



anglianwater

GREENHOUSE GAS EMISSIONS ANNUAL REPORT 2018



The wetland treatment site at Ingoldisthorpe is the first of its kind in England and has been created in partnership with Norfolk Rivers Trust.

Four shallow, interconnected ponds have been built alongside an existing water recycling centre. These have been planted with native chalk wetland species which naturally remove ammonia and phosphate from the water before it goes back into the River Ingol.

In addition to its role in treating and recycling water back into the environment, the wetland also provides significant biodiversity value. This includes attracting breeding birds, amphibians, bats and water voles to the local environment.

We achieved a capital carbon saving of 89% and a 59% cost saving using this natural capital approach. This compares to a traditional treatment solution constructed using higher carbon materials such as stainless steel and concrete.



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.

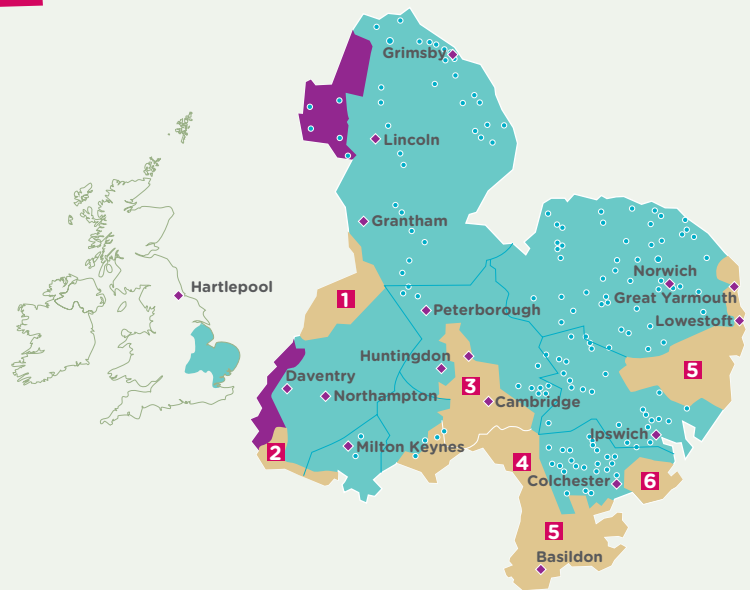
These challenges are a priority and current action to adapt our operations includes improved flood protection for our sites, securing supplies to 800,000 customers and water network investment to reduce customers reliant on a single supply.

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

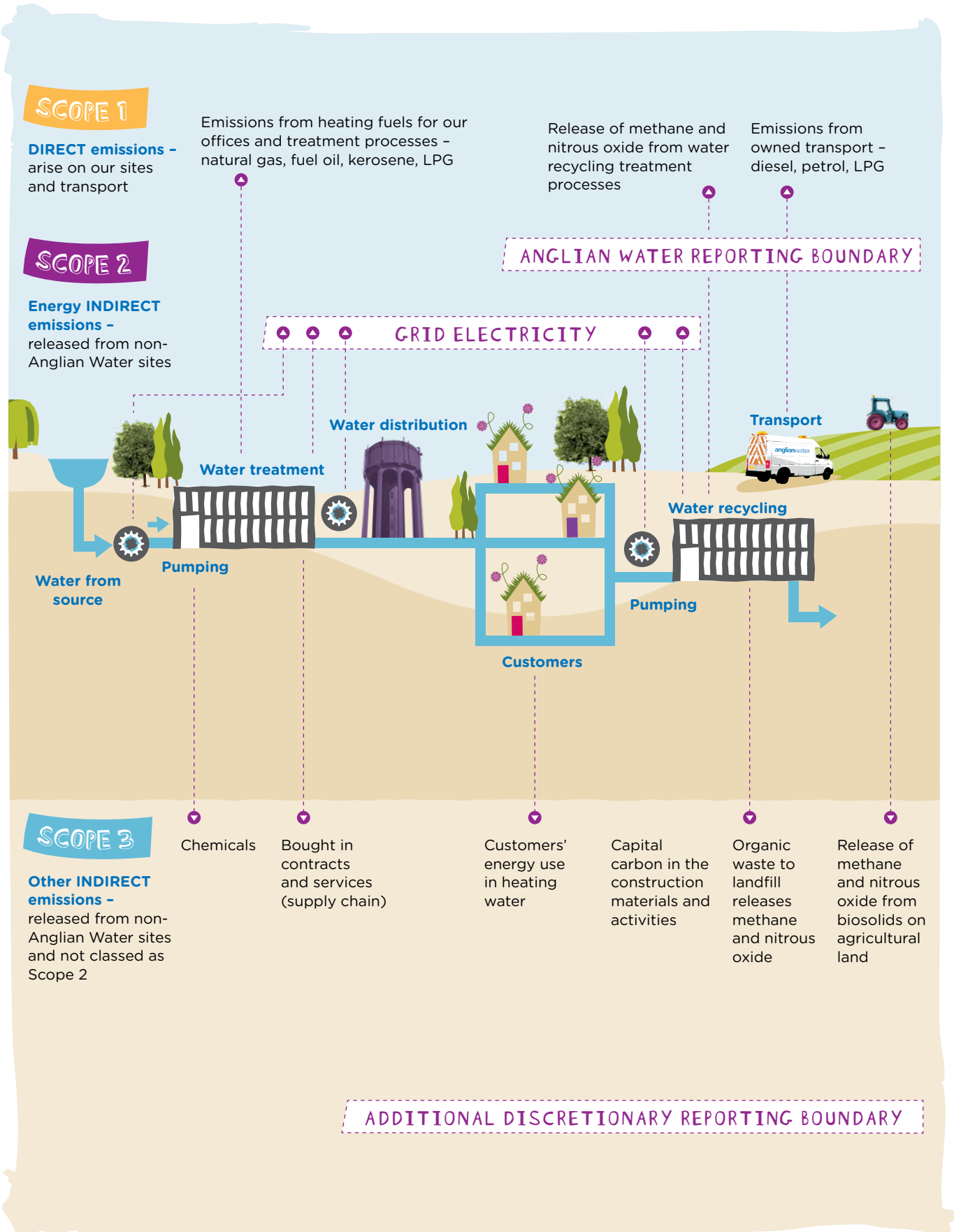
The map shows our sources of supply and the services we and other water companies provide.

