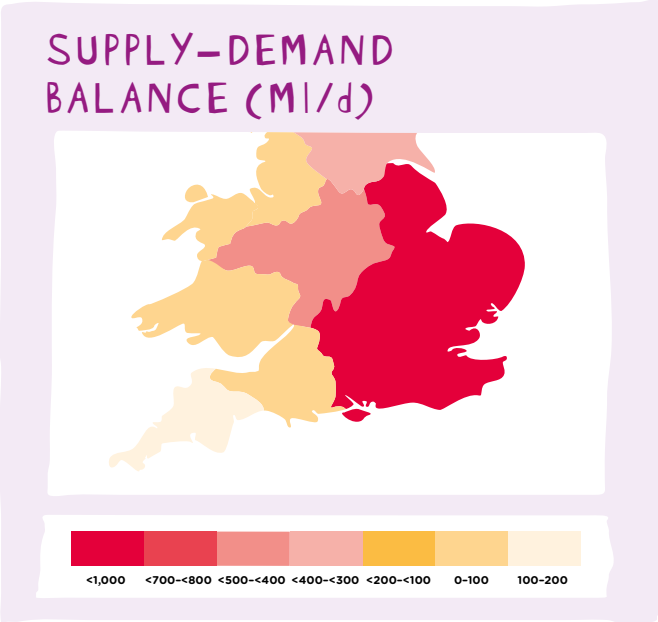
An important part of this is to make the supply demand problem smaller by ambitious, innovative demand management, as we discuss in our 'Supply meets demand' outcome.

We will aim to increase our capacity for transferring and storing water, both within our region and from other regions so that we can import water from areas that are not experiencing a drought, subject to avoiding environmental or quality impacts. We will make sure we understand the environmental and economic impacts of all the resilience options, building on the Water Resources Long Term Planning Framework. We will maximise the benefits of trading and upstream competition to increase our flexibility, adaptability and resilience at the best price for our customers.

The map opposite illustrates the potential scale of deficits in 2040 if no demand and supply strategies are put in place for a combination of severe drought, extended climate change, extended abstraction reductions and high growth.

Improve our resilience to flooding

Inland, surface water and river flooding can threaten homes and businesses, but defence schemes can hugely increase the cost of new development and can be a real obstacle to growth. SuDS, like rain gardens, swales and permeable pavements, offer a low-tech and inexpensive way to reduce the risk, but uncertainty about their ownership and over who pays to operate and maintain them means there are far fewer than there should be.



Source: Water UK (2016) Water Resources Long-Term Planning Framework

The cost of connecting new developments to water and sewerage, along with other utilities, can also be a brake on growth, especially in rural areas, of which this area has many.

These are complex challenges that we all have a stake in overcoming. Collaboration with other businesses and local and national Government will be vital in order to coordinate, plan and deliver new, resilient infrastructure. The Water Act makes it clear that ministers want to see this kind of innovation and joint working, with measures to create a better managed, more resilient water sector to underpin economic growth.

We set out our strategies for managing the flood risk that our assets can pose to others in 'Supply meets demand'. However, our assets and operations are themselves at risk from flooding. Our long-term strategic priority is to effectively monitor, manage and mitigate risk. We will seek to invest in permanent flood defences for our assets where cost is beneficial. Our cost–benefit assessment will be based on extensive risk assessment and continuous monitoring. Mitigating flood risk at these sites is a priority.

Partnership funding will continue to play an important role in how we approach flood risk management in future. We will continue to determine the cost–benefit of partnership schemes on a case-by-case basis.

"More thinking needs to go into capturing this [flood] water further up the cycle so it can be stored before it dramatically impacts on the landscape. Drought goes hand in hand. If we could store flood water earlier, it can help alleviate drought later in the year."

Improve the understanding of risk throughout our business and among our customers

Resilience depends on understanding the risks and consequences of failure. We will improve our understanding of the condition and performance of our assets and operations, and, crucially, of the external factors that affect our resilience. We will draw on the drought and resilience modelling in the Water UK-led Water Resources Long-Term Planning Framework and supplement it with more granular data and modelling in our region through Water Resources East, our Water Resource Management Plan and our Water Recycling Long-Term Plan.

We will use our deeper engagement with customers to help them understand the risks they face and the costs and consequences of failures in our systems, including the issue that no system can be resilient to all eventualities. We will also do what we can to help our customers learn how to increase their own resilience to flooding.

We will discuss the costs and benefits of different approaches and levels of resilience with our customers and stakeholders to make sure we understand their views and acceptability of outcomes and costs.

We will work with the rest of the sector on developing meaningful performance metrics to monitor and report how we are making our services more resilient and to help us identify ways of improving.

We will also work with interdependent sectors, such as energy, agriculture and other flood authorities, to understand how the resilience of our own assets and operations affect each other, and crucially how we can respond to events together to better serve the region's residents.

