

Greenhouse gas emissions report

2022

Anglian Water Services Limited



2021 saw the first section of the strategic pipeline project get underway. Delivered by the Strategic Pipeline Alliance (SPA), the strategic pipeline is one of the biggest infrastructure projects in the UK; an interconnecting network, several hundred kilometres long from the north of our region where there is a surplus of water to the south where water is required. Therefore, delivering resilience to water supply across the Anglian region. Projects of this scale can have a big impact on carbon, that is why SPA are focussed on delivering savings both from capital carbon embedded in the new pipeline, but also through clever design to reduce the energy needed to move these large volumes of water and minimising operational carbon emissions.



Our unique environment



Storm surge at Cromer on the east coast

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The ecological sensitivity of many wetland sites in the East of England adds a further challenge. The impact of hotter, drier summers, combined with a growing population, will increase the demand for water. Coastal and low-lying assets face an increased risk of flooding.

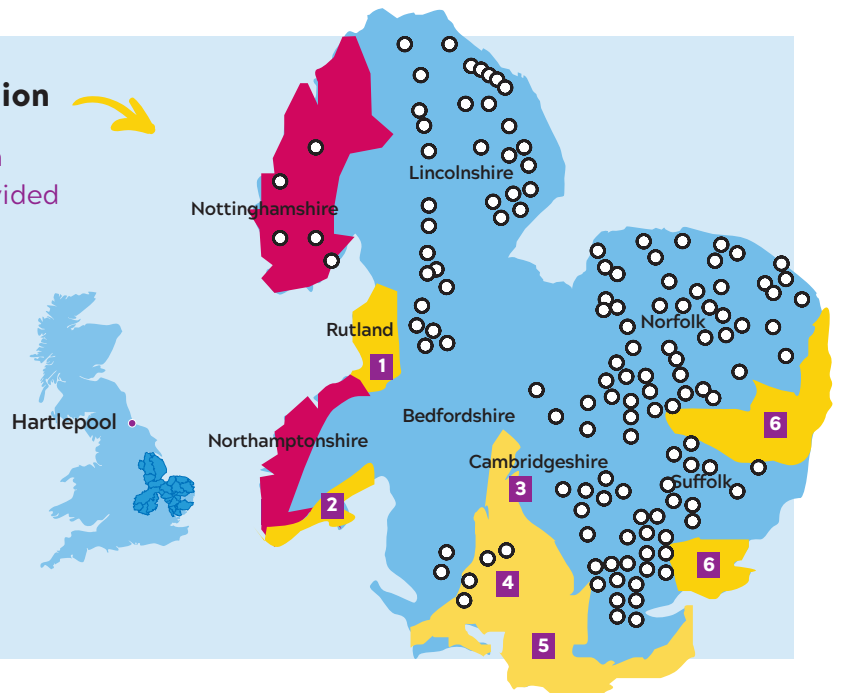
These challenges are a priority and current action to adapt our operations includes improved flood protection for our sites, securing supplies to **800,000 customers** and water network investment to reduce the number of customers reliant on a single supply.

In mitigating our impacts on climate change we are improving our energy efficiency, increasing our understanding of our carbon footprint, investing in renewable energy generation and promoting water efficiency. Over the long term, we are also designing and commissioning more sustainable treatment and delivery systems.

Supply and services across our region

The map shows our sources of supply with colours used to indicate the services provided by Anglian Water across the region.

- 1 Severn Trent Water
- 2 Thames Water
- 3 Cambridge Water
- 4 Affinity Water
- 5 Essex and Suffolk Water
- 6 Affinity Water
- Water services only
- Water recycling services only
- Water and water recycling services
- Groundwater supply



Our approach

We have followed the Department for Environment, Food and Rural Affairs (Defra) guidance (last updated 29 March 2019) on how to measure and report greenhouse gas emissions.

