

# Greenhouse gas emissions report

2019

Anglian Water Services Limited

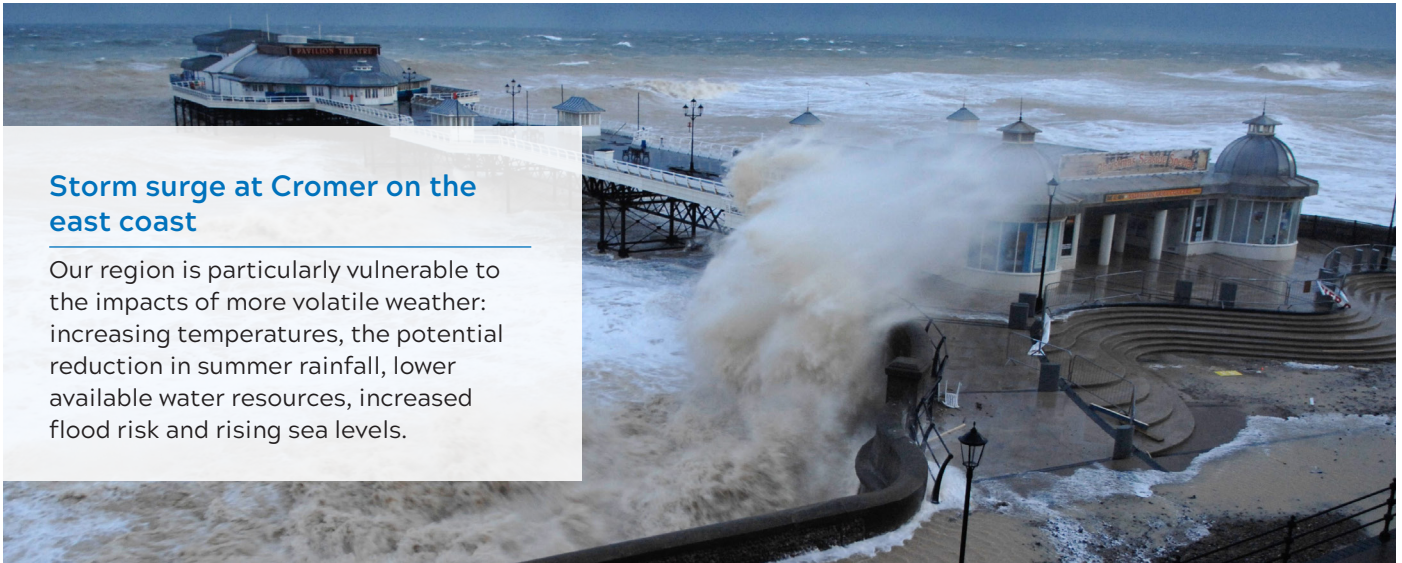


Providing water and water recycling services to our customers requires a lot of energy. Grid electricity consumption is responsible for 56 per cent of our annual operational greenhouse gas emissions so sourcing more electricity from renewables is a great way to reduce our impact. The recent installations at Shenfield and Hutton WRC are part of a wider programme with our framework partners to roll out over 100,000 solar panels on our sites.



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.

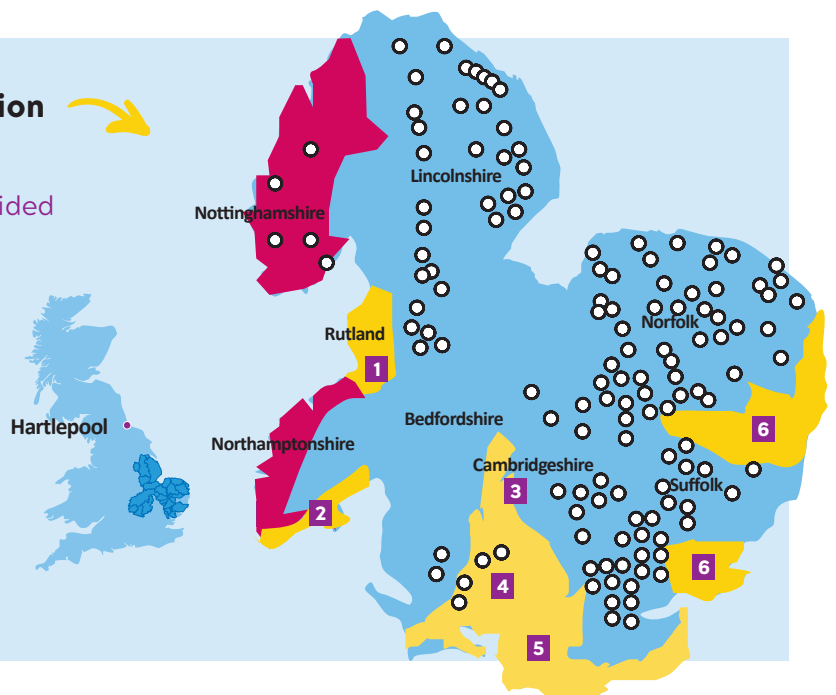
These challenges are a priority and current action to adapt our operations includes improved flood protection for our sites, securing supplies to **800,000 customers** and water network investment to reduce the number of customers reliant on a single supply.

