Anglian Water's Climate Transition Plan

Contents

1. Executive summary

At Anglian Water, we are the largest water and water recycling company in England and Wales by geographic area, serving around seven million customers across the East of England and Hartlepool.

Our region is one of the driest in the UK, and also low-lying, which makes us prone to both drought and flooding. In recent years, we have experienced the impacts of climate change, with hotter, drier summers, including heatwaves and drought, and warmer, wetter winters which have caused flooding.

The more the world warms, the worse those effects will be. That is why we are playing our part in the global effort to limit further climate-related changes, by transitioning our business to be aligned with the Paris Agreement on Climate Change (2015).

Our decarbonisation journey has taken place over many years, and we have long championed carbon reduction across the sector. With committed leadership and a determined supply chain, by 2025 we reduced capital carbon - the carbon associated with the creation, refurbishment and end of life treatment of an asset – by 66% (from our 2010 baseline) against our target of 65%. By 2025, we reduced operational greenhouse gas emissions by 32% (from our 2018/19 baseline) against a target of 34%.

About this Climate Transition Plan

In 2021, we made a commitment to reach net zero by 2030. We've since been implementing actions, as outlined in our Net Zero routemap, alongside adapting to changing circumstances, which has delayed some actions.

The Covid-19 pandemic and the conflict in Ukraine have had significant impacts, in particular, on energy and commodity markets which have changed the affordability of some of our actions.

Recognising current national and international dialogue around net zero targets, continued scientific advances around the quantification of greenhouse gases such as nitrous oxide, and the associated funding needs, we are currently reviewing our carbon reduction approaches and targets. This will enable us to be clear as to what we will have achieved by 2030, based on our current plans, and what work will need to continue beyond that date. We will do this while striking a balance between government expectations, funding and investment opportunities alongside affordability for customers.

We remain committed to decarbonising our business. Our ambition is to build resilience to a changing climate, enable the region we serve to adapt and to continue to be regarded as a climate leader in the water sector, and across the UK.

This is our first Climate Transition Plan. It covers the progress we have made since 2021, alongside the necessary actions to make further carbon reductions and mitigate climate impacts. It also demonstrates where we are enhancing governance and the implementation of our plans going forward.

The data in this report has been verified by Achilles Carbon Reduce Scheme (powered by Toitū) as being measured, managed and reduced in accordance with ISO 14064-1. This verification process has been followed since 2011.

At Anglian Water, we predominantly serve the East of England, which is home to...

14 diverse counties in our region, all with differing environmental, social and economic needs

75% of land in the East of England is used for agriculture, higher than any other region

Businesses in the East are particularly water intensive, e.g. food processing

28% of land is low-lying, putting us at risk of flooding whilst hotter than average temperatures make us prone to drought

8,000km of water mains vulnerable to climate change

Average projected rainfall is 2.14mm a day compared to the national average of 2.85mm

The region we operate in will be hotter than the national average: 11.4° compared to 11°

We operate over **1,100** water recycling centres, over **140** water treatment works, **38,000km** of water supply pipes and **76,000km** of sewer pipes.

15% of England's population: by 2043, 700,000 more people will live here

2. Introduction from Dr Robin Price

We have known for many years that we are in a climate emergency. It has almost become a cliché to talk about the temperature records that are regularly being broken. In the summer of 2022, the temperature in Coningsby in Lincolnshire exceeded 40 degrees Celsius – the highest temperature ever recorded in the UK. This year alone we have experienced four separate heatwaves, showing us the potential summers of the future.

Without rapid action, we know that this could evolve into a climate disaster. This makes it impossible to ignore the need to tackle our emissions, alongside building resilience across our asset base to weather the climate impacts we are already experiencing.

When we first began our decarbonisation journey at Anglian Water in 2010, we were navigating new and unfamiliar territory. We came early to the realisation that we had a clear duty to tackle our emissions – not just because the water sector is generally one of the most energy-intensive, but because the rural nature and flat landscape of the region we serve means we need to use more energy than most to pump water to where it is needed.

Our determination to do the right thing by our communities and the environment, as defined in our Purpose, meant doing nothing was not an option.

Our Purpose is to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop.

We have made significant progress since we set our first carbon reduction targets in 2010, but as early adopters, it was a steep learning curve for us, our supply chain and the industry as a whole.

Going further, in 2019, alongside all water companies in England, we set an ambitious goal, to reach net zero operational carbon by 2030. In 2021, we published our Net Zero Carbon Routemap, which set out our pathway to get there.

While we have made good progress so far, we recognise that achieving net zero will not be easy and that global and national ambitions continue to be uncertain. Success will require sustained and collaborative efforts – not just from us, but from our supply chain, our peers and government and regulators too.

It is essential that organisations like ours show the way by continuing to examine the science, analyse the risk and develop the knowledge. We will continue to develop our ambitious approach, in line with the UK's 2050 Net Zero target.

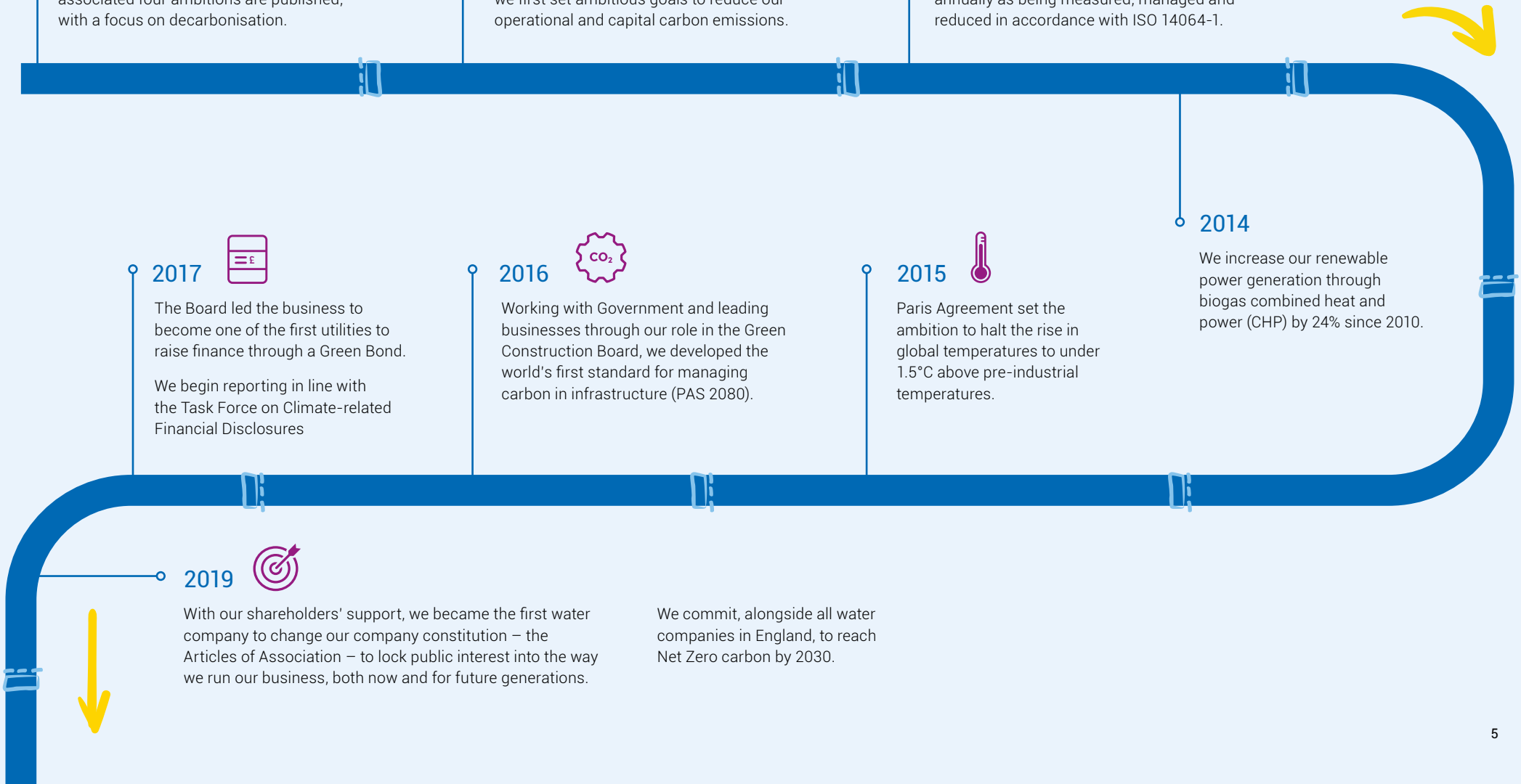
I am confident that as a business, we will continue driving down our emissions. We are taking action, from opting for low carbon, greener alternatives where possible, electrifying our fleet, to partnering in global alliances to reduce the emissions associated with our treatment processes.

Based on our track record, where we have reached and surpassed targets across both operational and capital carbon, driven the development of the global standard for carbon management in infrastructure and launched the world's first sustainability-linked bond tied to achieving net zero targets – we are well positioned to keep leading the UK water sector towards a low carbon future.

Dr Robin Price
Director of Quality, Environment and Assurance at Anglian Water

September 2025

3. Our decarbonisation journey



2007

Our Strategic Direction Statement and associated four ambitions are published, with a focus on decarbonisation.

2010

Our decarbonisation journey begins, when we first set ambitious goals to reduce our operational and capital carbon emissions.

2011

Our carbon data begins to get verified annually as being measured, managed and reduced in accordance with ISO 14064-1.

2014

We increase our renewable power generation through biogas combined heat and power (CHP) by 24% since 2010.

2015

Paris Agreement set the ambition to halt the rise in global temperatures to under 1.5°C above pre-industrial temperatures.

2016

Working with Government and leading businesses through our role in the Green Construction Board, we developed the world's first standard for managing carbon in infrastructure (PAS 2080).

2017

The Board led the business to become one of the first utilities to raise finance through a Green Bond.

We begin reporting in line with the Task Force on Climate-related Financial Disclosures

2019

With our shareholders' support, we became the first water company to change our company constitution – the Articles of Association – to lock public interest into the way we run our business, both now and for future generations.

We commit, alongside all water companies in England, to reach Net Zero carbon by 2030.

2020

Our largest solar array at Grafham is energised and supplies over a quarter of the energy needs of one of our largest water treatment works.

We reduced capital carbon by 61% (2010 baseline) and operational emissions by 34% (2014/15 baseline).

Greenhouses powered by residual heat from our water recycling centres awarded 'Net Zero Carbon Initiative of the Year' at the Utility Week Awards.

2021

We publish our Net Zero Routemap to 2030.

Platinum certified by Achilles Carbon Reduce, signalling 10+ consecutive years of carbon reductions.

2022

Covid-19 and volatility in the energy market impact our Power Purchase Agreements.

2023

We install N_2O monitoring equipment at four of our largest sites, Cambridge, Whitlingham, Cotton Valley and Cliff Quay.

2024

Fourth Climate Change Adaptation Report published.

Energy markets stabilise and we return to our strategy of renewable energy procurement.

2025

We exceed our 65% capital carbon reduction target (66.1%) and reduced operational emissions by 32% against our 2018/19 baseline.

Over 60% of our car fleet has switched to electric.

2030

We aim to reduce our operational carbon emissions by 74% (against a 2018/19 baseline) and our capital carbon by 70% (against a 2010 baseline).

2030 and beyond

We are establishing our approach post-2030, with plans to; develop a separate capital carbon reduction strategy, further assess hydrogen opportunities, continue engaging with our supply chain to drive best practice on whole life carbon and develop a systems-level decarbonisation plan, including a strategy to export waste heat and other low-carbon resources.

4. Our carbon reduction progress

Since we published our Net Zero Routemap in 2021, we have faced challenges which have necessitated changes in our approach. The fundamental pathways underpinning our carbon reduction strategy remain the same.

Seven pathways where we are focused on reducing carbon:

- Maximising energy efficiency and renewable energy generation and storage
- Procuring green electricity
- Decarbonising our vehicle fleet
- Maximising the value of our biogas
- Managing our process emissions
- Opting for alternative fuels
- Developing our offsetting strategy

In this Climate Transition Plan, we cover our operational emissions across Scopes 1, 2 and 3:

Scope 1: GHG emissions from burning of fossil fuels, process and fugitive emissions.

Scope 2: Purchased electricity from the grid and exports of any electricity we generate.