Reducing risk from catastrophic water treatment works failure

Approximately 25 per cent of customers in our region are at risk from water treatment works failure; that is, where natural or man-made threats to water quality, capacity or the operation of a works result in loss of treatment and there are no easily deployable alternative supplies available to mitigate an interruption to supply.

Over the next 10 years, we will invest to increase security of supply at our surface and groundwater treatment works. This will increase our resilience to unforeseen changes in raw water quality, contamination and prolonged drought. We will continue to investigate the possibility of using mobile treatment plants to restore supplies in areas where catastrophic failure has occurred.

Increasing our operational resilience through inter-connectivity, energy resilience and cyber security

As our operations are already volatile and inherently tied to the natural environment, the impacts of extreme weather will likely be amplified for us. Some of the key risks we face include failure at our treatment works and to our infrastructure; shocks to our supply chain and energy security; and increased cyber security threats as operational assets become increasingly interconnected.

Inter-connectivity and smart infrastructure

Increasing the inter-connectivity of our treatment works and networks over the next 25 years will allow us to respond more rapidly to single component failure and ultimately minimise the risk of service interruptions. Real-time monitoring and automated response to unexpected change will reduce the role of manual intervention, especially where simple resets are required. Overall, this will help us to maintain a calm network and treatment works that operate optimally – both in water and water recycling.

Energy

As an energy-intensive business, maintaining energy supplies at our sites is fundamental to our operational resilience. We will manage the way we purchase, generate and consume energy to balance the energy trilemma and mitigate the risk of catastrophic power outages.

We will continue to reduce our reliance on the National Grid and energy suppliers by increasing energy generated on site. This will give us greater control over the cost and reliability of our energy. Around 16 per cent of our energy comes from renewable sources, predominantly from CHP generated by biogas at our Sludge Treatment Centres. Over the long term, we will continue to optimise how much CHP we are able to produce and to use energy generated from solar and wind power where viable (see 'A smaller footprint' strategy).

Peak lopping reduces demand on the grid, saves us money and encourages us to operate our diesel generators less frequently. Managing our demand will therefore enhance our resilience to power outages. We will look to source back-up generation where appropriate.

Cyber security

Rapid evolution of operational technology presents us with new efficiency and resilience opportunities. However, convergence of operational technologies with IT, internet-based connectivity and remote control of assets also increases the risk of dangerous third-party intervention. We will take a proactive approach to understanding these risks and introducing mitigations to ensure that new technologies are developed with the security of our physical and digital assets in mind.

Supply chain

Supply chain resilience will be crucial to maintaining operations and supply to customers. Historically, we have considered the short-term availability of products and services. Moving forward, we must consider whether there is likely to be a market and supply over the long term, recognising the multitude of factors affecting viability of markets, including the availability of labour and physical resources, as well as global geopolitical and economic factors.

INVESTING FOR TOMORROW

Our customers want us to plan ahead to ensure that our assets can deliver our core services, both now and in the future. We have a responsibility to current and future customers to plan our investments so that costs, risk and benefits are balanced fairly across the lifetime of our assets.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Extending our proactive maintenance strategy.
- Further develop our alliancing strategy.
- Embedding an innovation culture.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Customers expect us to plan ahead, ensuring that we are able to cope with challenges such as climate change and growth, while keeping bills affordable in the present.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

Good asset stewardship will be essential for maintaining investor confidence. The possible introduction of competitive procurement for upstream assets is a potential source of uncertainty.

PLANNING FOR THE LONG TERM

Developing and implementing a long-term investment plan for our assets will be critical for meeting increased demand for the services we provide and their long-term resilience. We must ensure that investments are made at the optimal time to ensure 'least regret', without deferring investment so far that unacceptable costs or risks accumulate to future customers.

We will pioneer responsible asset stewardship to safeguard our core operations, allowing us to meet the needs of our current customers, while making our business robust to future challenges.

An alliance that joins up the organisation across the value chain creating value for the business and the alliance members through effective, joined-up decision-making

Extending our proactive maintenance strategy

Dynamic asset planning

We will take a more proactive approach to our asset maintenance strategy. By monitoring our assets' performance, we will be able to predict when and where failures and poor performance are likely to occur and treat problems before they affect customers. This dynamic asset planning will allow us to make smart, timely investment decisions, based on the most up-to-date information. This approach will be based on collaborative asset strategies developed by stakeholders across all business units, providing greater confidence that investment decisions will add value and support whole lifecycle optimisation.

Soft assets

We expect to rely more and more on softer assets, such as monitoring equipment and digital technology, which will need a different maintenance strategy. Softer assets tend to have shorter lifespans and are often quickly rendered obsolete by new technologies. Maintaining and updating of these assets is likely to increase demand for expenditure on technology as part of maintenance expenditure. We will use these softer assets to seek to extend the operable life of our harder assets through more effective maintenance interventions.

