

Greenhouse gas emissions report

2020

Anglian Water Services Limited

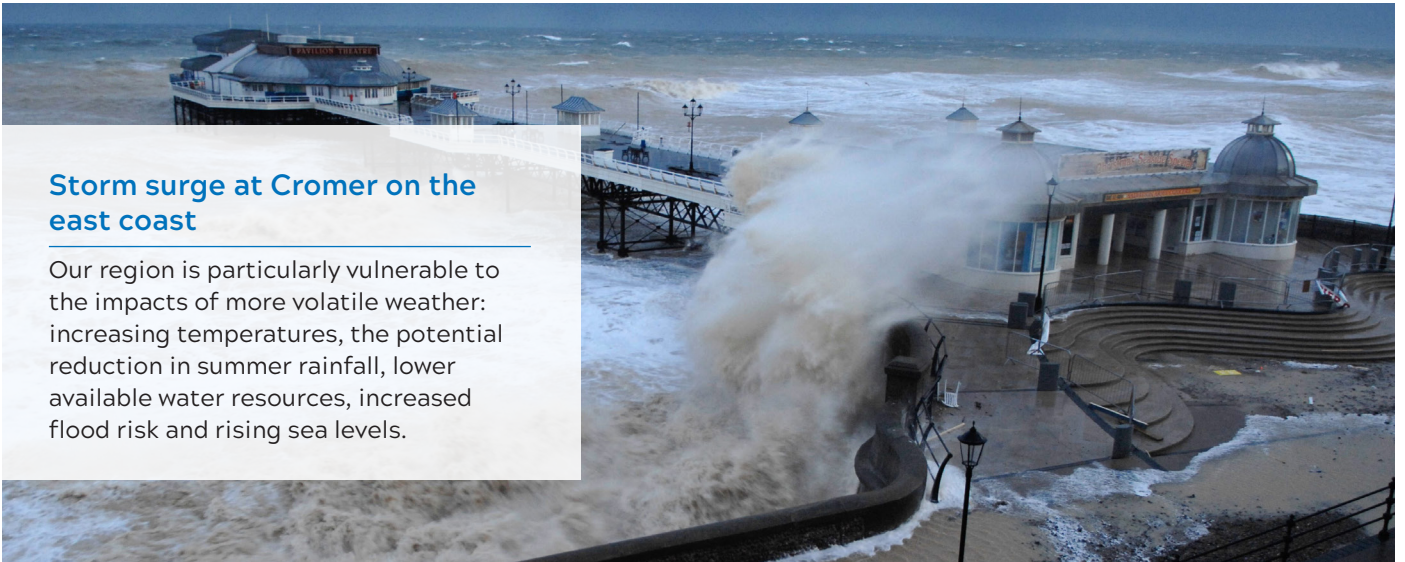


Reuse and refurbishment of existing assets and materials is a great way to save capital carbon while meeting the changing demands of population growth on our sites. The upgrade and refurbishment of Wymondham WRC saved 3,000 tonnes of capital carbon and reduced the energy demand by 53 per cent versus the conventional solution, earning Anglian Water's @One Alliance the highest environmental certification of 'Deep Green' on Skanska's global environmental rating system.



love every drop
anglianwater.

Our unique environment



Storm surge at Cromer on the east coast

Our region is particularly vulnerable to the impacts of more volatile weather: increasing temperatures, the potential reduction in summer rainfall, lower available water resources, increased flood risk and rising sea levels.

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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.