Scope 3: GHG emissions associated with business travel, outsourced activities, and transmission and distribution losses from the electricity grid.

The scope of our GHG emissions includes carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). These are the major greenhouse gases associated with our operational activities.

Our decarbonisation pathway, as shown in figure 1, involves reducing greenhouse gas emissions by 74% by 2030 with a target of a 34% reduction by 2025. This will leave us with 26% of the 2018/19 baseline to offset to achieve operational net zero by 2030.

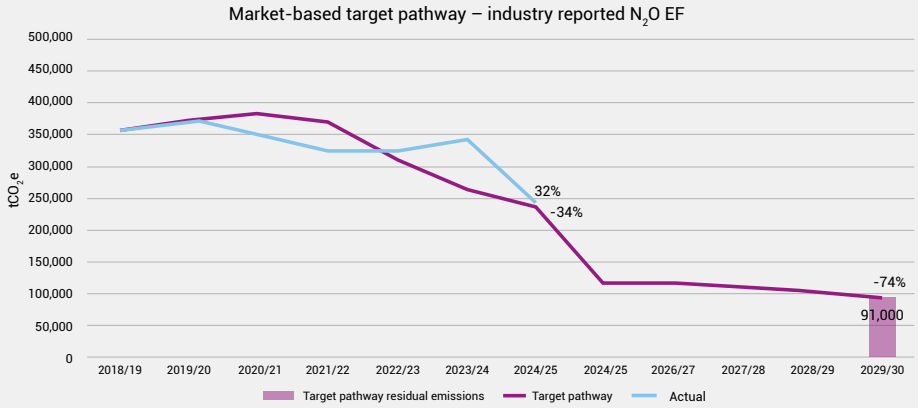
Between 2020 and 2022, our GHG emissions fell below our 2018/19 baseline and ahead of our decarbonisation trajectory. Emissions largely flatlined between 2022 and 2023 and then increased in 2024. This was largely as a consequence of two factors: an increase in the emissions factor of the grid electricity procured from our supplier; and a substantial increase in the cost of renewable power via Renewable Energy Guarantees of Origin (REGO) certificates.

In 2024/25, energy markets stabilised and we could return to our strategy of renewable energy procurement. At the end of 2024/25, we had achieved a GHG reduction of 32% against our baseline. While this is slightly behind our target of a 34% reduction, given the circumstances, we are satisfied with our progress to date.

Other factors include:

- Bouts of heavy rainfall have increased resulting in higher energy use, particularly for pumping and treating wastewater.
- Hotter periods, particularly the summer of 2022, led to increased water demand, pumping and energy consumption.
- Our combined heat and power (CHP) generators – which use biogas to generate renewable electricity – were offline due to maintenance for a period of time, meaning we had to purchase standard electricity.

Figure 1: Anglian Water's decarbonisation ambitions to 2030



- We delayed implementing some decarbonisation actions we planned in 2021 due to affordability and technical challenges. For example, the price of developing solar power generation, purchasing hydrotreated vegetable oil (HVO) and renewable power (REGOs) was higher across this period than projected. Furthermore, hydrogen technology has not advanced at the pace and affordability thought possible in 2021.
- The Covid-19 pandemic and the conflict in Ukraine significantly affected energy prices. Pricing and availability of construction works and materials hampered delivery of some actions.

Figure 2 shows our total greenhouse emissions split by emission cluster at our 2018/19 baseline, in 2024/25 and in 2029/30, in line with the ambition set out in our 2021 Net Zero Routemap.

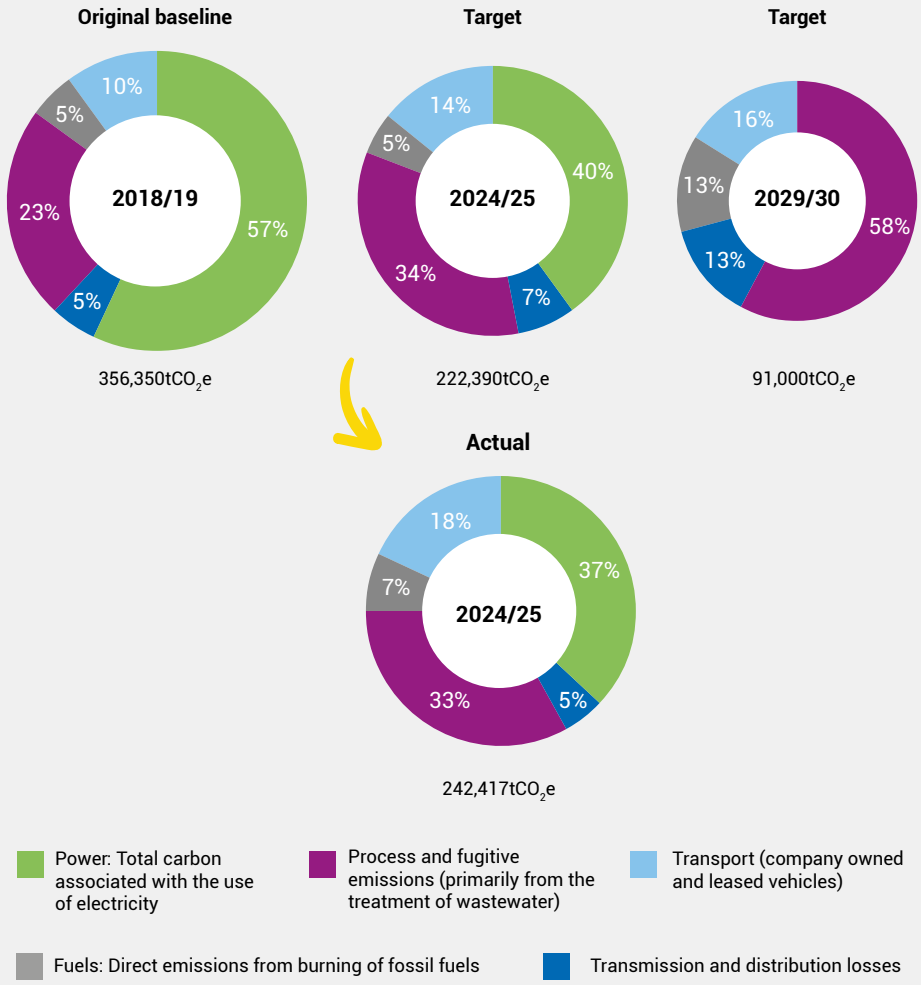
Our actual performance in 2024/25 shows that the distribution of emissions remains broadly similar to that predicted. The proportion of emissions from power and transmission and distribution (T&D) have reduced as a consequence of change to grid decarbonisation. Fuels and transport have increased due to slower progress than planned on the adoption of low carbon fuels.

In 2021, we set greenhouse gas emissions reductions goals for both 2025 and 2030, outlining the associated risks and uncertainties. This plan outlines our flexible approach to making further reductions, an update on our progress alongside changes required to achieve our future ambitions. To reach our ambitions, we will require collaboration with our supply chain, our peers, government and regulators.

We recognise the importance of joined-up investment planning for climate change mitigation and adaptation, and one of our strategic priorities is to build climate resilience. More can be found in our Climate Change Adaptation Report.

We support system-wide decarbonisation projects that benefit the region we serve. For example, we export residual heat from water treatment works to warm greenhouses which grow tomatoes and peppers year-round. This displaces the use of fossil fuels and delivers carbon savings for others in the value chain – something we are looking to repeat at other sites and in other contexts, for example, in district heat networks. We continue to review guidance and potential support from government and regulators in this space, alongside investigating new opportunities.

Figure 2: Market-based target pathway Greenhouse Gas emission clusters, including actual performance for 2024/25



5. Our approach to reducing carbon

Transitioning to low carbon relies on us transforming both our own operations and those of our supply chain, as well as requiring agility and engagement with our sector's stakeholders. We remain committed to transitioning to net zero, but acknowledge that our ambition will be challenging to achieve.

Our pathway was developed as part of our 2021 Net Zero Routemap by assessing a number of decarbonisation interventions, which we then grouped into clusters. Since 2021, we have faced challenges which have necessitated some changes in our approach. Advances in technology have also reshaped our plans, particularly with hydrogen failing to deliver the benefits expected and the unpredicted emergence of electric HGVs.

Maximising energy efficiency and renewable energy generation and storage

- Energy efficiency measures (incremental and systemic)
- Leakage reduction
- Water efficiency
- Alternative treatment processes
- Catchment management
- Nature-based solutions
- Solar, wind PPAs
- Energy storage
- CHP

Procuring green electricity

- UK electricity grid decarbonisation
- Green electricity, sleeving (for offsetting residual emissions from power consumption)

Maximising the value of our biogas

- CHP efficiencies
- Biomethane to grid
- Biomethane to transport (HGVs)

Decarbonising our vehicle fleet

- EV small vans
- Electrifying components of large vehicles
- HGVs to LNG
- HGVs to hydrogen
- Behavioural travel changes

Managing our process emissions

- Targeted monitoring for N_2O emissions
- Alternative treatment processes
- Operational optimisation for fugitive emissions

Opting for alternative fuels

- HVO
- Hydrogen (green, grey)
- Biomethane to transport (HGVs)

Developing our offsetting strategy

- Insets (trees, grassland, seagrass)
- Regional offsets (soil sequestration)
- National, international offsets (carbon offset credits)

We are committed to continuing the actions set out in 2021, but recognise our approach must be flexible, due to having to rely on many external factors and uncertainties, including:

- Uncertainty in the science behind process emissions. This is something we identified in 2021 and remains a risk area around a possible increase in the currently assumed N_2O emissions levels. Through our participation in the UK and Ireland Process Emissions Community of Practice, wider global networks and our own planned investments between 2025 and 2030, we are actively trying to understand, manage and reduce our residual emissions over time. Appendix 2 in our Net Zero Routemap 2021 summarises our past work in this area and highlights the uncertainties around those emissions.
- Future regulatory standards, such as the future direction of the Water Industry National Environment Programme (WINEP) alongside possible biosolids restrictions into farmland.
- Incentives around supporting the deployment of biomethane to grid in existing installations.
- The viability of technologies for decarbonising larger vehicles in our fleet and availability of publicly accessible charging infrastructure and electrical chargers of sufficient capacity.
- Future energy policy direction affecting future electricity markets, including grid pricing mechanisms, premiums for green electricity purchased, etc.
- Population growth.
- The pace of decarbonisation of the electricity grid.
- Changes in some technologies for alternative fuels and process emissions reductions possibly not being commercially viable over the short term (especially hydrogen).
- Uncertainties around the science behind natural sequestration solutions and evolving offsets markets in the UK.

Implementing different interventions will require behavioural change. It will also rely on continued flexibility in identifying and adopting technological and other innovations.

Future policy and regulatory impacts

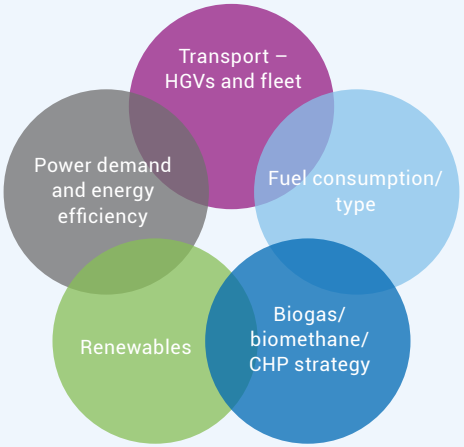
We will need to closely monitor the impact of policy and regulatory change and work closely with Government to help unlock decarbonisation opportunities as well as managing risk. In figure 3, we outline the potential policy and regulatory impacts.

Figure 3: Policy and regulatory impacts

	Relevant regulatory body and/or organisation								
Policy/ regulatory impacts	Environment Agency	DEFRA	Ofwat	Water UK	Ofgem	DESNZ	Distribution Network Operator	UK Forestry Commission	Climate Change Committee
Future direction WINEP and other quality drivers	✓	✓	✓						
Evolving science on process emissions and removals options		✓							
Energy policy				✓	✓	✓	✓		
Biosolids winter land restrictions	✓								
Mandatory water efficiency labelling scheme		✓		✓					
Future biomethane incentives				✓		✓			
Future goal to eliminate harm from Storm Overflows	✓								
Abstraction licence caps	✓								
Sustainable Urban Drainage System retrofits	✓								
UK offsets market		✓						✓	✓
Government subsidies	✓	✓				✓			

Planning for change

As part of our analysis, we have identified a number of interdependencies that would require integrated thinking in the way we plan for our decarbonisation interventions. We have analysed these and incorporated in our thinking.