Further develop our alliancing strategy

Our alliancing model, where we share risks and benefits with our delivery and supply partners, has brought huge benefits to our customers, investors and business. We will develop this approach further so that everyone shares the success of cost-saving efficiencies.

We are remapping our asset management processes and introducing systems to support this extended alliancing approach. This will help us to remove inefficiencies across the asset management process by removing duplication of work, facilitating the seamless flow of information between business units, and ensuring that decisions are made by the right person at the right time.

Overall, a unified alliancing approach will ensure that our assets perform optimally over the long term, thus leading to more cost-effective investment and reducing reactive work for our operational business units so they can focus on the customer.

Embedding an innovation culture

Embedding an innovation culture and employing the most up-to-date technology will put us in a better position to meet our challenges over the long term. Forming strategic partnerships – with global technology companies, research institutions, suppliers and key local stakeholders – to deliver innovation initiatives will be critical.

Our Shop Window presents a unique opportunity for us to trial new ideas, working collaboratively across business units to meet strategic objectives. By creating an innovation hub in the Newmarket catchment, we will build a microcosm of our future business and accelerate our learning around the synergies between different innovations. Strategically rolling out successful solutions will ensure that we are prepared to meet future challenges, as defined by the seven aspirational goals we set out for our Shop Window.

We will also engage with businesses of all sizes, from local SMEs to global corporations, to identify new opportunities and trial their products. Our Water Innovation Network (WIN) will continue to support this multilateral approach.

FAIR CHARGES, FAIR RETURNS

This is a vital balance: customers should feel our bills reflect good value for money, and fair investor returns should ensure we can continue to invest to maintain and improve services. Affordability will be underpinned by an efficient operation. Efficient financing, engagement in markets and optimised capital investments will translate into value for money for customers, and where affordability is a challenge, support will be available.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Driving efficiency in our capital programmes and operation to deliver value for money and affordability.
- Designing new approaches to social tariffs.
- Reducing bad debt.
- Reforming developer charges.
- Continuing to seek the most efficient and sustainable means of financing our business.
- Engaging in new markets for the benefit of customers, mindful of the potential for markets to affect financing costs.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Many customers are facing greater affordability challenges than when we published our SDS in 2007. Bills must be kept at affordable levels and we must continue to deliver and improve our services. To do this we will do more for less by driving efficiency in our capital investment operation and financing costs.

MARKETS, STRUCTURE AND FINANCING OF THE INDUSTRY

Future changes to the structure of the industry, particularly the possible introduction of domestic retail competition, mean we need to ensure our bills are competitive and offer value for money. The allocation of Regulatory Capital Value to different parts of the value chain and the introduction of markets have the potential to affect investor confidence, affecting our risk profile.

PLANNING FOR THE LONG TERM

Long-lived assets should be paid for by customers over the life of that asset. This means we will remain a cash-negative business for the foreseeable future and require financing to fund investment in those assets. Efficient financing over the long term benefits current and future customers, but is dependent on investor confidence and the rates at which investors are willing to finance this investment.

Reducing bad debt

Most utility providers are able to disconnect customers who do not pay. This is not the case for water companies who – since 1999 – have been unable to take this step. This has led to a significant increase in the level of bad debt across the industry, as the bills of all customers must rise to cover the bills of those who do not pay. Around £16.50 is added to our bills as a result of bad debt, against an industry average of around £21.

Given this unique situation, we must do all we can to tackle bad debt. We work hard to ensure customers with genuine affordability issues are supported, and separated from those who can afford to pay their bills, but choose not to.

Designing new approaches to social tariffs

Further training for our agents is helping them identify and support customers who may be in vulnerable circumstances. Continual customer engagement helps us better understand customers' specific needs (see 'Positive impact on communities'). If appropriate, customers can then be moved to a social tariff.

We will continue to review the effectiveness of these to ensure they provide benefits to customers most in need of support. Longer term, should household retail competition develop, pan-industry social tariffs would be needed to replace those offered by individual companies.

> ***"Amongst utilities, water companies are in a unique situation: they have a statutory duty to supply customers, but no statutory power to withdraw their service from domestic water users, insist that occupiers or owners provide information on the identity of those liable to be charged, or to require a contract to supply the service to be made between the undertaker and the customer."***
>
> ***Defra (2012) Tackling Bad Debt in the Water Industry***

Increasing metering

We believe that the fairest way of setting bills is to charge customers for what they use. We will therefore continue to increase meter penetration across the region, encouraging customers to move to a measured tariff.

Smart metering will increase visibility of near-real-time consumption data. This will engage customers with their water use, driving changes in behaviour and improving the resonance of our water efficiency messages. Smart meters allow us to identify leaks within properties and notify customers of the problem in a way that works for them.

> ***"Balance between what is needed and still charging customers a reasonable amount."***

Reforming developer charges

We strongly support sustainable growth in our region. Water should always be an enabler, not a blocker to development. There is therefore an opportunity to look at the charges developers pay when connecting to our networks, providing a fair and simple charging scheme that benefits everyone.