- 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

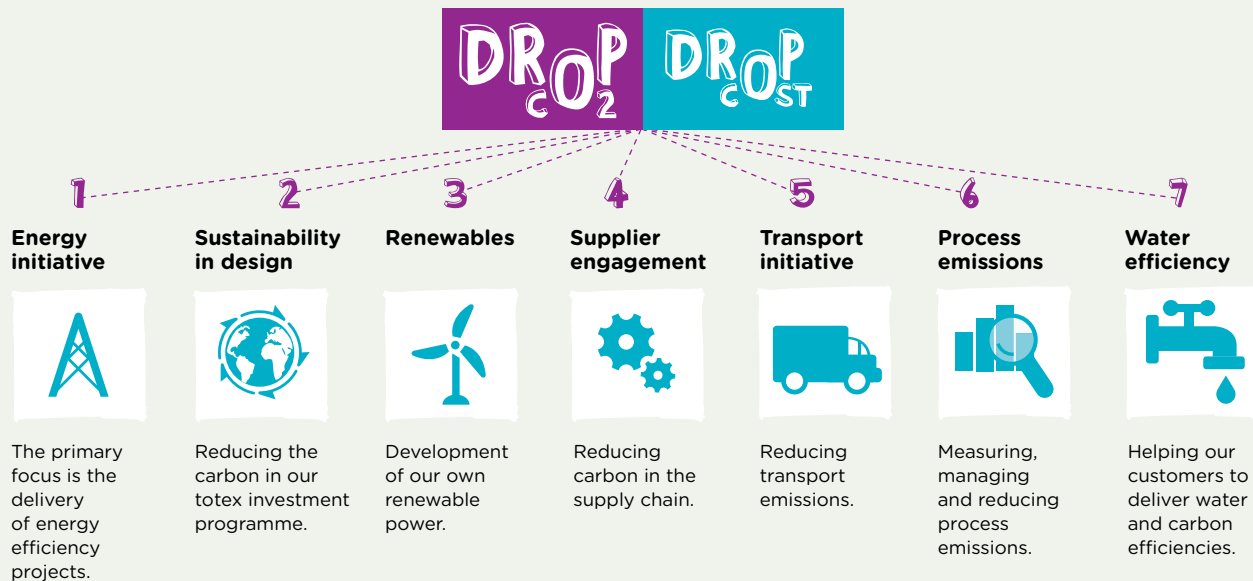


OUR APPROACH

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.



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.



Drop CO₂ drives reductions in carbon emissions and power costs through the above routes.

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 GHG 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 the CEMARS (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.

Green tariffs

The 'green tariff' electricity we have purchased complies with guidance from Ofgem and HM Treasury; however, it does not conform to the latest Defra guidance.

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 2018

	Tonnes of CO ₂ e	
	2018	Baseline
Scope 1	106,398	97,627
Scope 2	224,447	315,555
Scope 3	35,155	42,153
Total annual gross emissions	366,000	455,335
Exported renewables	7,716	8,501
Green tariff	0	0
Total annual net emissions	358,284	446,834
Kg CO ₂ e per Ml water treated	310	422
Kg CO ₂ e per Ml recycled water	551	694
Kg CO ₂ e per Ml recycled water, flow to full treatment	300	372

366,000 TONNES (of CO₂e)

measurement of greenhouse gas emissions in compliance with ISO 14064.