Key considerations

- What if future regulatory reforms meant that our GHG emissions would have to significantly increase as a result of tighter regulatory standards?
- What if nature-based solutions were vulnerable in the long term due to climatic changes? How would this affect our current planning approaches?
- What if policy incentives were not in place to facilitate faster deployment of key technologies such as electric vehicles, biomethane to grid schemes and renewable energy?
- What if technologies for reducing our process emissions are not available until beyond 2030?
- What if biomethane injection to grid were not possible – what are the alternatives?
- What if government subsidies for electric vehicles were removed or increased/broadened?
- What if planning constraints, pricing mechanisms or land availability constraints impacted the scale of solar/wind PPA renewables possible?
- What if planning reforms made onshore wind development more achievable?
- What if WINEP reforms set targets for process emissions and/or other metrics?
- What if hydrogen HGVs and infrastructure were established faster than expected?

Reducing the carbon intensity of our electricity use

As shown in figure 2, grid electricity use (and the associated losses through the transmission and distribution network) accounted for c.40% of our GHG emissions in 2024/25, compared to over 60% in 2018/19. This figure is based on market-based reporting, where we account the actual grid electricity GHG emissions factor from our current electricity supplier (rather than the UK grid average), and also includes any benefit we get from generating our own green electricity.

We have made significant progress on developing renewable energy to power our operational sites.

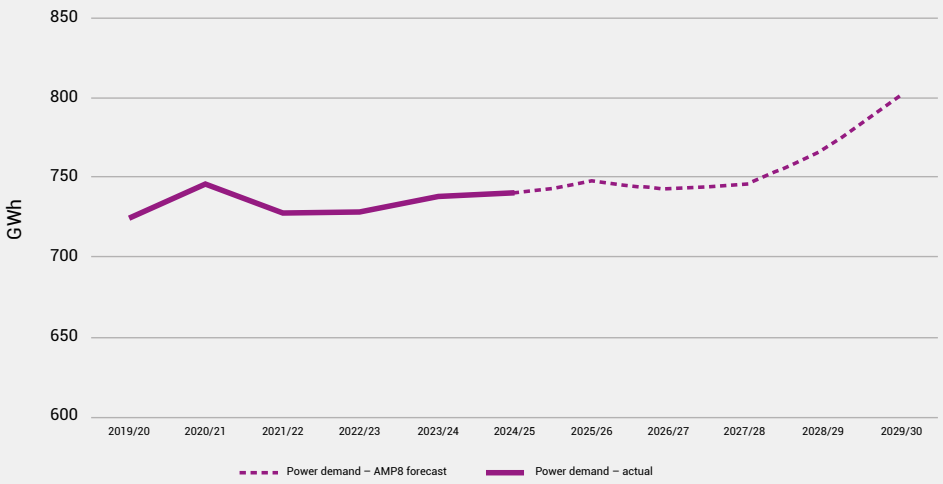
Treating sludge produces biogas, which we use to power our fleet of CHP (Combined Heat and Power) engines, generating renewable electricity. This year we've generated just under 110GWh of electricity – around enough for 40,000 average UK households for an entire year! Our CHP engines also generate heat through their normal operation, which we reuse as part of the sludge treatment process. The recovery of waste heat and use meant that we also saved an estimated £5.3 million in fossil fuel use in the year.

Although the UK electricity grid has made great progress to gradually decarbonise, full decarbonisation is only planned to happen by 2035 and energy policies are still being reformed. We use grid electricity primarily to power our water and water recycling assets and our use of energy has been increasing over time – mainly due to population growth, increases in regulatory quality standards and extreme weather events.

We need to build resilience in our future operations, through planning for flexibility such as through our Water Resources Management Plan, as well as for other pressures such as population growth and the introduction of other potential regulatory standards, which could result in our power consumption increasing over time. Furthermore, as we plan to move more towards biomethane-to-grid, we may lose our current renewable electricity generated and used in our sites from CHPs.

Figure 4 illustrates our power consumption performance since 2019/20 and forecast increase in energy consumption to 2030. As demonstrated in the graph, reducing the carbon intensity of our power use is key to delivering carbon reductions.

Figure 4: Power demand usage since 2019/20 and forecast to 2030



We purchase grid electricity using a generation mix that is specific to our supplier. This mix is mainly from fossil fuels, and under market-based reporting, our GHG emissions associated with grid electricity are higher than the UK grid average, where there is a greater proportion of renewables in the mix. Assuming that our supplier will continue with a similar GHG emissions factor over the short-term, and assuming all our electricity was purchased as 'grid' from our supplier, our GHG emissions will increase, even if we implement ambitious energy efficiency measures. However, we retain the option of purchasing REGO-backed electricity which will reduce the carbon associated with our electricity use.

Our strategy for reducing the carbon intensity of our electricity use focuses on:

- Maximising energy efficiency in our existing assets, and new assets we design and build.
- Accelerating the deployment of solar and wind generation to supplement our electricity demand and reduce our reliance on grid electricity.
- For any remaining electricity we consume through the grid, after we have maximised our energy efficiency opportunities and renewable energy, we aim to procure green electricity and sleeved power.

6. Our pathways to Net Zero

In the following section of this report, we explain each pathway within our decarbonisation strategy. We outline our plans going forward, the associated risks and uncertainties, how we will maintain flexibility alongside balancing affordability for our customers, and the behaviours and funding required to make lasting change.

- Maximising energy efficiency and renewable energy generation and storage
- Procuring green electricity
- Decarbonising our vehicle fleet
- Maximising the value of our biogas
- Managing our process emissions
- Opting for alternative fuels
- Developing our offsetting strategy

Our decarbonisation principles

Our decarbonisation hierarchy and examples of interventions we are considering

Emissions reduction

- Energy efficiency measures
- Water efficiency
- Leakage reduction

Renewables and green electricity

- Solar and wind PPAs
- Combined heat and power
- Green electricity

Removals/offsets

- Removing any residual and difficult to avoid/remove GHG emissions through natural sequestration measures within our region and through credible offset credits outside our region. Our approach to offsetting will prioritise schemes in our region, in the UK territory, and as a last resort, in the international offset credit markets — only where not economically or technically possible within the UK.

Six Capitals framework

Natural · Financial · Social · Intellectual · People · Manufactured

We will continue to prioritise interventions that have the most significant carbon reduction potential and the greatest wider benefits, in line with our six capitals approach.

This means striking the right balance between carbon reduction potential, cost, customer bill impacts and the long-term resilience of our operations.

Maximising energy efficiency and renewable energy generation and storage

Although the UK electricity grid has made great progress to gradually decarbonise, full decarbonisation and energy policies are yet to materialise.

At Anglian Water, we use grid electricity primarily to power our water and water recycling assets and our use of energy has been increasing over time – mainly due to population growth, increases in regulatory quality standards and extreme weather events.

We need to build resilience in our future operations, through planning for flexibility such as through our Water Resources Management Plan and our Drainage and Wastewater Management Plan, as well as for other pressures such as population growth and the introduction of regulatory standards which could result in our power consumption increasing over time.

Furthermore, as we plan to move more towards biomethane-to-grid, we may lose our current renewable electricity generated and used in our sites from Combined Heat and Power (CHP).

Read more about how we are building resilience to climate change in our Climate Change Adaptation Report.

We purchase grid electricity using a generation mix that is specific to our supplier. This mix is mainly from fossil fuels, and under market-based reporting, our GHG emissions associated with grid electricity are higher than the UK grid average, where there is a greater proportion of renewables in the mix. Assuming that our supplier will continue with a similar GHG emissions factor over the short-term, and assuming all our electricity was purchased as 'grid' from our supplier, our GHG emissions will increase, even if we implement ambitious energy efficiency measures. However, we retain the option of purchasing REGO-backed electricity which will reduce the carbon associated with our electricity use.

Nevertheless, we have driven significant improvements in our energy efficiency, saving on average 10GWh per year between 2020 and 2025. This cumulatively reduced our power consumption by 50GWh a year by 2025, compared to what it would have been without our interventions.

We also increased our renewable power generation through biogas CHP by c.20% since 2014/15. This provides an additional 21GWh of power to consume on our sites or export to the grid to support regional and national decarbonisation. This renewable energy generation further reduces our net GHG emissions by more than 35,000tCO_2e.

Energy efficiency

Our plans going forward

Our services are inherently power intensive. To meet our decarbonisation ambitions, we will need to actively drive the identification, development and delivery of renewable energy generation to decarbonise the power we need to use. Our strategy for reducing the carbon intensity of our electricity use focuses on:

- Maximising energy efficiency in our existing assets, and new assets we design and build.
- Accelerating the deployment of solar and wind generation to supplement our electricity demand and reduce our reliance on grid electricity.
- For any remaining electricity we consume through the grid, after we have maximised our energy efficiency opportunities and renewable energy, we aim to procure green electricity and sleeved power.
- Work closely with our delivery partners to align our current and future capital programmes to promote operational carbon efficiencies in all new assets we build by setting clear targets.
- Implement energy efficiency measures to reduce our power demand by 55GWh/year by end of 2030. This is slightly less than the 58GWh/year we originally planned, as a result of increased costs to achieve the target and needing to prioritise within our current budget to minimise impacts on customer bills.

Risks and uncertainties

- Extreme weather events, which will become more frequent as climate change becomes more apparent, mean that we may have to pump more water around our region to build resilience and maintain service standards.
- Funding availability to implement longer payback period solutions that are more likely to result in more transformational energy efficiency measures.
- Grid decarbonisation is one of the key factors affecting our rate of decarbonisation towards net zero. Changes in the pace of the grid decarbonisation will impact the magnitude of our residual GHG emissions as well as the cost effectiveness of future energy efficiency measures. A faster grid decarbonisation rate will make significant investments in energy efficiency less relevant from a net zero perspective.

- Uncertainty in the future financial balance between the cost of investing in energy efficiency and the cost of sourcing low carbon energy.
- Future regulatory changes, such as Water Industry National Environment Programme (WINEP) reform or other standards and future Water Resources Management Plan (WRMP) requirements that may increase our power consumption.

Our actions to ensure flexibility

- Continue to align our current and future capital programmes and the long-term planning of our strategic water resource options to ensure the operational power demand of new schemes is minimised. We have already set a target to our supply chain to reduce operational carbon in each scheme by 27% (from a 2015 baseline). We will build on our track record for creating a collaborative culture with our alliance partners focusing on behaviours to deliver our programme against carbon targets.
- Continue to engage with and influence our regulators, the rest of the industry and our customers to better understand the whole life carbon impact of future regulatory decisions, especially the WINEP reform, inland bathing waters and abstraction licence caps.
- Continue to assess the co-benefits and alignment to net zero of our approach to nature-based solutions – including Sustainable Urban Drainage Systems (SuDS) and catchment management.
- Seek to better understand carbon reductions resulting from our water efficiency campaigns and how user behaviour can influence our energy demand going forward.
- Build on our current work on near-live modelling to drive energy efficiencies in our clean water operational areas.
- Ensure we have sufficient resources in Anglian Water and our supply chain to focus on implementing larger energy efficiency programmes to help us minimise operational risks due to external pressures, such as extreme weather events.
- Continue to monitor our progress on an annual basis to ensure that the right balance is struck between investing in energy efficiency and other decarbonisation opportunities, especially as we gradually decarbonise our electricity supply.

Case study: Project TORCH

In 2025, we were awarded a share of Ofwat's Water Breakthrough Challenge innovation competition for Project TORCH. TORCH stands for 'Tool for Optimising decisions for Recovery of sewer Catchment Heat' and consists of an AI-assisted decision tool to optimise heat energy recovery from sewers and Water Recycling Centres. It identifies and prioritises heat source location, heat energy recovery technology and transmission route to gain an understanding of where and how residual heat could be extracted and used by others to reduce the carbon associated with their provision of heat. This must be achieved whilst maintaining the performance of water recycling assets.

The project is being led by Anglian Water in partnership with Thames Water, Severn Trent, BMA, Noventa, University of Sheffield, Exeter University and Peterborough City Council.

Solar farms

In 2020, the largest solar array on our sites – and one of the largest in the water sector – was energised. Formed of more than 42,000 solar panels, the Grafham array supplies over a quarter of the energy needs of one of our largest water treatment works.