Where developers build water-efficient homes that reduce the demand on our network (and help customers use less water), we think connection charges could be reduced. We believe this will incentivise developers to favour water-efficient homes on their sites.

Driving innovation, efficiency, value for money and affordability

Every saving we make is a saving for customers too. The absolute need to work in the most efficient way possible is the engine that drives our innovation. It leads to carbon, financial and resource savings, which are great for us, for our customers and for the planet.

Efficiencies keep bills affordable while ensuring we meet the current and future challenges facing our business and the region – many of which require additional investment. We have a very strong record when it comes to delivering efficiency and the regulatory framework allows us to share any outperformance between our customers and investors.

Our alliancing model, established in 2004/05, has proven hugely successful, and is now widely imitated across ours and other sectors. In 2015/16 we created four additional 15-year alliances, establishing incentive mechanisms to share pain and gain in a way that drives cost efficiency across all programmes of work. Outperformance benefits all parties, especially customers, who share in that outperformance and benefit from lower costs on future works.

We've extended this leading approach to Information Services, alliancing with a range of leading and boutique companies. This grouping will drive digital transformation in our business.

We will be looking afresh at how we manage the planning, building and operation of our assets to make the most of these alliances, and the opportunities provided by increased flexibility in the regulatory regime around total expenditure (totex). This will ensure we deliver outcomes for customers at the most efficient whole-life cost.

> ***"Anglian Water should strive to keep costs down, especially for low water users as lots of us are on tight budgets already. Better service should not be equated to having paid to access more water but to the long-term sustainability of such a precious resource in the event of environmental or other changes."***

Efficient and sustainable financing of our business

Large-scale, long-term investment means we will remain a cash-negative business for the foreseeable future. These investments are made possible through a mixture of equity and debt investment. To raise new finance in the most efficient way we must maintain investor confidence in our business and the sector as a whole.

We do this through engagement with our Board and wider investors, adhering to strict covenants – or legal agreements – that cover our financial and other performance, and by striving to be a leading performer in the industry.

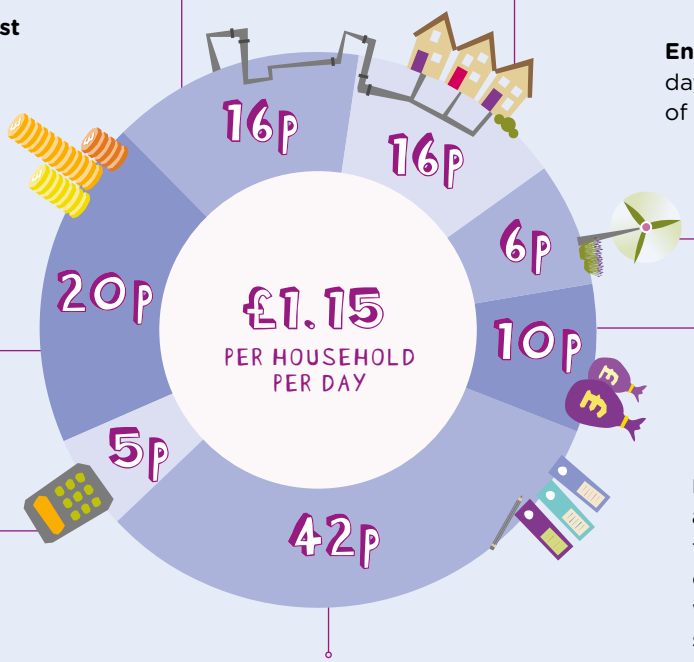
Investor confidence in the sector has largely been built on the stability of the regulatory regime since privatisation. Regulatory reform, and the introduction of new markets, are significant changes to this regime.

For example, the allocation of parts of the RCV to water resources and bioresources price controls from 2020 could affect financing costs across the value chain. For those areas with some element of volume risk through competition, the risk profile is changing. Some traditional investors may not wish to invest in such areas, and those that are willing to do so may require different returns to reflect the varying levels of risk.

We are actively engaged with our regulators and investors to maintain investor confidence. We are working to ensure the benefits to customers from new markets are not negated by increased financing costs.

Major new projects will be put out for direct procurement, and we will compete with others to find the best means of financing and delivering these. The Thames Tideway Tunnel has shown a lower financing cost is possible through direct procurement, under certain conditions, and with Government backing. Direct procurement for large projects may be particularly relevant in water resources as we consider multi-sector water resource assets, something we are actively exploring through our association with Water Resources East (WRE) (see page 19).