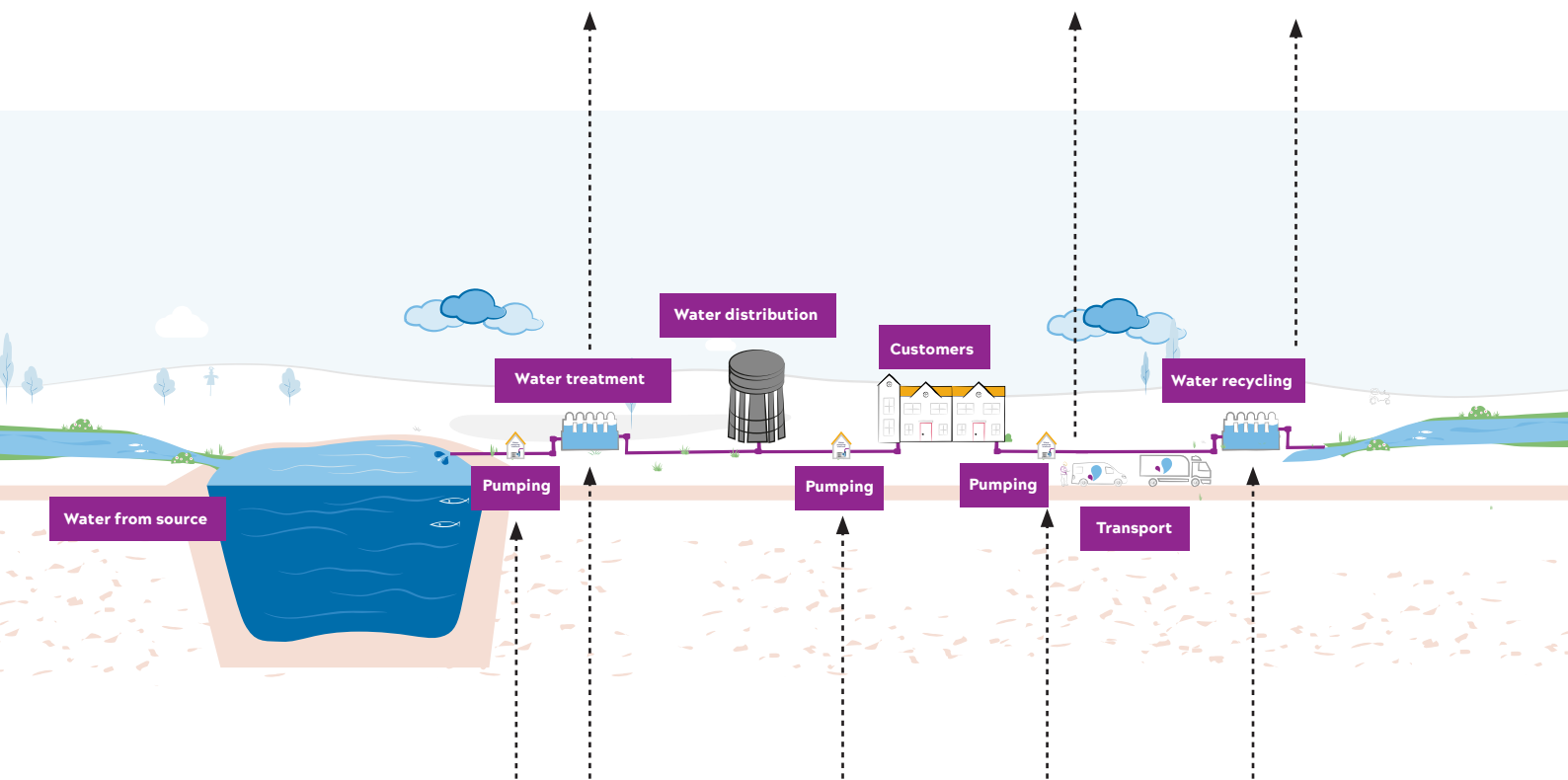
SCOPE 1

DIRECT emissions - arise on our sites and from our transport

Emissions from heating fuels for our offices and treatment processes - natural gas, fuel oil, kerosene, LPG