Renewable energy

Our plans going forward

- Maximise the deployment of solar and wind electricity through private wire schemes (prioritising off-balance sheet projects through PPAs) and accelerate energy storage opportunities.
- Maximise the opportunities from electricity market evolution to assess the commercial implications of solar and wind PPAs at specific trigger points in time.
- Continue to implement energy storage opportunities across our sites.

Risks and uncertainties

- Grid connection risks for our solar portfolios. While these are managed by the developer (in the PPA model we are following), significant delays or cost of grid connections may delay some of our projects coming online on time.
- Planning challenges around solar. As we have experienced at the proposed solar installation close to our site at Wing, in Rutland, these may pose delays in the deployment rates of our PPAs.
- Following the potential relaxation of planning guidance around onshore wind, there remains a risk to the development of schemes.

Our actions to ensure flexibility

- Ensure we retain and retire any renewable energy guarantees of origin (REGOs) we get from our solar, wind and CHP renewable energy generation. This will enable us, under a market-based reporting methodology, to be able to claim zero carbon electricity generation.
- Continue engaging with our solar PPA investors, their EPC contractors and district network operators (DNOs) to ensure our solar portfolios are delivered and bring us the intended benefits.
- Continue to monitor planned solar developments in our region (outside our own land) to identify and benefit from additional solar generation over the short and long term.
- Continue to investigate energy storage opportunities on our sites to understand if these can assist with site energy resilience and reduce our reliance on fossil fuels.
- Continue to work with third parties to incorporate energy storage solutions on our sites which can contribute to the resilience of the local electricity network.
- Continue to engage with local authorities to monitor planning risks for onshore wind in our region.
- As our existing CHP systems approach the end of their lifespan, we are exploring the potential of biomethane Gas to Grid technology as a replacement. In the event of phasing out CHPs, we will need to acquire or produce additional electricity to meet our energy demands. We will focus on increasing both the use of renewable energy sources through PPAs and boosting on-site generation capabilities.

Customer benefits

Decarbonising our grid electricity emissions early will improve resilience for our business and future customers against volatile grid electricity prices. For the highest CAPEX/OPEX activities associated with renewable energy generation, we are opting for off-balance sheet schemes in our own land, and land adjacent to our sites through PPAs, where the whole life cost of any development is borne by the developer and we agree an offtake electricity price.

Behaviour change required to drive carbon reduction

Alongside the adoption of new technologies, we also need to ensure that our own workforce, supply chain and customers are encouraged to adopt low-carbon behaviours. This includes:

Ensuring our people are informed on how to be as energy efficient as possible in our offices and sites, empowering people to challenge and report areas where energy efficiency can be improved.

Encouraging collaborative behaviours across our energy efficiency, innovation and catchment management teams to identify how we can maximise co-benefits of nature-based solutions and digital enablers to drive down our carbon emissions, improve resilience and provide other environmental benefits.

Helping our customers become more water efficient helps save energy demand associated with domestic hot water heating. The carbon benefits to households through water efficiency can be 3.5 times more than the benefit for water companies.

Funding to deliver our plan

- Improvements in energy efficiency funded from our base expenditure.
- New solar and wind generation, funded by third-party investment (e.g. PPAs).
- Energy storage, funded from our base expenditure or by third-party investment where opportunities arise.

Procuring green electricity

Our plans going forward

- Pursue REGO-backed green electricity and sleeving opportunities to cover 100% of our remaining GHG emissions associated with grid electricity.
- Become an active purchaser of electricity to optimise our electricity consumption based on tariffs and optimal times. We will identify suppliers that can accommodate sleeving where this will provide best value for customers.
- Procure increased renewable energy through 'behind the meter' and sleeving opportunities in our region. We have done an initial screening of such sites at third-party land in our region.

Risks and uncertainties

The risks and uncertainties associated with procuring green electricity are captured under energy efficiency and renewable energy, pages 13-15.

Our actions to ensure flexibility

We will continue to undertake market engagement to best understand future grid electricity tariff scenarios, especially any premiums for green electricity and sleeving, to have a more informed electricity procurement strategy at specific trigger points in time.

Funding to deliver our plan

Purchasing REGO-backed power is funded from our base expenditure.

Maximising the value of our biogas

Our bioresources have been an excellent renewable energy resource to date.

Over the years, we have benefited from policy incentives for renewable energy to invest and maximise the value of our biogas. We have been fuelling CHP engines with our biogas to generate renewable electricity and heat. We have used this electricity to offset our imports from the grid on some of our sites alongside exporting any surplus to the electricity grid.

Biogas offers many opportunities for decarbonisation. In the past, the UK Government introduced incentives relevant to renewable heat (the renewable heat incentive, known as RHI, and its replacement, the Green Gas Support Scheme, known as GGSS). There is also the renewable transport fuel obligation, known as RTFO. These initiatives intended to support the gradual decarbonisation of heat and transport in the UK through the use of biomethane.

Biomethane can be mixed with a small amount of propane (a fossil fuel) to have the right consistency to be injected into the gas grid and replace natural gas (fossil fuel) – a process called gas to grid. Biomethane production has a greater carbon benefit than using biogas through CHP, however, injection into the gas grid is location-specific and the cost is best justified through benefiting from the right policy incentives.

Furthermore, the UK's Hydrogen Strategy has ambitious goals for the deployment of hydrogen, part of which is to be used for heating and transport. Biogas can be one of the routes to hydrogen production and injection into a future hydrogen grid.

Our plans going forward

- Maximise the value of our biogas from our Advanced Anaerobic Digestion (AAD) facilities by considering alternatives that have the greatest carbon reduction benefit and lowest bill impact to our customers. This would involve switching from biogas/CHP into biomethane production and injection into the gas grid or use in transport, depending on different policy incentives.
- Gradually switch 54% of our existing CHP generation capacity to biomethane production, injecting 200GWh/year into the gas grid over the short-term, delivering around 36,000tCO_2e savings in emissions. We assessed that the sites with the greatest potential to meet this target are our existing facilities in Cotton Valley, Great Billing and Whittlingham.
- Actively consider opportunities associated with hydrogen production from our bioresources assets for potential implementation post-2030.

Risks and uncertainties

- Levels of biomethane government subsidies fluctuating over time.
- Proximity and cost of connecting sludge sites to the national gas grid.
- Risk of potential land bank loss affecting our biogas strategy which could lead us to consider alternative sludge treatment and disposal routes (e.g. incineration).
- Uncertainty around future hydrogen policy direction which may pose a long-term risk to any biomethane and biogas investments we make prior to the development of this policy direction.
- The impact on carbon reduction potential in bioresources from installing alternative water recycling processes (such as Membrane Aerated Biofilm Reactors – MABR) that could affect sludge volumes and biogas potential.

Our actions to ensure flexibility

- Engaging through industry groups and relevant Government bodies to monitor closely the direction of travel for the different policy incentives supporting biomethane-to-grid schemes.
- Engaging with the market to understand the various design, fund, build, operate models and how to design contracts which best meet our needs.
- We will run different scenarios to best understand other opportunities if gas to grid is not the preferred option for a specific site; diverting biogas back into our boilers, exporting biogas into neighbouring industries that may require it for their own decarbonisation efforts, using biomethane in our transport fleet, potentially exporting our sludge for co-digestion in other new facilities in our region or maintaining a CHP solution. We will need to make some tactical decisions as policies change and markets respond.
- Engaging early with National Grid to better understand the costs of grid connection in the identified sites.

- Optimising the amount of additional natural gas we would need to import to heat our digesters, by assessing the cost of better insulation, exploring alternative sources of heat (such as viability of waste heat from our water recycling facilities, ground source heat pumps, electrified heat blankets, among others).
- Continuing our engagement with Defra, the Environment Agency (EA), ADAS (independent agricultural and environmental consultancy), the Country Land and Business Association (CLA), the National Farmers' Union (NFU) and Water UK networks to better understand the Environment Agency's position on the Farming rules for Water (Rule 1) that may prevent biosolids to land and/or extended storage on Anglian Water sites, that may increase our Scope 1 emissions.
- Continuing to improve our understanding on whether the production of hydrogen from biogas can be competitive when compared with alternative biogas uses.
- Engaging with Energy UK and National Grid to better understand the future direction of hydrogen policy in the UK, including considering potential for the gas grid to be repurposed for hydrogen in the long term. This may impact our investment strategies for biomethane schemes.
- Continuing our assessment of how biomethane could be used in our HGVs.
- Engaging with our supply chain to understand potential benefits from alternative sludge treatment processes (such as pyrolysis, gasification and incineration) to mitigate the risk of losing our landbank.
- Understanding the impact on our biogas strategy from deploying alternative water recycling process to reduce other GHG emissions on our future sludge volumes.

Funding to deliver our plan

Investment to deliver our biomethane plans may need to be funded primarily through third-party investment (e.g. Design, Build, Finance, Operate contractor), and through our base expenditure. We have not included investment in hydrogen technologies in our AMP8 (2025-2030) Business Plan (except for the Triple Carbon Reduction pilot funded through the Ofwat Innovation Fund), as there is no hydrogen investment planned before 2030.

Customer benefits

Maximising the value of the biogas from our Sludge Treatment Centres benefits our customers through the provision of low carbon electricity and heat, as well as resulting in a positive environmental impact in the communities we serve.

Behaviour change required to drive carbon reduction

We will encouraging our innovation teams to continue to push the boundaries for how much biogas we can produce and improve our overall energy balance.

Our operations and maintenance and innovation teams will need to collaborate to understand how we can use technology to identify where fugitive methane emissions are likely to occur and proactively identify interventions to minimise these.

Combined Heat and Power engines on our site at Great Billing

Managing our process emissions

Process emissions will become the largest component of our residual GHG emissions into the future, as other sources are reduced. These emissions are particularly difficult to tackle and are a challenge for our sector.

Process emissions – primarily nitrous oxide (N_2O) from secondary water recycling treatment, and methane (CH_4) from water recycling and sludge treatment and storage - are a by-product of collection and treatment of our water recycling activities and fugitive emissions, defined as unintended losses or leaks from the system. Process emissions accounted for 23% of our baseline 2018/19 GHG emissions. These are illustrated in a schematic in Appendix 2, in our 2021 Net Zero Routemap.

The proportion of process emissions in our operations, as reported in the Carbon Accounting Workbook (CAW) in 2024/25, are shown in figure 5. This highlights that the majority of our process emissions arise from our water recycling and sludge treatment activities. Water-related process emissions account for just under 10% of our overall process emissions and are largely zonation.

There is great uncertainty in the magnitude of those emissions in our operations and the science has been evolving over time. Currently, we do not know the exact magnitude or the emissions factor of N_2O emissions and we have been working with our peers to improve our understanding.

Our sector undertook a research project by UKWIR (UK Water Industry Research) in 2020 where various emissions factors for N_2O were assessed. This work has shown great variability in the location and magnitude of these emissions. The main recommendation for our industry has been to install monitoring equipment to improve how we understand and manage them.

Appendix 2 in our Net Zero Routemap provides further detail. Our industry's current understanding from the UKWIR work in 2020 shows that the N_2O emissions factor is likely to be higher than the current industry reported value. This means that our baseline emissions, our target net zero trajectory to 2030 and our residual emissions in 2030 will all be higher. This is a key risk for us and our peers. Once we have the right evidence, we will have to re-assess our baseline and net zero trajectory.

Figure 6 illustrates how different emissions factors could impact the level of our residual GHG emissions in 2030, adding between 41,000 and 118,000 tCO_2e/year.