Based on the average household bill in 2017/18, water and sewerage charges will cost £1.15 per day. This is how we spend that money:



Maintaining our equipment to ensure it works efficiently

Building new assets, such as connecting new homes to water and wastewater services

Paying back interest on money we have borrowed to improve services

Energy to cover day-to-day running of our operation

Net profit generated

Paying taxes, rates and licences, including tax on profits, rates on buildings and water/water recycling sites, and licence fees paid to the Environment Agency

People and materials, including wages for our staff, and all the people employed in our supply chain

Engage in new markets for the benefit of our customers

We support the introduction of new markets where it benefits our customers and believe that bioresources (sludge) and new water resources offer the greatest potential for successful upstream competition. We welcome the opportunity to engage with other players in these new markets. We will seek out the best benefit for our customers in bioresource management and new water resources, regardless of whether these services are provided by us or by other parties.

For bioresources we particularly welcome opportunities for efficiencies where we may send sludge to neighbouring water companies, or take in sludge from other areas where this proves more cost effective. Should regulatory barriers to co-digestion with other forms of waste be removed in the future, the true potential efficiencies across both markets would be released.

Anglian Water Business has been separated from our business to operate in the new non-household retail market. We have established a Wholesale Service Centre to deal with all retailers in this market on an equal footing.

OUR PEOPLE: HEALTHIER, HAPPIER, SAFER

Customers rely on people for help and our equipment does not run itself. Attracting, developing, retaining and partnering with the best talent is therefore a bedrock of our business. Modern practices and our approach to leadership and wellbeing create a safe, balanced and rewarding workplace. We provide our colleagues with the equipment and the autonomy to wow customers.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Health and wellbeing
- Staying safe
- Mental wellbeing
- Financial wellbeing
- Employee assistance scheme
- Process safety
- Nurturing the next generation
- Recruiting and developing new talent
- Continuing Professional Development
- Transforming our leadership
- An efficient and customer-focused workforce

HOW OUR CHALLENGES AFFECT THIS OUTCOME

AFFORDABILITY AND CUSTOMER EXPECTATIONS

Customers want our service to be personal, trusted and effortless. This means we will need to recruit and develop people with the skills to deliver this.

Health and wellbeing

The health and wellbeing of our people is vital to the success of Anglian Water and we have a coordinated strategy to look after their physical, mental and financial wellbeing. Our Chief Executive, Peter Simpson, is Chair of Business in the Community's Wellbeing Taskforce and we firmly believe that coming to work should have a positive impact on people's health and happiness.

Our different programmes of work fall under the heading LIFE. Our aim is to make health, safety and wellbeing personal, relevant and important. Individuals are asked to look at their attitudes, at the choices they make, and to take responsibility for the wellbeing of themselves and their colleagues. It is based on building relationships with the people you work with, making it easier to look out for each other, encourage healthy behaviour and challenge things that are unsafe.

Staying safe

Whatever the job, however urgent the deadline, we never compromise on health or safety. Our approach is set out in our health and safety charter.

- Nothing is so important that we cannot take the time to do it safely.
- We will never knowingly walk past an unsafe or unhealthy act or condition.
- We believe that work should have a positive effect on health and wellbeing and that all accidents or harm are preventable.

Twice a year, we open ourselves up for detailed, external audit by specialists from Lloyds Register Quality Assurance and, as a result, we have maintained OHSAS 18001 accreditation for our health and safety system since 2009, confirming we have a robust health and safety management system in place.

Mental wellbeing

We have a good track record on physical wellbeing and want to address the often hidden issue of mental wellbeing and its effects on people both at home and at work. We are determined to take the lead in promoting the importance of mental wellbeing at work and support a number of initiatives aimed at removing the stigma and culture of silence around mental health. We believe there is both a moral urgency to act on mental health and a clear business case for doing so. As well as improving people's lives, better mental health means a more productive, competitive and progressive business in the long term. We have supported a variety of mental health initiatives, including the Time to Talk campaign, which reminds people they don't have to be an expert to talk about mental health with colleagues.

Financial wellbeing

We know that financial stress can affect people's wellbeing and we provide a number of services to help our employees. These include:

- financial guidance from trained professionals
- interest-free borrowing to help employees with learning and career development
- Our work with Neyber, which offers affordable and confidential loans to employees.

Employee assistance scheme

The Employee Assistance Programme provides a free, confidential advice, information and support service for all Anglian Water employees and their immediate household family members. The service is available around the clock and can be accessed over the phone, by post, online and through face-to-face counselling. It offers support on a wide range of work and personal issues, including relationships, financial and debt issues, legal matters, consumer issues, stress, and issues around the care of children and the elderly.

Process safety

Anglian Water has championed process safety in the water industry, leading a renewed focus on improving the management of hazardous plant and processes.

In 2016, we organised a 'Back to Basics' conference, which attracted 180 delegates. Keynote speakers included our own Chief Executive and leading experts from outside of the water industry, all sharing their valuable experience and knowledge.

The event included a meeting of senior water industry leaders, who pledged to work together "to protect people and the environment through a continued focus on the integrity, reliability and safety of hazardous plant and processes".