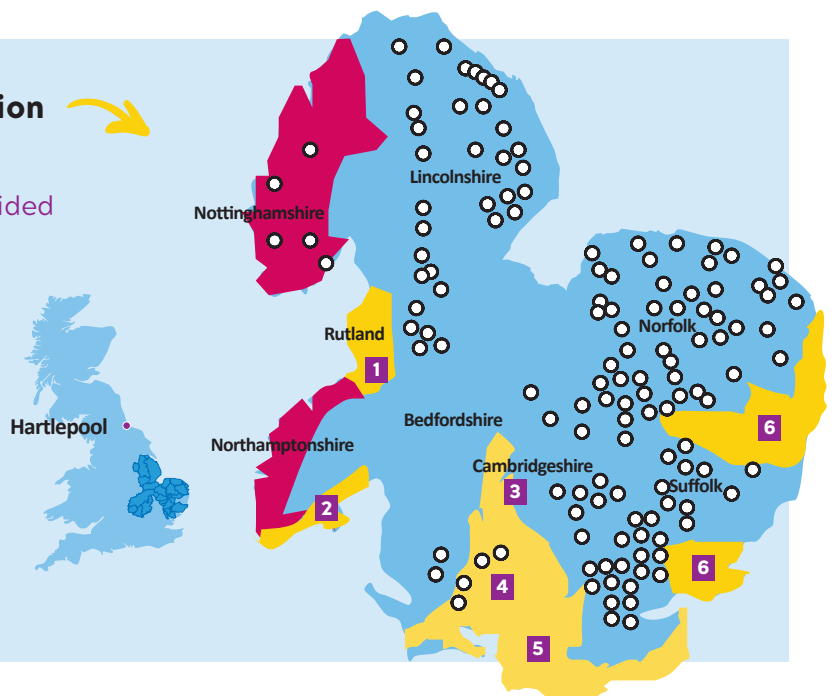
These challenges are a priority and current action to adapt our operations includes improved flood protection for our sites, securing supplies to **800,000 customers** and water network investment to reduce the number of customers reliant on a single supply.

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.