Figure 5: Proportion of process and fugitive emissions from our operations in 2024/25

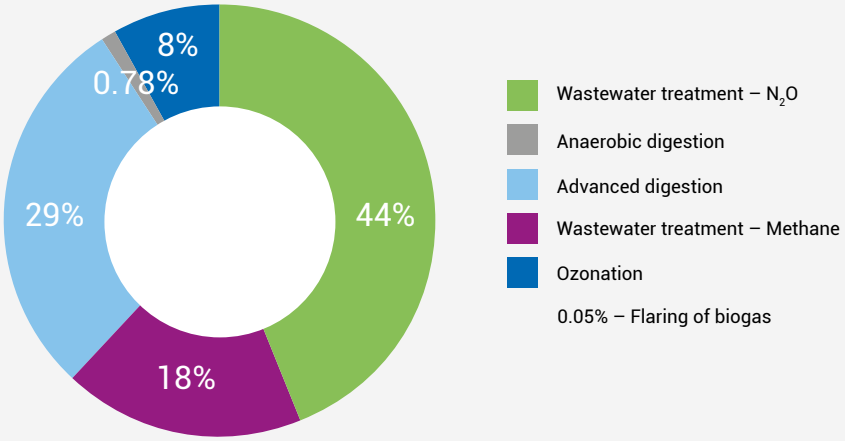
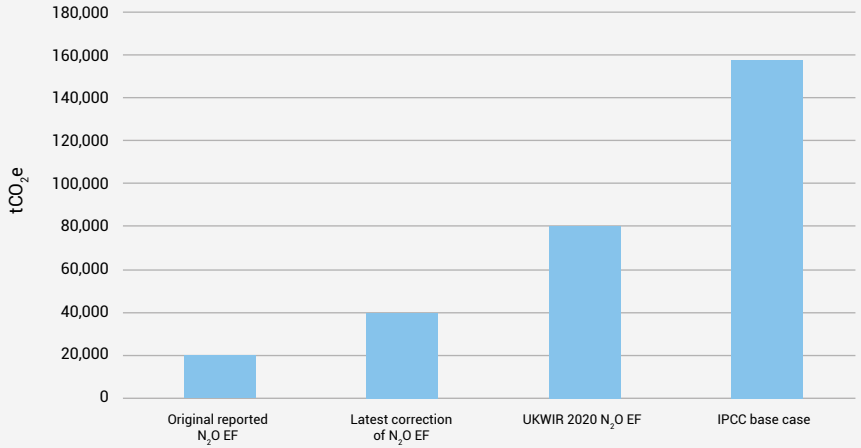


Figure 6: Our water recycling process emissions from N_2O based on different emission factors



Our plans going forward

- By the end of AMP8 (2025-2030) we will lead the way in improving our understanding of process and fugitive emissions and how they may be managed and reduced, through operational optimisation, asset modification and replacement where possible.
- By 2030 we will invest c.£75 million in 18 N_2O reduction schemes across 17 of our operational sites using a range of technologies (Liquor Recovery, MABR, Contain and Treat and Real Time Control).
- By 2030 we will work closely with our supply chain and the industry to assess the performance of schemes to reduce process emissions and determine those that will be the most effective to implement at scale. We will use the output data from the various N_2O reduction approaches to develop an investment strategy to further reduce these emissions post-2030.

Risks and uncertainties

- Following the outputs of the various monitoring projects, it is possible that N_2O emissions will be significantly different (and likely higher) to those currently assumed. There could be variation across treatment processes, sites, times of year and geographies.
- The N_2O reduction technologies to be employed in 2025-2030 are in the early stages of adoption and, given the uncertainty as to the levels of N_2O production, it is possible that results will differ from those currently expected.
- As our understanding of N_2O emissions levels, the effectiveness of the various abatement technologies, and the costs involved improves, we will need to retain flexibility in the development of our post-2030 N_2O reduction strategy.
- CH_4 process and fugitive emissions are different to anticipated following close investigation and monitoring.

Our actions to ensure flexibility

- Continue with onsite N_2O monitoring.
- Work with other water companies in the UK and overseas to share knowledge on N_2O emissions levels and mitigation approaches.
- Review, trial and implement the most promising tools and methodologies to monitor CH_4.
- Continue to investigate the benefits of novel approaches to CH_4 used in the oil and gas sector for leak detection and assess how they could help us improve the data we have on fugitive emissions from our anaerobic digestion facilities.

Funding to deliver our plan

- We have secured c.£75million for 2025-2030 to deliver 18 N_2O reduction schemes.
- The delivery of the requirements for the Industrial Emissions Directive will reduce CH_4 emissions and will be funded via our PR24 settlement.
- Other activities would be funded from our base expenditure, and we will continue to explore opportunities for wider sources of funding and incentives (e.g. Innovation funds, private sector investment).

Customer benefits

The cost of the various process emissions reductions technologies vary, and their future adoption will need to be reflected in investment costs and customer bills. Our strategy on process emissions requires us to better understand the scale and location of our N_2O and CH_4 emissions. Once we have done that, we will work with our supply chain and the international scientific community to find the most cost-effective ways to reduce these emissions as much as possible. We will prioritise operational responses and optimisation before considering alternative treatment technologies. Covering tanks and treating the off-gas will be treated as the last resort.

Behaviour changes required to drive carbon reduction

Our operational, capital delivery, and innovation teams will need to collaborate to drive the most efficient roll-out of monitoring to continue developing our understanding of how best to manage process emissions.

Our operational and capital delivery teams will need to work together to design and install N_2O emission reduction approaches effectively.

Knowledge sharing between water companies and N_2O communities of practice, both nationally and internationally.

Utilise digital enablers, real-time monitoring and predictive analysis to help operational staff utilise the data from monitoring to drive process emissions reductions.

Decarbonising our transport operations

Our transport GHG emissions account for over 6% of our baseline. This could increase as a proportion of our emissions going forward, as other areas of our emissions decarbonise.

We rely on a large fleet of cars and vans that have historically run on fossil fuels. We have assessed the potential for decarbonising our small fleet and diesel vans as they reach the end of their operational life.

We also own a large number of Heavy Goods Vehicles (HGVs) and rely on contractor-owned HGVs for business operations. We have been engaging with our supply chain to understand the potential for switching our HGVs into lower carbon fuel sources. We originally focused on options for switching our HGVs into Liquefied Natural Gas (LNG) in the short term, and biomethane and potentially hydrogen as longer term, lower carbon fuel sources.

However, technological advances in electric HGVs resulted in a change in our short-term approach, away from LNG to Electric Vehicles (EV) for our HGV fleet. Electric HGVs were simply not deemed viable in 2021 when we drafted our plan. We have already switched 5% of our HGVs to EV. Our long-term approach will ultimately be determined by future developments in low GHG emissions HGVs.

Our plans going forward

- Change our behaviours to minimise business travel and encourage smarter maintenance and operations to reduce unnecessary travel between our sites.
- Replace 90% of our small vehicles with electric equivalents.
- Switch 55% of our HGVs to EV or other lower GHG emission vehicles. This could include biomethane and hydrogen in the future.
- Assess the potential of using biomethane as a proportion of LNG in our fuelling stations for our HGVs and assess the viability of using hydrogen by and post-2030.

Risks and uncertainties

The main risks and uncertainties we will need to monitor and manage include:

- Suppliers may not switch their HGV fleet to low-carbon alternatives as fast as our target trajectory.
- Government policy on low carbon transport has changed since 2021 (for example EV subsidy and deadline for the phasing out of Internal Combustion Engine vehicles) making planning around policy more uncertain.
- Most small and medium fleet EV charge points are assumed to be on public/home charging points and some on our sites. There is a risk that insufficient EV charging points will be available in public infrastructure for our target trajectory, and/or that the additional cost impact of installing EV charge points at our sites may be high.
- HGV EV charging infrastructure requires large amounts of electricity and their location may be constrained by electricity grid capacity.
- Supplies of biomethane and hydrogen may not be available when we need them.

Our actions to ensure flexiblity

- Continue to engage with our EV small fleet suppliers.
- Continue to engage with our supply chain to closely monitor and encourage changes in EV technologies and ranges in larger vans.
- Prioritise small vehicles that spend most of their time at our larger sites with EV charging infrastructure.
- Continue to assess the opportunities for installing EV charge points in our large sites powered from renewable energy. Energy storage could play a key part in this and will give us the flexibility of storing some of the renewable energy we generate and use into energy storage (batteries) and electric vehicles.
- Continue to monitor the availability of government incentives and other sources of funding to ensure we minimise the impact on our customers' bills.
- Continue to monitor the availability of biomethane and hydrogen within our supply chain.
- Continue to engage with our supply chain to encourage lower carbon HGVs. We will need to provide the right incentives to our suppliers to meet our target.
- Continue to monitor the different policy incentives and run scenarios on the type of fuel use for our HGVs, especially movements in hydrogen markets and the cost of biomethane.

Customer benefits

Decarbonising our fleet will result in less air and noise pollution associated with combustion engines, providing some benefits to the air quality in the communities we serve. Optimising and reducing our travel activities will also result in a lower number of vehicles and reduced traffic disruption across our region.

Funding to deliver our plan

- Transitioning to EVs will be funded through our base expenditure.
- Our PR24 Business Plan includes investment to further install EV charging infrastructure at some of our sites, and investment to replace 12 Heavy Goods Vehicles (HGVs), 26 tractor units, four hook-lifts, and four tippers with electric alternatives.

Behaviour change required to drive carbon reduction

For our business travel and commuting, we have been looking at opportunities to reduce vehicle mileage through behavioural and technology changes.

While commuting mileage is not within our net zero boundary, we learned a lot about flexible working during the Covid-19 pandemic. We have invested in our IT infrastructure to enable and encourage more virtual meetings. We have converted a floor at our office in Peterborough into a collaborative space, as our colleagues are no longer expected to come to the office every day. This has been supported by ensuring IT access is available to all employees, at all sites, enabling individuals to more effectively work to minimise travel.

We have introduced electric vehicles as an option for employees who have company cars alongside a company EV lease scheme.

Alongside the adoption of new technologies, we are also encouraging positive behaviour change among our workforce. These include:

- Providing driver training to improve fuel efficiency and safety of drivers for HGVs and our van fleet, this includes use of two-way cameras to train our apprentice drivers.
- Building on the success of flexible and remote working to continue to significantly reduce our business miles travelled.
- Utilising scheduling software to inform drivers of best routes and travel times to avoid time idling in traffic.
- Encouraging drivers and utilising technology to stop idling when attending incidents.
- Providing access and incentives to choose electric vehicles as part of our company car programme.
- Providing access to EV car lease schemes to employees.

Opting for alternative fuels

In addition to grid electricity and transport fuels, we use other fossil fuels such as diesel, petrol, natural gas and others. Fossil fuels outside grid electricity and transport account for less than 5% in our baseline GHG emissions – however, their share could increase going forward as other areas of our emissions decarbonise. Although this is a small proportion, we want to reduce our reliance on these fuels going forward.

As set out in our biogas strategy, our intended switch to biomethane will require additional fuels to supplement the heating of our digesters, as well as propane to upgrade our biogas to biomethane. As a result, our use of natural gas and propane is set to increase. We will need to explore other alternatives for heating our digester facilities.

We have undertaken research into the potential for hydrogen in our business and how it may benefit our future customers as well as our wider region. We have the potential to be both a hydrogen consumer and producer – and the provision of fresh water as the raw material for hydrogen warrants consideration, given the availability constraints in our region.

Our plans going forward

- Replace 100% of our gas oil demand with hydrotreated vegetable oil (HVO) for use in our generators.
- Reduce our reliance on fossil fuels in our boilers heating our digesters by investigating the available options such as powering boilers with electricity, biomethane, HVO, or hydrogen.
- Understand how we can best play our part in a future UK hydrogen economy (which is set to grow post-2030).

Risks and uncertainties

- Availability of supply and price points e.g. for HVO.
- Uncertainties around technologies and pricing for switching boilers from fossil fuels.
- Our reliance on fossil fuels could increase over time, dominated by the use of propane and natural gas as a result of our biogas strategy. However, a move to biomethane is still the most carbon-efficient choice for reducing the UK's carbon emissions.

Our actions to ensure flexibility

- Continue to challenge the need and purpose of using fossil fuels (and their alternatives) for standby generation by exploring alternatives such as renewable energy stored in our sites.
- Continue to generate further efficiencies in how we heat our digestion facilities.
- Build on our current work on hydrogen where we are running a technical and cost assessment of how we could produce green hydrogen through electrolysis and use pure oxygen in our water recycling facilities in the future, and grey hydrogen from biogas and bioresources. This will enable us to see how hydrogen can fit into our energy mix and dispatchability strategy post-2030.
- Engage with the main hydrogen players in our region (from the DESNZ industrial clusters such as the Humber estuary and Sizewell C in Suffolk) to better understand how we can identify synergies for using hydrogen in Anglian Water as an alternative fuel (for generation and/or transport) or any of its by-products (pure oxygen) in our water recycling facilities.

Funding to deliver our plan

- The use of HVO is funded through our base expenditure.
- Our PR24 business plan does not include investment to adapt our boilers for HVO in AMP8.