Another conference is planned for 2020 to review progress and share new learning. We also organised workshops for the water industry on key elements of good process safety, and set up the industry's first ever process safety network.

There is a lot to learn from sharing with other sectors, so in 2016 we began to talk about our experience at regional and national events.

Nurturing the next generation

We are at the heart of two education initiatives to develop the technical skills of 14 to 19 year olds and provide opportunity for employment to the next generation.

We are the lead sponsor of the Greater Peterborough University Technical College (GPUTC), which opened in September 2016 and aims to provide a world-class technical education with an emphasis on sustainable engineering and construction. The academic and industry sponsors shape the curriculum and offer employer projects that will bring the learning to life.

Anglian Water and its civil engineering alliance partners are also sponsoring two BTEC courses at the College of West Anglia in Wisbech. These will lead to apprentice programmes and should help us to find mechanical and electrical engineers and construction operatives of the future. If they wish, students who pass their courses at either institution will be offered an interview for employment with Anglian Water or a partner organisation.

Recruiting and developing new talent

We run both graduate and apprentice programmes to build technical competence and to nurture the business leaders of the future. We have a strong track record of retaining employees recruited in this way, with 92 per cent of apprentices and 91 per cent of graduates employed since 2012 still with the Company.

Continuing Professional Development

We work with a number of professional bodies to ensure that Continuing Professional Development is embedded in our organisation, including the Institute of Water, CIWEM, the Institution of Mechanical Engineers (IMechE) and the Institution of Engineering and Technology (IET). The IET has awarded a certificate of approval to our Maintenance Apprentice programme, which means all apprentices progressing through the scheme can register directly for IET registered engineer status as part of their route towards chartered engineer.

Transforming our leadership

Strong leaders play a vital part in creating a company in which people can succeed. We have just completed a two-year Transforming our Leadership programme for our senior managers, focused on the leadership capability needed to build high-performing teams. The programme has been so successful we are now rolling it out to front line managers across Anglian Water and its alliance partners. Topics covered included change, personal resilience, innovation and collaboration. It will also include training and coaching on how to have good conversations around health and wellbeing.

An efficient and customer-focused workforce

We are running a major programme to train people across the business in LEAN ways of working. First developed in the motor industry, LEAN methods aim to eliminate waste and increase efficiency. The idea is to focus on the customer, to ask what parts of your operation they would be willing to pay for and so weed out those actions and processes that do not add value for them.

Giving people knowledge of LEAN methods and how they can be applied empowers them to help increase the efficiency and long-term sustainability of our business.

We put our customers first by delivering a personal, trusted and effortless experience to make Anglian Water a leading service provider in the UK. To support this aim, we have a programme of behavioural customer service training, tailored to individual roles and covering topics that include building trust, making better connections with customers and having confident conversations.

To give great customer service across the business, our people need confidence and autonomy. Training and development gives them the confidence in their technical abilities, so they make the best decisions. Our Licence to Operate programme plays an important role, setting benchmarks for competency in specialist and management skills. It also ensures a link between individual expertise, compliance improvement, risk reduction and customer service.

POSITIVE IMPACT ON COMMUNITIES

Our interactions with our customers place us at the very heart of the communities we serve. We must ensure that our activities have a positive impact on the lives of the people living in the east of England and Hartlepool.

OUR STRATEGIES TO DELIVER THIS OUTCOME:

- Contributing to the community.
- Supporting regional growth.
- Being a good neighbour.
- Offering a tailored and inclusive service.

HOW OUR CHALLENGES AFFECT THIS OUTCOME

AFFORDABILITY AND CUSTOMER EXPECTATIONS

As a monopoly corporation, whose operations can be highly visible in the environment and communities, it is incumbent on us to act as a good corporate citizen. Customers' expectations vary and their willingness to pay for services outside of our core operations is not clear-cut, so we must ensure that our role in the community does not come at a cost to the customer.

POPULATION AND ECONOMIC GROWTH

Utility companies underpin housing growth, and water companies in particular have been seen as a blocker in this area. The Housing and Finance Institute (HFI) has called for the regulator to put pressure on water companies to improve their performance regarding new connections, both for water and sewerage services.

Contributing to the community

Employment and the skills gap

One of the most positive impacts Anglian Water can have on communities is helping to increase the number of people in employment. We have an ageing workforce, of which approximately one-third are due to retire over the next decade, so helping to increase the skills of young people in our area is also critical to our business.

We will continue to foster talent development and close the skills gap in our local communities through our work with Greater Peterborough University Technical College (GPUTC), the College of West Anglia in Wisbech, Women in Engineering, and our graduate and apprenticeship schemes. Where we see a clear benefit to the community, we will explore new opportunities to form partnerships and initiatives for talent development.

Wellbeing

Our business plays a vital role in the wellbeing of local communities and people, both customers and employees. We are committed to our Love Every Drop goals of no accidents and no incidents. This means making sure that our working environment is safe for employees and members of the public.