Emissions from owned transport - diesel, petrol, LPG

Release of methane and nitrous oxide from water recycling treatment processes



SCOPE 2

Energy INDIRECT emissions - released from non-Anglian Water sites



SCOPE 3

Other INDIRECT emissions - released from non-Anglian Water sites and not classed as Scope 2

Transmissions and distribution of grid electricity

Business travel

Outsourced operations - e.g. tankering

Chemicals

Bought in contracts and services (supply chain)

Customers' energy use in heating water

Capital carbon in the construction materials and activities

Organic waste to landfill releases methane and nitrous oxide

Release of methane and nitrous oxide from biosolids on agricultural land



Our mitigation activities have been brought together under ‘Drop CO2’. Drop CO2, Drop Cost forms part of our long-term visionary campaign and business strategy ‘Love Every Drop’. This communication and behavioural change campaign brings all of our stakeholders and customers together to put water at the heart of a new way of sustainable living.



1	2	3	4	5	6	7
Energy initiative	Sustainability in design	Renewables	Supplier engagement	Transport initiative	Process emissions	Water efficiency
The primary focus is the delivery of energy efficiency projects.	Reducing the carbon in our totex investment programme.	Development of our own renewable power.	Reducing carbon in the supply chain.	Reducing transport emissions.	Measuring, managing and reducing process emissions.	Helping our customers to deliver water and carbon efficiencies.

Organisational boundary

We have included emissions within the regulated activity of Anglian Water, where we have operational control.

Reporting period

Our base year.

Intensity measurement

We have chosen ‘kg of CO2e per mega litre’ for water supply and recycled water as these are common business metrics for our industry sector. Our intensity measurement for water and water recycling has reduced against the baseline with more efficient pumping and lower greenhouse gas emissions in grid electricity we use.

Data assurance

The carbon data has been externally verified as part of our regulatory reporting requirements. We are certified with Carbon Reduce Scheme (formerly CEMARS) with Platinum Status for over 10 years’ carbon reduction against this standard, having measured greenhouse gas emissions in compliance with ISO 14060-1:2006.

Carbon offsets

No offsets have been purchased.

Our performance

Operational scope

We have measured our Scope 1, Scope 2 and significant Scope 3 emissions including business travel and outsourced transport.

We report using both location and market based methodologies. Location-based reporting uses UK average emissions for energy, where as market-base use the emissions from specific suppliers.

	tCO2e - Location based		tCO2e - Market based	
	2020-21	2021-22	Net zero baseline (2018-19)	2021-22
Scope 1				
Fuel consumption	13,097	11,936	18,554	11,936
Process and fugitive emissions	83,009	81,601	82,100	32,676
Owned transport	20,903	20,854	22,648	20,854
Scope 1 - Total	117,010	114,390	123,302	114,390
Scope 2				
Purchased electricity	151,820	134,889	209,818	181,383
Electric vehicles (owned)	3.75	5.19	n/a	5.19
Scope 2 - Total	151,824	134,894	209,818	181,388
Scope 3				
Business travel	140	306	1,006	306
Outsourced activities	13,800	12,834	13,784	12,834
Purchased electricity - transmission and distribution	13,057	11,937	17,886	11,937
Scope 3 - Total	26,996	25,077	32,676	25,077
Total annual gross emissions	295,830	274,362	365,796	320,856
Exported renewables	-6,776	-4,946	-9,444	0
Total annual net emissions	289,054	269,416	356,350	320,856
Intensity ratio - water treated	230.97	203.73		
Intensity ratio - recycled water	433.46	425.20		
Intensity ratio - recycled water	224.13	232.61		

Location-based reporting

Gross annual emissions have decreased by 21,468 tCO2e between 2021 and 2022. The grid has decarbonised by 9% over the year with renewables an increasing amount of the UK energy mix.

Business travel has increased on the previous year as remaining covid restrictions were lifted. However new ways of working adopted over the lockdown years means that business travel still hasn't reached pre pandemic levels.

In 2021-22 our optimisation programme delivered 7.9 GWh (full year effect) of savings equating to savings of 1,826 tCO2e.