Customer benefits

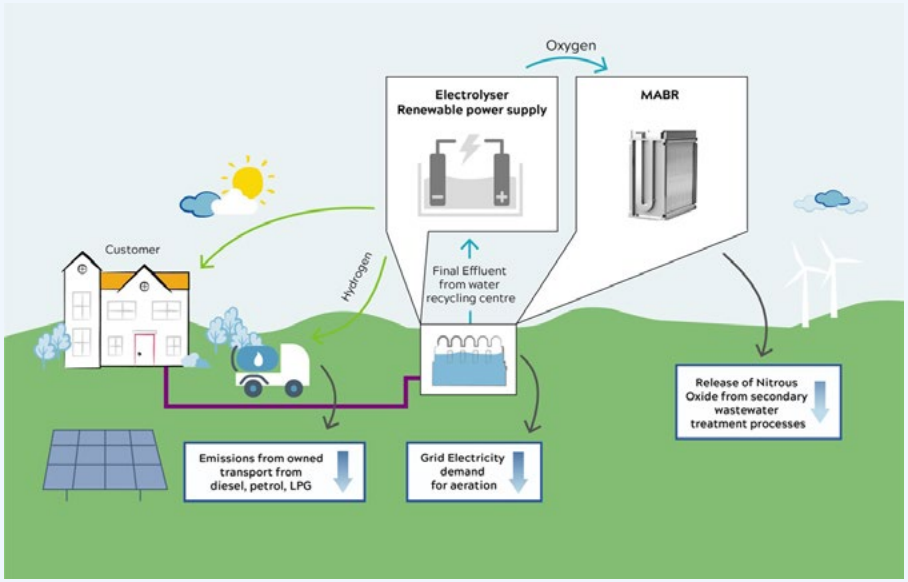
Understanding the benefits of hydrogen to Anglian Water could bring significant cost and carbon savings in our existing operations and subsequently, customer bills. However, such benefits are likely to materialise post-2030.

Behaviour change required to drive carbon reduction

- Encouraging internal and external collaboration to drive and accelerate the development of lower carbon alternatives to fossil fuel, such as hydrogen.
- Continuing to encourage operations and maintenance teams to drive fuel efficiency on site and supporting them to find lower carbon alternatives to existing fuel consumption drivers, e.g. hydrogen or battery storage standby generation.
- Collaborating and engaging across teams to identify co-benefits opportunities, such as the potential to use HVO on-site to refuel vans and cars.

Case Study: Triple Carbon Reduction

Through Ofwat's innovation fund, our Triple Carbon Reduction project is testing ways to use surplus renewable energy to generate hydrogen through splitting water. The hydrogen can then be used in place of fossil fuels. Oxygen is also generated through splitting water, and we aim to use this for aeration in our water recycling process, which could reduce our operational energy consumption and N_2O emissions – further reducing greenhouse gas emissions. This project is underway and we aim to test the concept and quantify the savings in emissions and energy. Once tested, our ambitions are to scale up and amplify the benefits of this technology post-2030, pending support from government and regulators.



Innovation, collaboration and partnership working are key to manage the complexities of adapting to a changing climate and lowering emissions. Many of the Ofwat Innovation Fund projects have the potential to create significant value for customers, society and the environment.

Another example is our work on the multi-agency digital twin: the Climate Resilience Demonstrator (CReDo). Our assets operate in an interrelated infrastructure system. We are reliant on the power network for electricity, the telecoms networks for communications and the transport system for access. These assets are connected in a host of ways and a failure in any one of these can have cascade effects which lead to failures elsewhere – an issue which has become more acute in the face of more frequent extreme weather events.

We continue to work with stakeholders, recognising that many parties have important roles to play in adapting to climate change.

Read more in our Climate Change Adaptation report.

Developing our offsetting strategy

Following decarbonisation, it is likely that we will still have residual GHG emissions which we will need to manage to reduce carbon.

Some GHG emissions will result from using lower carbon fuels to power our standby generators, and using fossil fuels to heat our digesters and produce biomethane to export to the gas grid. We will also have some remaining transport GHG emissions and GHG emissions associated with losses in the electricity grid transmission and distribution.

This means we will need to remove carbon or purchase credible offset credits to achieve net zero. The current offsets market in the UK is quite limited, and in some areas of international offsets, we have observed risks of greenwashing.

We want to see the offset market develop in a robust and credible way, which delivers value to our region. One opportunity is to support sustainable farming, of which our region makes a vital contribution, alongside reversing biodiversity loss. We have, for many years, worked with local farmers to help support innovative soil management schemes that avoid the use of artificial fertilisers and increase soil carbon content. We have also been involved in a project which aims to re-establish seagrass meadows just offshore. These meadows sequester carbon, increase aquatic biodiversity and have the potential to reduce storm surges.

At the heart of the concept of a regional carbon offsetting market is recognition that habitats and biodiversity vary. Offsetting solutions must be appropriate to local needs and work for both buyers and sellers of offsets. The key purpose of a regional offsetting market is to create the right conditions and incentivise local landowners to adopt and augment sustainable land management practices. Implementing these practices will not only have a carbon offsetting benefit, but if done correctly, these schemes will help to: improve air and water quality, enhance wildlife habitats, the rural landscape and its heritage, mitigate flood risk, use resources more efficiently and reduce waste, emissions and adapt to the changing climate.

Our plans going forward

Our ambition is to maximise opportunities to remove carbon in our own land (insets) and adopt a leading position in offsetting by supporting new markets across our region on other land (offsets). We seek to do this in a way that has multiple benefits.

Our offsetting approach is aligned with the Oxford offsetting principles, which seek to prioritise removals offsets over time, as opposed to avoided GHG emissions from third parties.

We expect that the types, quality and market factors relating to offsets will evolve significantly over time. Our removals hierarchy prioritises the delivery of removal benefits in our own landholdings, followed by supporting credible offset schemes in our region, where offsets are verifiable to best practices and belong to a credible registry.

The next step in our hierarchy is to offset elsewhere in the UK. Only as a last resort will we offset internationally. We are focusing efforts to better understand the science behind emerging removals schemes relevant to soil management, grassland restoration, wetlands, seagrass and others. These solutions, in addition to afforestation/reforestation practices, are aligned with current industry best practices.

Risks and uncertainties

- Continuous development in the science around emerging carbon removal schemes such as grassland restoration, seagrass, blue carbon and others.
- The limited size of voluntary offset markets in the UK, aside from the Woodland and Peatland Carbon Codes.
- A lack of clear policy and guidance for certification and credible removals schemes outside our own land, beyond existing voluntary standards (such as the Gold Standard, Verra, etc, which are mainly internationally focused).
- Increasing demand for offsets, which is highly likely to push prices up in the future.

Our actions to ensure flexiblity

- Improve our scientific knowledge on potential removal opportunities such as from grassland and seagrass restoration, by engaging with key stakeholders and assessing the removal potential over time.
- Set up a framework on offsets to engage the best suppliers in the market to help us make the right choices on our investment decisions for insets and offsets.
- Strengthen our relationships with key landowners and farmers in our region to support the development of soil management schemes that avoid and remove carbon emissions. We have already identified a number of schemes that have the potential to remove large quantities of carbon from the atmosphere. We are keen to influence voluntary standards for offsets in the UK, such as the development of the Soil Carbon Code.
- Engage with project developers to better understand the details of additional due diligence required for implementing credible offsetting schemes in new markets.
- Continue to assess carbon removal co-benefits of all nature-based solutions we are planning to develop in AMP8 and beyond – especially through our work on catchment management and biodiversity net gain.
- Take an active role through Water UK to continue the engagement with the Environment Agency and Defra to influence the direction of offset markets in the UK.
- Work with the Department of Energy Security and Net Zero (DESNZ) in investigating the development of a mechanism where Anglian Water can claim a carbon reduction benefit from the use of residual heat in our network (for example from final effluent, sewers, etc.) by others. The use of this heat displaces the use of fossil fuels by end users and saves carbon emissions.

Funding to deliver our plan

- Investigative work and engagement with stakeholders will be funded through our base expenditure.
- Our Business Plan for AMP8 does not include funding for carbon offsetting.

Case study: Mushroom-powered wetlands

Nature-based solutions, such as treatment wetlands, are a key part of our vision for the future. They provide wider benefits for the environment and communities than more traditional 'grey' solutions; avoiding the need to add more chemicals into our treatment processes or build carbon intensive infrastructure.

In 2025, we completed the construction of mushroom-powered wetlands. Mushroom roots (mycelium) have a large surface area, which can absorb nutrients and remove microorganisms and pollutants, trapping pathogens in their root system. We are using this innovative new method to treat recycled water that passes out of our Water Recycling Centre at Benfleet.

Our Benfleet Water Recycling Centre borders Benfleet Creek, which is a Site of Special Scientific Interest (SSSI). The salt marshes are a crucial habitat for local biodiversity, but they are slowly being degraded by blooms of algae. Although our existing water recycling processes already clean and treat the water to a high standard, by passing through to a series of mushrooms, we can cleanse the water further.

Working in partnership with Catchment To Coast, the Department for Environment, Food and Rural Affairs, Southend-on-Sea City Council and the University of Essex, we will be monitoring the efficiency of mushroom-powered wetlands through water quality testing. Our ambition is to scale the benefits of green projects like this one at Benfleet across the region.

Mushroom-powered wetlands in Benfleet, Essex.
Click here to watch a short video.

Progress in areas which would support the UK's Net Zero transition

Collaboration across sectors is fundamental to developing low carbon solutions. There are a number of ways where we, at Anglian Water, can facilitate and enable others to deliver carbon reductions. While these solutions may not directly reduce our emissions, these activities can contribute to carbon reductions across the country.

Triple carbon reduction project

Through Ofwat's Innovation Fund, our Triple Carbon Reduction pilot is testing the use of surplus renewable energy to generate hydrogen and oxygen, splitting water using hydrolysis. The hydrogen can be used in place of fossil fuels. We aim to use the oxygen for aeration in our water recycling process to reduce both our operational energy consumption and N_2O emissions, further reducing GHG emissions. This project will test the concept and quantify the savings in GHG and energy with the potential to be scaled up in future.

Membrane Aerated Biofilm Reactor at Cambridge

Enhancing grid resilience

The electricity grid is facing pressure as demand and electrification rises. We are supporting resilience for the region's electricity grid by generating renewable energy and reducing our demand.

We are working with a company who leases space on one of our sites to store excess renewable energy in a battery when demand is low – for example, wind energy generated by the grid at night. This company then uses our grid connection to feed this stored electricity into the local network during periods of high demand. This reduces the stresses on the network and increases local resilience. There are no direct carbon or energy savings for us, but we are happy to support local electricity grid resilience. The company has a plan to install over 150 of these batteries on our sites over the next three years.

Utilising residual heat

We already provide residual heat from our water recycling process to two commercial greenhouses in our region, helping these growers to reduce their energy use and GHG emissions.

We are engaging with a number of heat network developers around utilising residual heat from sewers and recycled water final effluent to heat homes and industry. These conversations are in the early stages but we are exploring what could be possible, technically. In future we may be able to test and pilot this approach. See more on page 14, Project TORCH.

The Department of Energy and Net Zero (DESNZ) are working on a number of fronts so that residual heat can be viably facilitated and utilised by end users. The use of this residual heat could replace fossil fuels, leading to UK-wide carbon savings. While the carbon savings achieved through the use of residual heat benefit other parties, it is possible that a proportion of these savings could contribute to our carbon reductions.

In 2019, we partnered with Oasthouse Ventures to create the first greenhouses in the world to be powered by heat generated by wastewater treatment works

Sustainable aviation fuel

Project Firefly is a collaboration between Anglian Water and Green Fuels, funded via Green Fuels who secured around £2 million from the Department for Transport's Green Fuels, Green Skies competition.

The project takes post-anaerobic-digested biosolids from water recycling and by applying pressure and heat using a process called Hydrothermal Liquefaction, converts the organics fraction of biosolids into Sustainable Aviation Fuel.

There is an existing market for Sustainable Aviation Fuel which provides a solid foundation for the Firefly project, making it unique as an innovative circular economy concept.

From a water industry perspective, the Firefly concept provides an important alternative outlet for bioresources, which is currently purchased by farmers to be applied to land and has value as a phosphorus fertiliser. Importantly, the phosphorus fraction can still be captured post Hydrothermal Liquefaction through separation of the biochar component, meaning it can still provide potential value as a fertiliser.

As with the residual heat example, it is it's possible in future the GHG emissions saving could be counted towards Anglian Water's carbon savings, for example, falling within Scope 4/avoided GHG emissions.