Connecting customers with the environment

In line with our aim of putting water at the heart of a whole new way of living, we will continue to engage with communities about their role in the water cycle. By investing more in our school and community education programme, we will promote key messages around the value of water. We will also help connect our customers to the environment by maintaining and promoting our recreation sites and Green Flag water parks, taking measures to make these more accessible to all members of the community.

Supporting sustainable growth

We know that the housing and economic growth potential of the east of England cannot be achieved without Anglian Water. To facilitate this we will:

- ensure there is sufficient capacity in sewerage and water networks to facilitate new connections
- ensure that our water treatment works and water recycling centres have sufficient treatment capacity to meet increased demand
- in some circumstances, consider relocating our operational sites to facilitate growth. Such investments would be subject to cost–benefit and affordability analysis.

Working in partnership with our stakeholders, such as Local Authorities, Water Resources East and the National Infrastructure Committee, we will be better equipped to meet the expectations of our growing community.

Being a good neighbour

We will do all that we can to avoid causing disruption to communities through our operational activities. This will include odour prevention; reduction in sewer flooding and pollutions; increasing preventative maintenance to minimise reactive works; considerate planning of work; and keeping community members informed throughout the full duration of works.

We will also work with other utilities and local authorities to better plan works in the highway to avoid travel disruption across the region.

Managing incoming sewage will play a significant part in our odour-reduction strategy. Good management of trade effluent consents and dosing on the network will likely play an important role.

Harborough schoolchildren name the drill 'Diglet' as part of community engagement during a major flood alleviation project

Where flooding and pollution are the result of undersized sewers, we will strategically invest in surface water management and attenuation, via SuDS where possible. This will mean changing the way we plan and implement schemes, as above-ground attenuation will fundamentally change the way communities interact with water in their environment.

Offering a tailored and inclusive service

Customer expectations have changed significantly since the publication of our Strategic Direction Statement. Understanding customer expectations and tailoring our service to meet their specific needs has become increasingly important. Moving forward, this will be supported by a customer segmentation strategy.

In addition, we will continue to offer vital support to customers in vulnerable circumstances. We have expanded our definition of customers in vulnerable circumstances to encompass anyone facing challenges that may affect their ability to pay. As such, our various assistance schemes will likely require further investment in future.

As our social tariffs use a self-registration process, we will need to promote these services effectively. Consistent engagement with our customers will allow us to identify where support may be required and how to offer this in a sensitive way.

CUSTOMER SEGMENTATION

Discuss, Discover, Decide is the most thorough customer engagement we have conducted to date. It represented a step change in how we communicate with customers and respond to their views.

Moving forward, we want to develop the conversation we started in 2013 by making customer engagement business as usual. We also recognise the need to be more innovative in how we engage with our customers.

We will follow the example of other leading retailers outside the water industry by implementing a customer segmentation strategy. This will allow us to understand what matters to our customers and tailor our communication and services to segments accordingly.

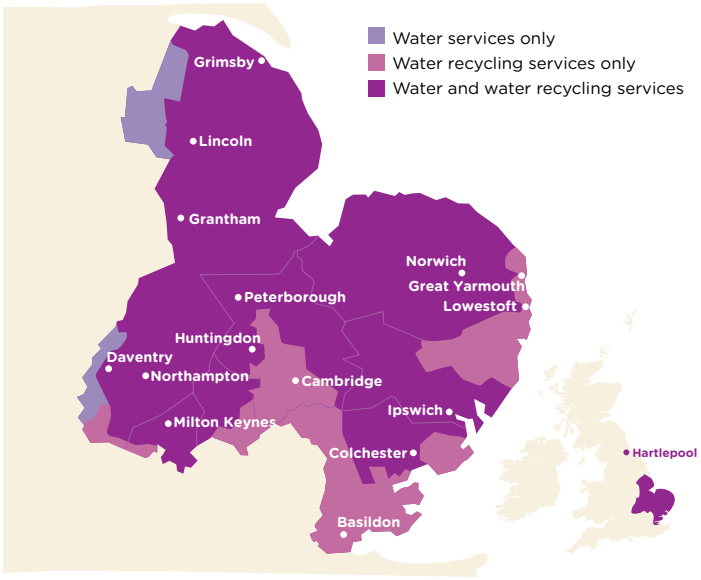
PART 3

OUR BUSINESS TODAY

"WATER IS OUR BUSINESS. WE HANDLE IT WITH CARE AND WE DON'T COST THE EARTH"

OUR BUSINESS TODAY

Anglian Water plays a central role in our region's growth, development and prosperity today and for the long term. This section shows some of the vital infrastructure, employment and environmental stewardship we provide across the east of England.