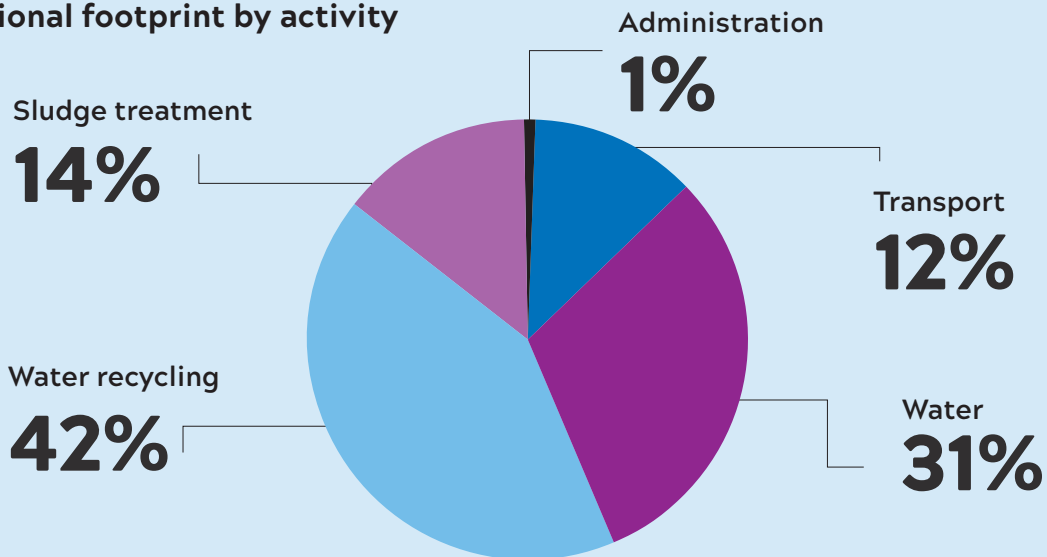
Market-based reporting

As part of the public interest commitment in 2019 the English water companies set an ambition to achieve net zero carbon by 2030. The sector wide route map set out that this would be measured through market based reporting methodology against a 2018-19 baseline.

Electricity emissions are related to the energy mix of our supplier in 2021-22 this emissions factor was lower than in the baseline year. In addition we purchased 22.5 GWh of green electricity.

9.9%
Reduction against
our net zero baseline

Operational footprint by activity



We recognise that a significant proportion of our carbon emissions (99%) is a result of the provision of water and water recycling services to our customers. Only 1 per cent of emissions are attributed to administration.

Through the period 2021-22, we have mitigated against pressures on our business with potential increasing greenhouse gas emissions through serving a growing population and meeting tighter quality standards. During 2020-25, we plan to invest over £2 billion in maintaining and improving our infrastructure. This investment will result in a forecast 360 kt/CO₂e of capital carbon in the materials we use to build and replace assets. These new assets will also add an additional 39 kt/CO₂e of annual operational carbon emissions in 2025. With a continued focus on energy management, innovation in design and optimising renewable generation assets, we have again set a challenging objective of mitigating against future potential increases in operational carbon emissions and reducing capital carbon in assets we design and build.

Medium-term target

For the period 2020-25 we aim to reduce emissions of capital carbon by 65% from a 2010 baseline and gross operational carbon by 10% from a 2020 baseline.

Our Gross Operational Carbon Outcome Delivery Incentive (ODI) with our regulator uses a market based approach.

Long-term target

As part of our public interest commitment in 2019, along with the other English water companies, we set the ambition to be net zero carbon as a sector by 2030.

In this reporting period, responsibility at Board level for achieving these carbon targets has rested with Jason Tucker, Director of Strategic Delivery & Commercial Assurance, and Robin Price, Director of Quality and Environment.

9.4%

Reduction against our operational ODI

62%

Capital carbon reduction



Contacts

For further information on greenhouse gas emissions within Anglian Water, please contact our Head of Carbon Neutrality, David Riley:

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Company information

Anglian Water Services Limited is a private limited company incorporated in England with company number 2366656.

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