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 2009 and 2013 on how to measure and report greenhouse gas emissions.

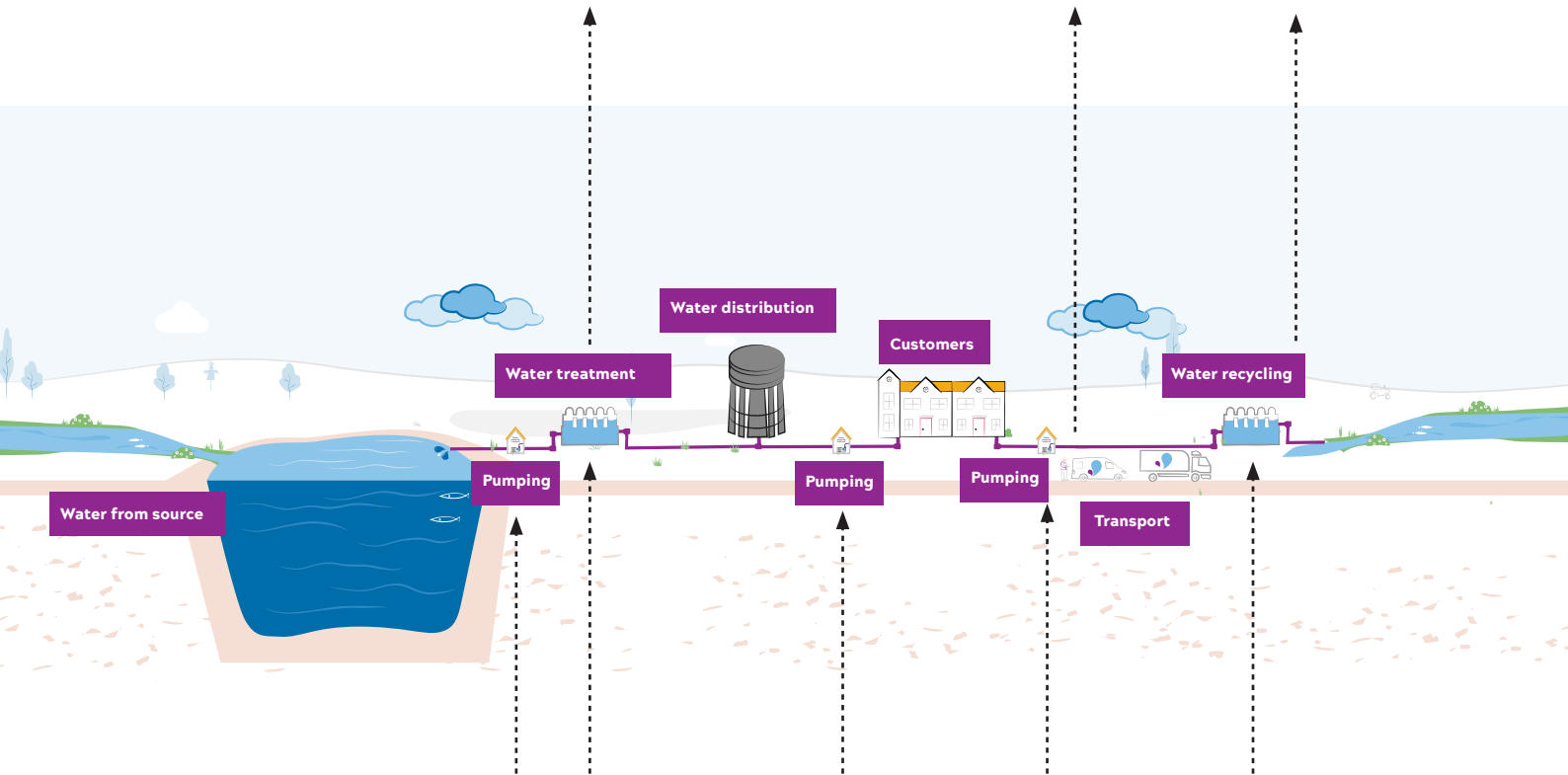
## SCOPE 1

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.



1	2	3	4	5	6	7
<b>Energy initiative</b>	<b>Sustainability in design</b>	<b>Renewables</b>	<b>Supplier engagement</b>	<b>Transport initiative</b>	<b>Process emissions</b>	<b>Water efficiency</b>
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 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 CEMARS (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.