Our assets

143 WATER TREATMENT WORKS

38,200km WATER MAINS

77,000km SEWERS

1,130 WATER RECYCLING CENTRES
(18% of all those in England and Wales)

c.6,000 PUMPING STATIONS

NEARLY 4 IN EVERY 5 HOUSEHOLDS ARE BILLED BY A METER

Our geography

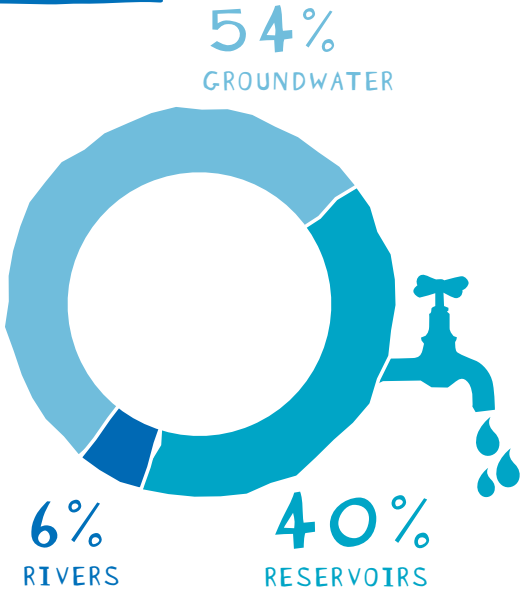
THE LOWEST LYING AREA IN ENGLAND AND WALES, IT IS LESS THAN 70 METRES ABOVE SEA LEVEL ON AVERAGE.

NUTRIENT-RICH, SLOW-FLOWING RIVERS.

A CONCENTRATION OF INTENSIVE ARABLE AGRICULTURE AND MANY SENSITIVE WETLANDS.

A COASTLINE THAT IS VULNERABLE TO SEA LEVEL RISE AND EROSION AND A LARGE NUMBER OF BLUE FLAG BEACHES, 32 RATED EXCELLENT BY THE ENVIRONMENT AGENCY.

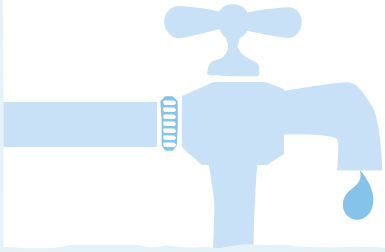
Our water sources



KEY STATISTICS

WE SUPPLY WATER TO
2.2 MILLION
HOUSEHOLDS

WE SUPPLY OVER
1 BILLION
LITRES OF WATER
EVERY DAY



WE RECYCLE WASTE
WATER FROM
2.7 MILLION
HOUSEHOLDS

WE'RE RESPONSIBLE FOR
47 SITES
OF SPECIAL SCIENTIFIC
INTEREST

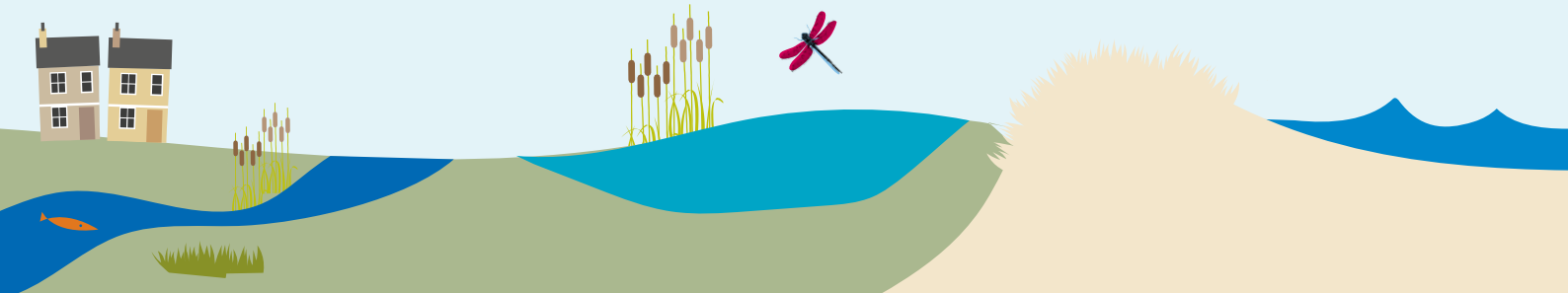
OVER
2 MILLION
PEOPLE VISIT OUR 10
WATER PARKS EACH YEAR

WE HAVE OVER
4,000 EMPLOYEES
AND **7,000** MORE IN
OUR SUPPLY CHAIN

WE HAVE
INVESTED
£15bn
SINCE 1989,
SUPPORTING OUR
CUSTOMERS, THE ECONOMY
AND THE ENVIRONMENT

FOR EVERY £100M
WE INVEST,
2,000 JOBS
ARE CREATED OR SECURED
ACROSS OUR COMPANY
AND SUPPLY CHAIN

OVER THE LAST
20 YEARS WE'VE
SPENT OVER
£2bn
PROTECTING AND
ENHANCING THE
ENVIRONMENT AND
BIODIVERSITY OF
OUR REGION



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