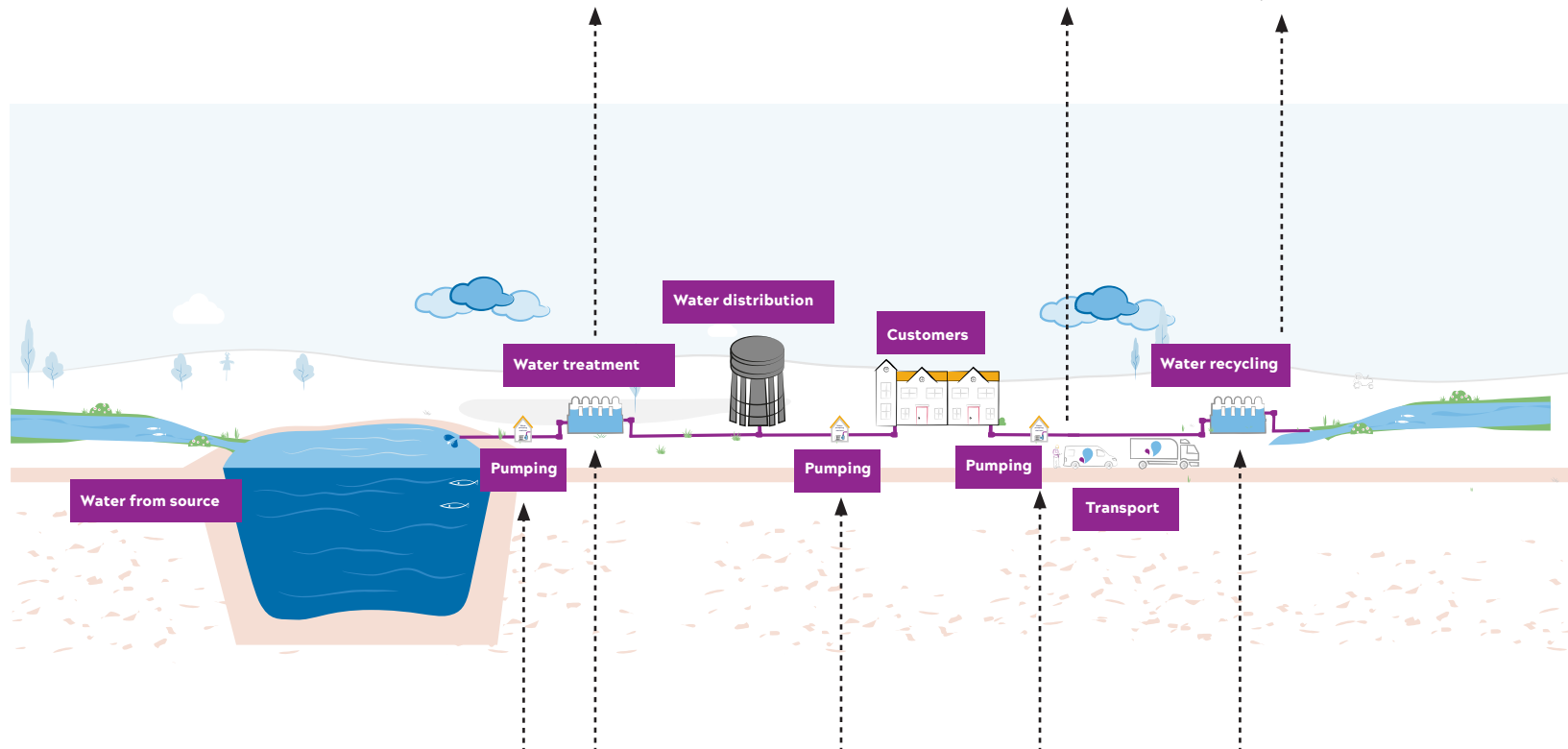
SCOPE 1

DIRECT emissions - arise on our sites and 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

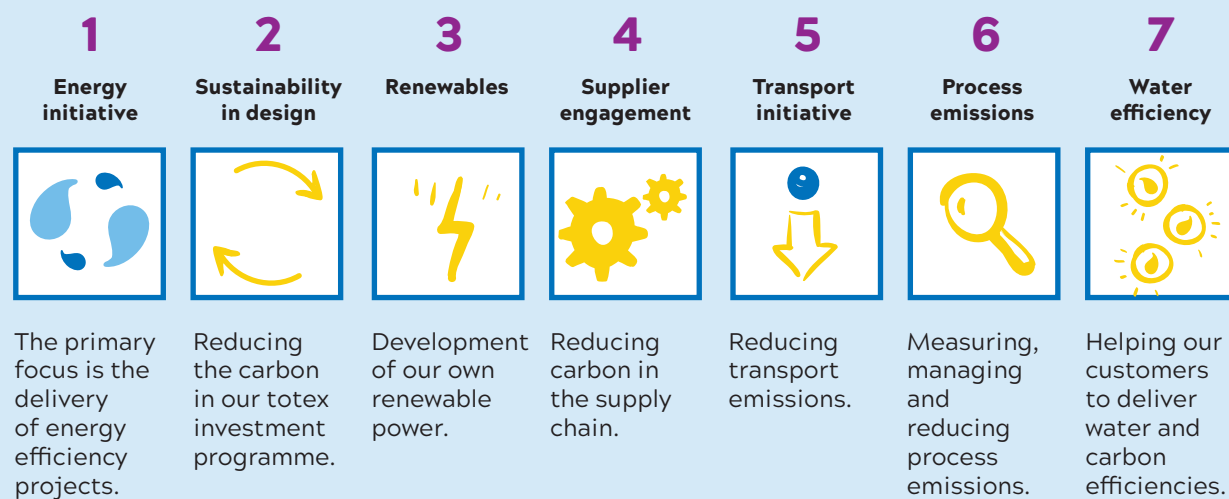
Capital carbon in the construction materials and activities

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 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.



Organisational boundary

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

Reporting period

Our base year is 1 April 2014-31 March 2015, which we set using a fixed-base year approach.

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. Since 2010, we have met the requirements of CEMARS¹ (the Certified Emissions Measurement and Reduction Scheme), having measured greenhouse gas emissions in compliance with ISO 14064-1:2006.

Carbon offsets

At present, carbon offsets do not form part of our carbon mitigation strategy.

¹CEMARS is now called CarbonReduce.