# 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 2015 to 31 March 2019

	Tonnes of CO2e	
	2019	Baseline
Scope 1	110,898	97,627
Scope 2	181,077	315,555
Scope 3	30,226	42,153
<b>Total annual gross emissions</b>	<b>322,201</b>	<b>455,335</b>
Exported renewables	8,151	8,501
Green tariff	0	0
<b>Total annual net emissions</b>	<b>314,050</b>	<b>446,834</b>
Kg CO2e per Ml water treated	267	422
Kg CO2e per Ml recycled water	446	694
Kg CO2e per Ml recycled water, flow to full treatment	262	372

	Tonnes of CO2e 2019	Specific exclusions
<b>Scope 1</b>		
Gas/fuel oil consumption	18,554	None
Process and fugitive emissions	69,696	None
Owned transport	22,648	None
<b>Total Scope 1</b>	<b>110,898</b>	<b>None</b>
<b>Scope 2</b>		
Purchased electricity	181,077	
<b>Total Scope 2</b>	<b>181,077</b>	
<b>Significant Scope 3</b>		
Business travel	1,006	None
Outsourced transport	13,784	None
Purchased electricity (transmission and distribution)	15,436	We have not included commuting, capital carbon and emissions from use of water in customers' homes.
<b>Total significant Scope 3</b>	<b>30,226</b>	

## Change in emissions

Our gross annual carbon emissions have decreased by 133,134 t/CO2e between 2015 and 2019. There are a number of influencing factors. The grid has decarbonised by 43 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 2018/19 as part of our carbon mitigation strategy we saved over 11.24 GWh of electricity (3,453 t/CO2e) and generated 122 GWh of renewable power from biogas CHP, wind and solar. Capital carbon emissions have reduced by 58 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.

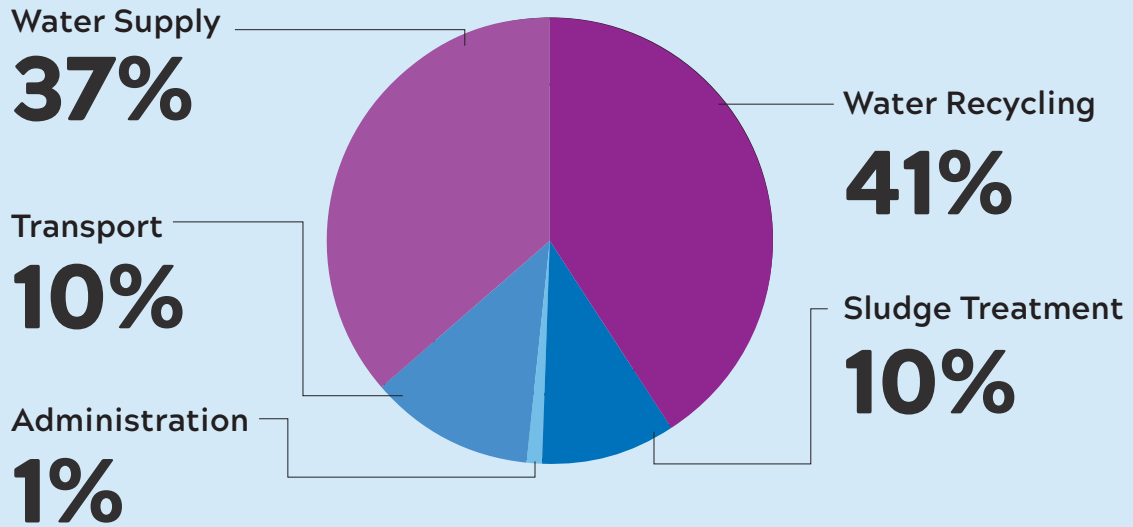
**322,201 tCO2e**

measurement of greenhouse gas emissions in compliance with ISO 14064.

**122 GWh**

of renewable generation equating to a 340 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 are mitigating against pressures on our business with potential increasing GHG emissions through serving a growing population and meeting tighter quality standards. By the end of this five-year period, we will have invested over £2 billion in maintaining and improving our infrastructure.

This investment will result in a forecast 360 kt/CO<sub>2</sub>e of capital carbon in the materials we use to build and replace assets. These new assets will also add an additional 39 kt/CO<sub>2</sub>e 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

Reduce capital carbon emissions by 60 per cent by 2020 from a 2010 baseline.

Reduce gross operational carbon emissions by 7 per cent in real terms by 2020 from a 2015 baseline.

### Long-term target

In 2017, we announced our long-term goal to be carbon neutral in our operations by 2050.

In this reporting period, responsibility at Board level for achieving these carbon targets 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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