106GWh

of renewable generation equating to a 283% increase compared to 2010.

	Tonnes of CO ₂ e	Specific exclusions
Scope 1		
Gas/fuel oil consumption	14,544	None
Process and fugitive emissions	69,402	None
Owned transport	22,452	None
Total Scope 1	106,398	None
Scope 2		
Purchased electricity	224,447	
Total Scope 2	224,447	
Significant Scope 3		
Business travel	580	None
Outsourced transport	13,590	None
Purchased electricity (transmission and distribution)	20,985	We have not included commuting, capital carbon and emissions from use of water in customers' homes.
Total significant Scope 3	35,155	

Change in emissions

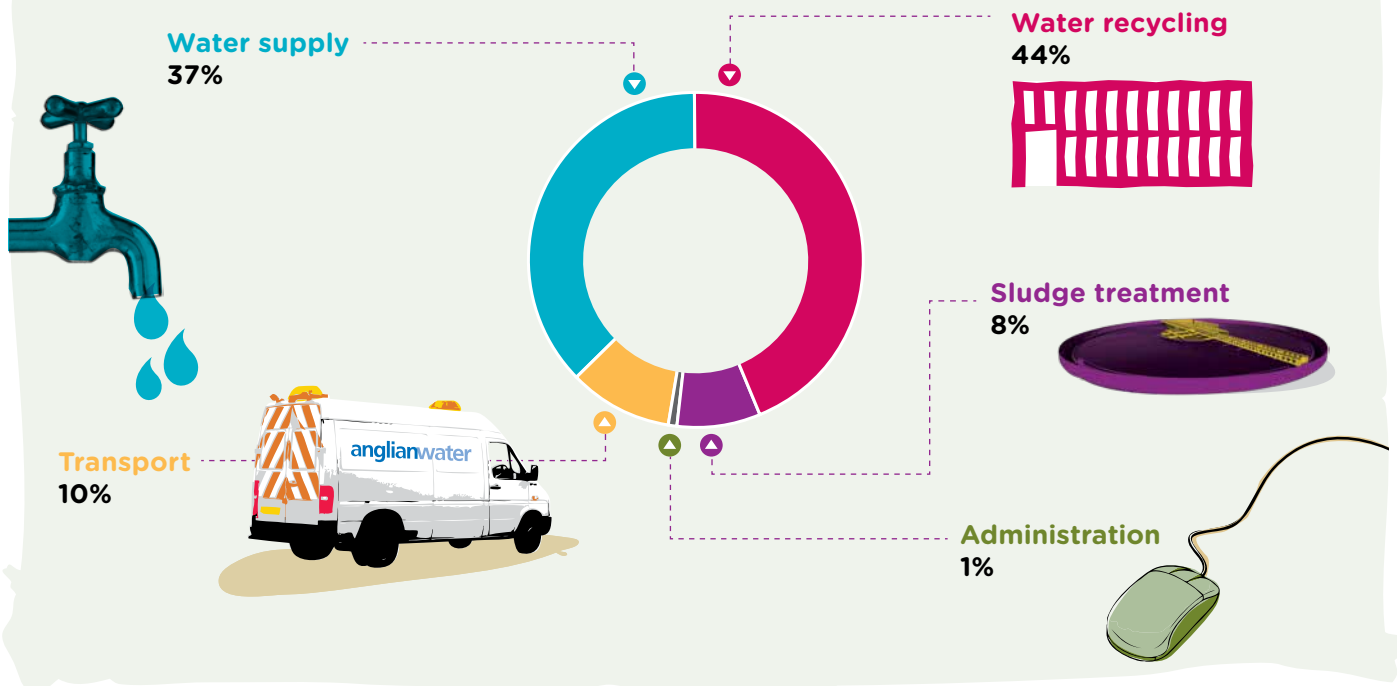
Our gross annual carbon emissions have decreased by 89,335 t/CO₂e between 2015 and 2018. There are a number of influencing factors. The grid has decarbonised by 29%. We have also mitigated the need to import more electricity from the grid despite growth, the construction of new

assets and the adoption of pumping stations.

During 2017/18 as part of our carbon mitigation strategy we saved over 6.5 GWh of electricity (2,288 t/CO₂e) and generated 106GWh of renewable power from biogas CHP, wind and solar.

Capital carbon emissions have reduced by 57% 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.

Operational footprint by activity



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

Targets

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/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

Reduce capital carbon emissions by 60% by 2020 from a 2010 baseline.
Reduce gross operational carbon emissions by 7% 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 Chris Newsome, Director of Asset Management and Paul Gibbs, Director of Water Recycling.

Contacts

For further information on GHG emissions within Anglian Water, please contact our Head of Carbon and Energy, David Riley:

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Company information

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