Lower carbon concrete

Our AMP8 Business Plan includes a bespoke Ofwat-related performance commitment around the delivery of lower carbon concrete solutions for our capital projects. Concrete and steel are our two of our largest contributors to capital carbon (that is, the carbon emitted as a consequence of construction material manufacture and installation). By reducing the amount of carbon associated with the concrete we use, we will substantially reduce our capital carbon. This will require more integrated engagement with our supply chain in order to deliver. In addition, we are working with various companies in the steel supply chain in an effort to procure lower carbon steel.

Emissions from concrete usage, our wider construction programme and scope 3 emissions, are outside of the boundary of our decarbonisation commitments. However, our 2021 Net Zero Routemap included a commitment to achieve a 65% reduction against our 2010 baseline by 2025 and 70% by 2030. By 2025, we had achieved a 66.1% reduction in capital carbon – exceeding our target. We retain the target of a 70% reduction by 2030, against our 2010 baseline.

Innovation and collaboration will be key to delivering net zero. In January 2025, members from our Sustainability and Commercial Procurement teams presented at the Supply Chain Sustainability School 'AMP8 and Beyond: Making Water More Sustainable' event. The event, which was hosted online, attracted 662 attendees.

Case study: Reducing capital carbon on our Strategic Pipeline

Together with our Strategic Pipeline Alliance (SPA) partners: Costain, Farrans, Jacobs and Mott MacDonald Bentley, we're delivering the biggest infrastructure programme in Anglian Water's history: our Strategic Pipelines. Once complete, the pipeline will be key to moving water more freely around the region, from 'wetter' to 'drier' areas of the region, helping to combat the risk of shortages, boost resilience and secure water supplies.

Over 247 kilometres of pipeline is already in the ground and this will eventually join up from north Lincolnshire right down to Essex.

During project construction, the SPA team have been challenged with reducing both operational and capital carbon, applying the principles of PAS2080, an industry standard for managing carbon within infrastructure. A combination of actions meant that, between 2020 and 2025, the team managed to reduce the capital carbon impact of the scheme by 211,049 tCO_2e.

By identifying opportunities in design, the team were able to use existing network connections and reservoirs to reroute pipelines, avoiding using new material wherever possible.

This reduced the length of the overall pipeline and saved a significant value of carbon.

The team also explored various engineering opportunities that enabled pipe diameter reductions and a switch to steel or plastic pipes (over ductile iron) for significant portions of the pipeline route. Both of these materials have a reduced carbon footprint in comparison to ductile iron.

For operational carbon, the power requirement of pumps were minimised, reducing both energy consumption and the project's carbon footprint.

Lastly, the team continually improved their ways of working during construction, enabling further reductions. An example of this is using imported pipe surround – which relates to the material used to backfill the trenches once the pipe is in the ground. Typically, an aggregate needs to be imported, but the team were able to re-use a lot of the material that had been dug from the ground. Where this material wasn't immediately suitable, a crushing machine was utilised to process the excavated material into usable pipe surround.

Other actions include the use of hydrotreated vegetable oil (HVO) fuel, solar-powered welfare cabins, and V-bucket excavation.

7. Planning for the future

We have already been exploring various innovations to see how they can best be implemented to promote further carbon reductions against a changing climate and evolving market, policy and economic landscape.

Reducing our process and fugitive emissions through trial and adoption of a range of technologies. The results will feed into our future investment planning to further drive down emissions in the coming years.

Understanding the best future carbon reduction benefit if incentives around biogas and biomethane change and/or in response to potential loss of our treated sludge land bank. We are investigating innovative sludge treatment technologies such as pyrolysis and gasification.

Continue to assess alternative uses for biosolids, for example in the production of sustainable aviation fuel, which will deliver carbon emissions savings in other sectors.

Building on our current work on digital twins and implementing artificial intelligence to promote further demand (water and energy) reductions and better co-optimise our water and water recycling networks. This will work alongside our renewable energy generation, future electrified fleet, standby generation fuels, energy and water storage, as well as understanding the best ways of having more dispatchable energy.

Continue to monitor the hydrogen economy. We have the ability to become an active hydrogen producer through the use of ammonia, electrolysis, or from our biogas assets. We are improving our understanding of the benefit of technology swaps in our water recycling operations to use pure oxygen from hydrogen production, to help reduce reliance on electricity and costs for aeration. We are exploring the use of hydrogen in our HGVs and other fleet, for use in generators as energy storage.

Building on our activity around implementing nature-based solutions we aim to better understand the potential of increased adoption across our asset base, and better quantifying co-benefits such as carbon sequestration.

Contribute to wider carbon reductions in the UK economy by facilitating the use of residual heat in our network by others to deliver carbon emissions savings through the displacement of fossil fuels.

Biosolids assurance scheme

To prepare our business towards a net zero future, we commit to the following by 2030:

Align all our current innovation activities into the different decarbonisation interventions, with a roadmap for implementation and action. We will focus on innovations that will further reduce our residual GHG emissions going forward.

Identify gaps and collaborate with the water industry to understand other innovations that are required to address key knowledge gaps; both those we currently have and ones which will emerge in the next five to ten years.

Assess our asset replacement cycles in AMP9 (2030–2035) and beyond, identifying opportunities to implement our current innovations that will be ready for commercialisation in the future. This will give us a better understanding of when to act.

Prepare a hydrogen roadmap for our business and engage with key hydrogen stakeholders in our region.

Take an active role on wider hydrogen policy discussions in the UK with relevant regulators, government, water and energy sector bodies, supply chain and key energy players.

Test our post-2030 interventions and scenario planning against future climate projections in our region to incorporate into our long term planning, including our LTDS, WRMP, DWMP, all of which adopt a 25-year horizon.

Continue to collaborate with other asset owners in our region to better understand the potential of connected digital twins to facilitate the interoperability of our assets with the wider system, building on our work with the Connected Places Catapult on connected digital twins.

Maintain an active role in supporting the creation of local/regional offset markets, influencing policy and markets, in particular for natural sequestration solutions that have greater readiness levels (such as soil sequestration), but also in areas including seagrass and grassland.

Engage with our supply chain and our peers to drive the agenda on capital carbon reduction post-2030 and set targets that are aligned with the latest science. We commit to develop a capital carbon roadmap and extend targets to 2050.

Maintain our active role with the Green Construction Board and Construction Leadership Council to continue to lead the decarbonisation agenda in construction and infrastructure.

Build on our current efforts and engage with government to maximise system-wide decarbonisation in our region, such as exporting residual heat and other low carbon resources and the attribution of carbon savings.

Maintain our active role with water sector bodies and our leading position on engaging with our regulators, government and other stakeholders to closely monitor and influence changes in policies.

Financial planning and investment

Significant investment is required to reach our decarbonisation ambitions. We see necessary investment as a mixture of the following:

- Funding from our base expenditure allowed through the regulatory system, plus some enhancement funding where this has been secured through the regulatory system.
- Third-party funding, such as through PPAs to implement renewable energy generation. This allows us to buy renewable electricity (OPEX) while avoiding incurring CAPEX costs. Additionally, it is possible that implementing our biomethane strategy relies on securing third party funding through a DBFO contract and selling green gas certificates.
- Wider funding, such as innovation funds and private sector investment. As an example, Ofwat's Innovation Fund is supporting our Triple Carbon Reduction pilot.

Our plan is integrated into our broader financial planning and decision-making framework. We need to further quantify the investment required for some activities in the future, and how implementation of our plan will impact our financial position.

In AMP8 we will invest c.£75 million to reduce process emissions at 17 of our largest Water Recycling Centres and will be replacing 12 HGVs, 26 tractor units, four hook-lifts and four tippers with electric equivalents.

We also have a new, Ofwat-related performance commitment to reduce operational GHG emissions, which provides further financial incentives to encourage us to invest and drive action to achieve our targets. We will have a bespoke performance commitment to reduce capital carbon through new lower carbon concrete assets.

Our Business Plan is financed through a range of avenues, detailed in our annual reports and financial statements. Our sustainable finance framework is a crucial part of our overall financing strategy as it enables us to reduce our borrowing and financing costs through delivering sustainability outcomes. Details can be found in our Sustainable Finance Impact Report 2025.

Enhancing our climate resilience and natural environment

Alongside our efforts to decarbonise, we recognise the need to adapt to a changing climate and enhance the natural environment that we depend on. Our 2024 Climate Change Adaptation Report sets out our progress in building our climate resilience highlights include:

Embedding climate resilience in our long-term planning

We consider climate scenarios and resilience measures in our strategic and business planning. We've tested our plans using the common reference scenarios defined by Ofwat, including consideration of some transition risks relevant to technology, population/ housing growth, and environmental ambition.

Water supply

We are working to secure long-term resilience for our water supplies across our region. For example, we are building our Strategic Pipelines, which will increase our resilience to a 1-in-200 year drought event and plan to construct two new reservoirs in our region over the next decade.

Managing extreme events

We are involved in the Climate Resilience Demonstrator (CReDo) Project, a pioneering climate adaptation digital twin project that will improve our understanding of asset failure, systems interdependencies and cascade failures from extreme heat scenarios and other extreme climate events. We are also developing our approach to delivering resilience against wildfires, a relatively new climate threat and one which is predicted to increase in the future.

Flood risk

We updated our flood risk assessment, assessing all our water and water recycling above ground assets for pluvial, fluvial, coastal, and groundwater flood risk under a range of future climate change scenarios. We use green infrastructure such as Sustainable Drainage Systems (SuDS) to reduce the surface water directed to sewers, which also protects and enhances our environment. We are planning to use nature-based solutions across 52 catchments to reduce flood risk by 2030.

Embedding resilience in capital schemes

We developed a process to assess and manage the climate resilience of our projects. Our Climate Resilience Score is based on the assessment of completed projects against a number of climate related hazards, including whether assets will be impacted by increased temperatures, wind and storms, and susceptible to flooding. A score of one indicates the completed work is resilient to climate change, while two is only partially resilient and three is not resilient. We only consider standalone, large or complex projects.

Business continuity and emergency response

We have mature business continuity and emergency response planning. This includes meticulous resilience planning, and well-rehearsed policies, plans and procedures to ensure we minimise any risk to customers. We are certified to ISO 22301, an international standard in business continuity management, which recognises that we have the plans and systems in place to keep our business running. We also actively engage across our 13 Local Resilience Forums and the Multi-Agency Support Group for the East of England in planning and risk mitigation to ensure interdependencies are known and mitigations are prepared.

Nature positive

We deliver a range of schemes to enhance our natural environment. For example, we have restored 117 kilometres of chalk streams and sensitive rivers across Norfolk, Suffolk, South Lincolnshire and Bedfordshire. Through our capital programme, we will deliver on our voluntary Biodiversity Net Gain commitment, maximising the potential from nature-based solutions. Potential benefits include carbon and nutrient reductions, creating new habitats and going beyond 10% on Biodiversity Net Gain statutory obligation.

Find out more in our Climate Change Adaptation Report

8. Governance

Reducing carbon requires buy-in across our company, and strong governance to ensure accountability and action. This section explains our governance arrangements and how responsibilities for monitoring, managing, and overseeing our decarbonisation plans are shared among senior management.

Board oversight

The Anglian Water Services (AWS) Board retains overall oversight and is responsible for climate-related issues, including oversight of our Climate Transition Plan.

The Board discusses climate-related issues through many aspects of our strategic planning, for example in reviewing our Water Resources Management Plan. Climate-related risks are also included within the company's top-tier risk register, which is reviewed twice a year by the Board, and managed through risk management and internal control systems.

The Board drives and oversees our climate-related commitments, meeting between eight and 10 times per year, where climate related matters are discussed. The Board receives monthly Board Reports containing a number of measures relating to progress against our climate related commitments and targets, including operational carbon, capital carbon.

Leadership

Our Board offers a diverse set of skills and backgrounds, including experience in environment and sustainability.

Our Chief Executive, Mark Thurston, is a Visiting Professor at the Bartlett school of Sustainable Construction at UCL and a Fellow of the Institution of Civil Engineers. An overview of our Directors' experience can be found on pages 123-126 of our Annual Integrated Report.

The role of the Audit Committee

The Audit Committee plays a key role in monitoring the company's financial reporting, reviewing the material financial judgements and assessing the internal control environment, ensuring information is accurate, timely, reliable and compliant. The Committee provides effective oversight of both financial and non-financial disclosures, including climate-related financial disclosures.

The role of the Remuneration Committee

The Remuneration Committee plays a key role in ensuring that climate change and our impact on the environment, along with other Environmental, Social and Governance issues are considered at the top of the organisation. A portion of variable executive remuneration is already aligned to our Purpose and selected ESG measures.