Our performance

Operational scopes

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

Greenhouse gas emissions data for period 1 April 2014 to 31 March 2020

	Tonnes of CO2e	
	2020	Baseline
Scope 1	105,346	97,627
Scope 2	163,485	315,555
Scope 3	29,744	42,153
Total annual gross emissions	298,576	455,335
Exported renewables	8,310	8,501
Green tariff	0	0
Total annual net emissions	290,266	446,834
Kg CO2e per Ml water treated	224	422
Kg CO2e per Ml recycled water	432	694
Kg CO2e per Ml recycled water, flow to full treatment	220	372

Change in emissions

Our gross annual carbon emissions have decreased by 156,759 t/CO2e between 2015 and 2020. There are a number of influencing factors. The grid has decarbonised by 48 per cent. We have also mitigated the need to import more electricity from the grid despite growth, the construction of new assets and the adoption of pumping stations.

During 2019/20 as part of our carbon mitigation strategy we saved over 7.71 GWh of electricity (2,138 t/CO2e) and generated 131 GWh of renewable power from biogas CHP, wind and solar. Capital carbon emissions have reduced by 61 per cent against our 2010 baseline.

This is due to the success of our design engineers and capital delivery partners in responding to our challenge to deliver more sustainable assets, reduce carbon, reduce the use of finite raw materials and reduce cost.

	Tonnes of CO2e 2020	Specific exclusions
Scope 1		
Gas/fuel oil consumption	12,536	None
Process and fugitive emissions	70,691	None
Owned transport	22,119	None
Total Scope 1	105,346	None
Scope 2		
Purchased electricity	163,485	
Total Scope 2	163,485	
Significant Scope 3		
Business travel	973	None
Outsourced transport	14,891	None
Purchased electricity (transmission and distribution)	13,880	We have not included commuting, capital carbon and emissions from use of water in customers' homes.
Total significant Scope 3	29,744	

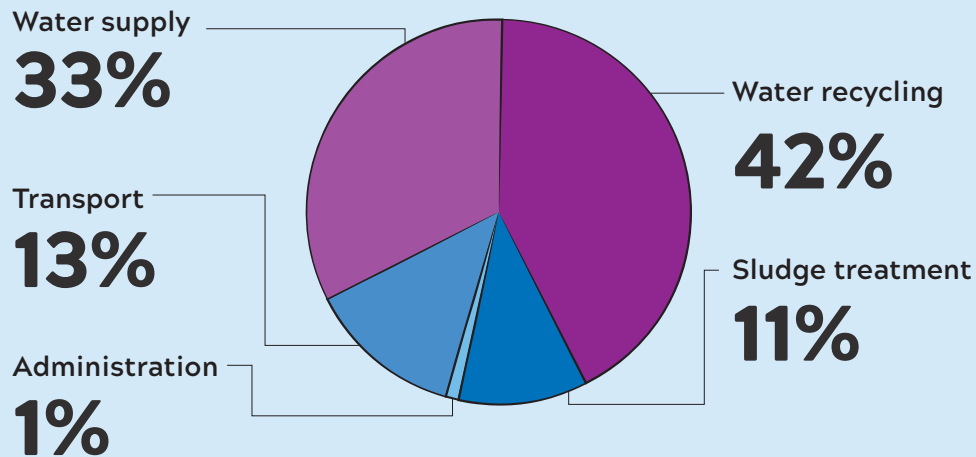
298,576 tCO2e

measurement of greenhouse gas emissions in compliance with ISO 14064.

131 GWh

of renewable generation equating to a 373 per cent increase compared to 2010.

Operational footprint by activity



We recognise that a significant proportion of our carbon emissions (99 per cent) is as 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 2015-2020, we have mitigated against pressures on our business with potential increasing greenhouse gas emissions through serving a growing population and meeting tighter quality standards. In this five-year period, we have invested 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 2020.

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

Our 2020 targets were to reduce capital carbon emissions by 60 per cent in real terms from a 2010 baseline and to reduce gross operational carbon emissions by 7 per cent from a 2015 baseline. We have achieved both targets, reducing capital carbon emissions by 61 per cent against baseline and operational carbon emissions by 34 per cent against baseline.

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 Paul Gibbs, Director of Water Recycling.



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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