The role of the Nomination Committee

The Nomination Committee's primary function is to advise the Board, in relation to the appointment of executive and non-executive directors. The Committee is responsible for monitoring that the Board has the right balance of skills, experience, and knowledge and makes recommendations.

The role of management

In 2024, we reset our governance structures to enhance focus on key issues and create a clear line of governance from the frontline to the Executive Committee and sub-committees.

Executive Committee

Our Executive Committee meet monthly, where issues related to climate-related impacts and dependencies are discussed. The Executive Committee plays a key role in ensuring the delivery of our performance commitments, which include climate-related targets relating to operational and capital carbon.

The Executive Committee review the top-tier risk register quarterly as a minimum twice a year, of which climate-related impacts and dependencies are a key element. Due to the nature of our business, our Executive Committee is collectively responsible for the delivery of environmental prosperity for the region.

Environment and Sustainability executive sub-committee

Our Director of Quality and Environment, Dr Robin Price, is responsible for leading Anglian Water's Environment Strategy and associated ambitions and targets. Robin chairs the Environment and Sustainability executive sub-committee, which meets quarterly and governs matters relating to our Purpose, environmental impact, sustainability and climate change. A summary of the discussion and actions is shared with the full Executive Committee, with an update shared onwards to Board.

The Climate and Carbon Steering Group

The Climate and Carbon Steering Group is responsible for progress against climate change mitigation and adaptation. The group meets monthly. Updates are provided to the Environment & Sustainability executive sub-committee when required, for example on our net zero carbon trajectory. This group has been integral to the development of our climate adaptation investment plans for 2025-2030, our Climate Change Adaptation Report and progress against our 2030 carbon commitments.

Embedding our plan into company culture

Our **Anglian Water Services Board** has been instrumental in driving and supporting the company's commitment to achieving operational net zero by 2030. This ambitious goal demonstrates our dedication to reducing environmental impact and contributing to global efforts in addressing climate change.

Our **Strategic Direction Statement (SDS)** offers a long-term perspective on the next 25 years, outlining the necessary steps to achieve our vision of delivering a 70% reduction in capital carbon by 2030 from a 2010 baseline, and becoming carbon neutral by 2050.

Our **Long-Term Delivery Strategy (LTDS)**, published in October 2023, serves as a guiding framework for accomplishing our future goals. The core pathway in the LTDS outlines the investments we plan to make through to 2050, shaping our long-term strategic direction and decision-making process.

Our long-term goals, activities, and outcomes are aligned with the **United Nations' Sustainable Development Goals (SDGs)**. This alignment is demonstrated through our ongoing initiatives, such as biodiversity programmes aimed at enhancing natural habitats, collaboration with supply chain partners to prioritise projects focused on sustainable resource management, and partnerships with landowners to mitigate pollution from land-based activities.

Our **Public Affairs Strategy** also provides our detailed engagement plans and key strategic priorities, carried out in line with our company policies on net zero, climate change adaptation – all tying back to our Purpose.

Quarterly Leaders and Managers events are for all people working for Anglian Water at managerial level and above. These events feature presentations on various business aspects. The Chief Financial Officer's presentation includes an update on carbon performance, emphasising the importance of sustainable practices within our organisation.

We have a team of over **30 carbon champions** who spearhead carbon reduction efforts on their respective projects and provide guidance to colleagues working on related initiatives. This group meets every six weeks to share progress, discuss ideas, and collaborate on advancing our overall carbon reduction goals.

We generate a **monthly report detailing performance** against a number of energy consumption, energy generation, and capital carbon metrics. This is circulated to key stakeholders in the organisation and extracts of the report are included in a dashboard reviewed monthly by the Management Board. The report is made available on the Intranet which is accessible to all people.

In order to enhance our company's leadership, we have implemented a two-year **Transforming our Leadership programme** that has provided valuable training to our managers. Recognising the programme's success, we have expanded it to include front-line managers and alliance partners. Furthermore, we have integrated **Continuous Professional Development** into our organisation by partnering with institutions such as the Institute of Water, CIWEM, the Institution of Mechanical Engineers (IMechE), and the Institution of Engineering and Technology (IET).

We have integrated **Six Capitals thinking** into our organisational decision-making processes.

In 2017, we became the first European utility company to issue a sterling Green Bond. The £2 billion worth of investments made possible by this bond issuance are all eligible to be funded through Green Bonds. In 2022, we expanded our sustainable financing initiatives by issuing Sustainability-Linked Bonds tied to our goals of achieving net zero carbon by 2030 and improving our capital carbon performance. By pioneering such initiatives, we continue to showcase our dedication to sustainability.

Skills, competencies, and training

We provide in-house training for directors to support their professional development and enhance their understanding of business and industry-specific matters. Directors can also access our online training portal, which offers courses on various topical issues. We extend funding for directors to participate in externally sourced training courses. To further assist directors in fulfilling their duties, we cover the expenses for seeking independent professional advice related to their directorial responsibilities.

To promote carbon awareness and encourage sustainable practices, we have implemented various initiatives across the organisation. These include Carbon Briefings and Master Classes for engineers involved in capital projects, which focus on carbon reduction strategies and energy-efficient techniques. We have introduced energy-saving training programmes within our operations to foster a culture of responsible energy consumption.

We also develop and share case studies showcasing successful energy and carbon-saving projects. Our efforts extend to internal communication platforms and other channels to maintain a continued dialogue and ensure the widespread adoption of environmentally conscious practices.

We have established a Net Zero Training Centre at the College of West Anglia in Wisbech. It is expected to provide a vital hub for local people keen to pursue a career in environment related roles. The Centre started teaching on initial courses in sustainability and wildlife conservation in September 2024. It is hoped that the training centre will create a sustainable pipeline of talent and provide long-term planning for our future workforce resource.

9. Next steps on our transition journey

We've made good progress since we first developed our Net Zero Routemap in 2021. We have learnt a lot along the way about the challenges and complexity in delivering on our decarbonisation ambitions.

Transitioning to a net zero, climate resilient company is a journey we have been on for over two decades. This plan reaffirms our commitment to decarbonise and deliver benefits to our customers, our region, and the UK at large. We will continue implementing actions in the coming years, and will continue to explore opportunities that arise.

As we move forward, we will further develop our decarbonisation actions, including assessing the investment and resources required, particularly for areas where further investigation is required.

We will continue to monitor and report on the investments we are making to achieve net zero and climate resilience and consider enhancements to our metrics and targets, for example normalising metrics so they are more comparable year-on-year (e.g. GHG emissions per customer).

We will continue to assess and prioritise our transition risks and opportunities, and implement actions to manage them.

We will assess the resilience of our strategy under different transition scenarios, and use this to enhance and further develop our strategy for carbon offsetting and for reducing capital carbon. Alongside this, we will consider our broader ambition for total net zero, in alignment with recognised standards and best practice.

We will continue to engage with our employees, contractors, suppliers, stakeholders, and customers to support everyone to play their part in delivering net zero and climate resilience.

Annual updates on our progress towards net zero carbon will be published in our Annual Integrated Report.

Glossary

Term	Meaning
AMP – Asset Management Plan	A period linked to the regular Price Reviews used by Ofwat to manage investment in maintaining and improving performance. AMP periods are followed by numbers and refer to a five-year period. The current AMP is AMP8 (2025-2030).
ASP	Activated Sludge Plant
Asset replacement cycles	Time period after which an asset or group of assets require replacement.
Baseline emissions	Our baseline emissions are calculated based on our 2018/19 activities.
Biogas	Gaseous fuel, especially methane, produced through our sludge treatment activities
Biomethane	Upgraded biogas where carbon dioxide and other gasses are removed to increase methane content.
Capital carbon	GHG emissions associated with the creation, refurbishment and end of life treatment of an asset.
Carbon Accounting Workbook (CAW)	A spreadsheet tool used by the UK water sector to estimate and report their annual operational carbon emissions.
CHP engines	Combined heat and power engines, powered by either biogas or natural gas.
Design, Build, Finance, Operate contract (DBFO)	A public-private partnership where a private entity is responsible for all aspects of a project, from design and construction to financing and long-term operation.
Defra	Department for Environment, Food and Rural Affairs
Digital twin	A digital replica or a representation of physical assets and/or system that can be examined, altered and tested without interacting with it in the real world and avoiding negative consequences.
DO	Dissolved oxygen
Emission factor	A coefficient which allows activity data to be converted into greenhouse gas emissions.
Green Gas Support Scheme	A government scheme which seeks to increase the proportion of green gas in the grid, through support for biomethane injection by the process of anaerobic digestion.

Term	Meaning
Greenhouse gas emissions (GHG)	Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds.
Heavy Goods Vehicle (HGV)	A vehicle over 7.5 tonnes and requiring a heavy goods vehicle licence to operate.
Heating, pasteurisation, hydrolysis	A unique advanced digestion process that pre-conditions indigenous and imported thickened sludge before anaerobic digestion to produce biogas and biosolids.
High Pressure Homogenisation (HPH)	A process which emulsifies or mixes two or more liquids together that are not normally combinable, or to reduce the size of particles in a liquid. It works by applying extremely high pressures.
Hydrotreated vegetable oils (HVO)	A renewable alternative to diesel made from a mix of vegetable oils and waste such as used cooking oil which can be used as a direct replacement for diesel produced from fossil fuels.
Insets	Units of greenhouse gas reduced/avoided or removed when an organisation invests in relevant projects and practices within its own organisational boundary and/or supply chain.
Location-based reporting	Reporting of emissions utilising a location specific grid-carbon intensity, usually a national grid average carbon intensity, to report the carbon impact of grid power consumption.
Market-based reporting	Reporting of emissions utilising a supplier specific carbon intensity based on their residual fuel mix to report the carbon impact of grid power consumption.
Membrane Aerated Biofilm Reactor	An alternative secondary treatment process for wastewater.
Natural sequestration	The process through which natural organisms, such as trees, absorb and store carbon from the atmosphere.
Nature-based solutions	Interventions that utilise the inherent properties of natural systems to deliver outcomes, these can either replace or be complementary to typical engineered solutions.

Term	Meaning
Net zero emissions	Achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon).
Offsetting	Permanently removing greenhouse gas emissions from the atmosphere, usually through natural sequestration methods (reduction/avoidance/removal of emissions), or through trading carbon credit offsets from verified reduction/ removal schemes to neutralise any residual emissions.
Offsets	Credits (normally called carbon credit offsets) that an organisation can purchase or sell that reflect emissions being reduced/avoided or removed from a specific project outside the organisation's boundary.
Ofwat	The Water Services Regulation Authority, or Ofwat, is the body responsible for economic regulation of the privatised water and sewerage industry in England and Wales.
Operational carbon	The GHG emissions associated with the operation of infrastructure required to enable it to operate and deliver its service.
Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.
Performance Commitment	Commitments made to Ofwat to deliver specified levels of performance relating to different service outcomes for customers.
Power Purchase Agreements (PPA)	A contract between two parties, one which generates electricity (the seller) and one which is looking to purchase electricity (the buyer).
Process emissions	Emissions, either direct or fugitive, arising from our water recycling, sludge and water treatment activities.
Renewable Energy Guarantees of Origin (REGO)	Scheme providing transparency to consumers about the proportion of electricity that suppliers source from renewable generation.
Residual emissions	The GHG emissions remaining once all reduction activities have been applied.
Renewable Heat Incentive	A government scheme which incentivises homeowners and businesses to adopt renewable heat technologies.
Renewable Transport Fuel Obligation	An obligation placed on suppliers of transport fuels to demonstrate that a proportion of the fuel they supply comes from renewable sources.
Sleeving	Renewable power taken directly from a renewable energy project and supplied (sleeved) to the buyer.
Sustainable Urban Drainage Systems	Water management systems which aim to align modern drainage systems with natural water processes.
UK Water Industry Research (UKWIR)	Organisation responsible for facilitating the shaping of the water industry's research agenda, developing the research programme, procuring and managing the research and disseminating the findings.
Waste heat	Heat produced as a by-product of a system which has the potential to be beneficially reused.
Water Resources Management Plan (WRMP)	Five-yearly plans produced by all water companies to forecast supply and demand and set out how they will provide secure supplies of water to homes and businesses.

Anglian Water Services Limited
Lancaster House
Lancaster Way
Ermine Business Park
Huntingdon
Cambridgeshire
PE29 6XU
anglianwater.co.uk