



anglianwater

GREENHOUSE GAS EMISSIONS ANNUAL REPORT 2016

Collaboration across our supply chain is critical in delivering reduced carbon reduced costs assets of the future. Anglian Water were the first utility to actively trial 'Cemfree', a cement free concrete from local supplier David Ball Gp. The production of cement emits around 6% of global emissions "according to The Independent" and using Cemfree reduced the capital carbon impact of this base slab for a kiosk by around 60%, a fantastic contribution to our challenging carbon goals. The use of Cemfree was a winner in the Water Industry Achievement Awards 2016 in the category of carbon reduction initiative of the year



OUR UNIQUE ENVIRONMENT



Storm surge at Cromer on the east coast

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

Our region is particularly vulnerable to the impacts of a changing climate: temperature rise, the potential reduction in summer rainfall, lower available water resources, increased flood risk and rising sea levels.

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.

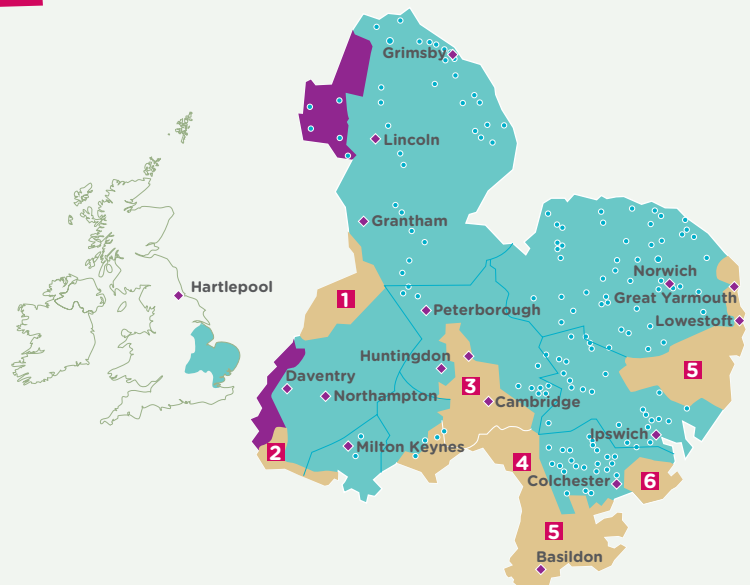
These challenges are a priority, and current action to adapt our operations includes improved flood protection for our sites securing supplies to 800,000 customers and water network investment to reduce customers reliant on a single supply.

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

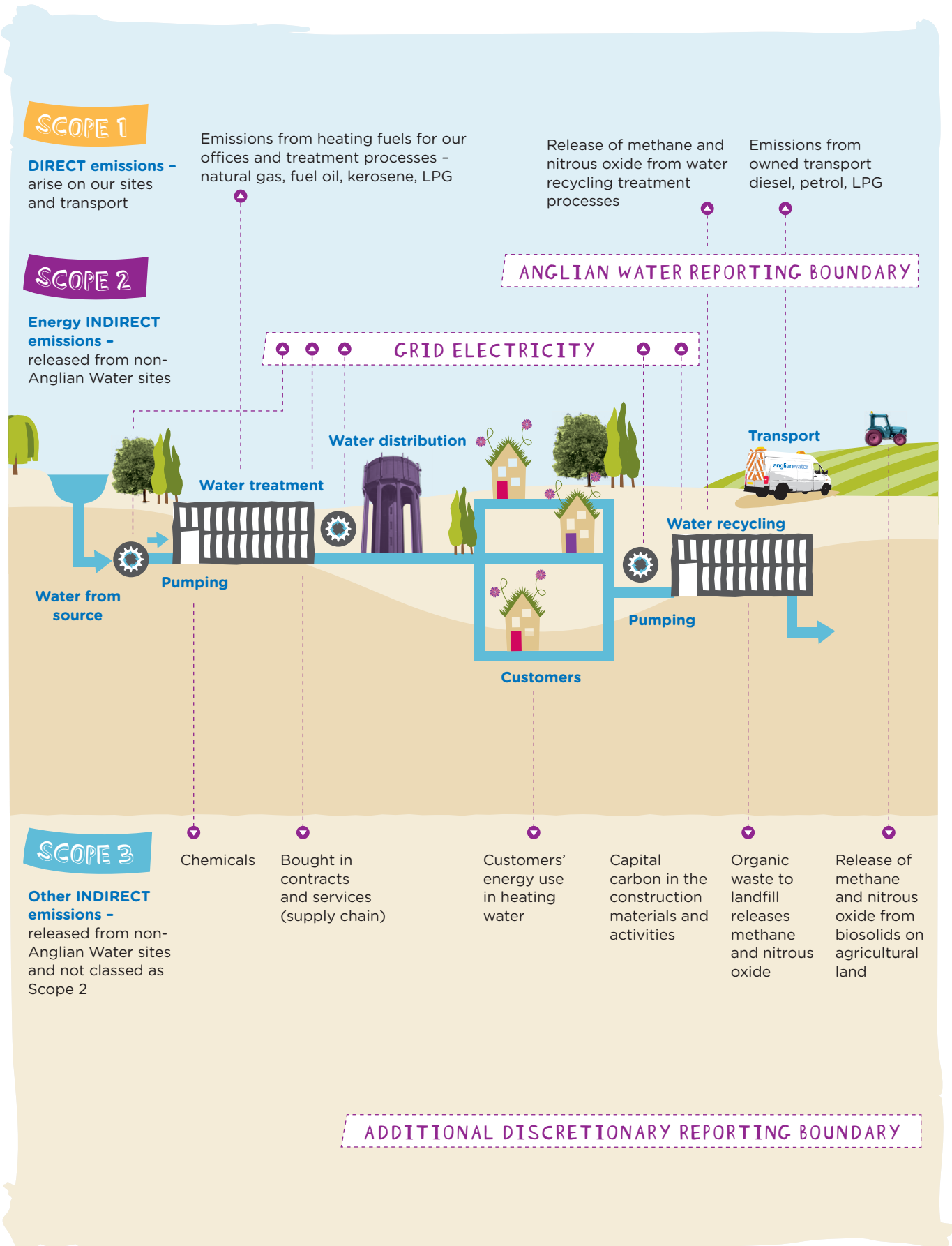
The map shows our sources of supply and the services we and other water companies provide.

- 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

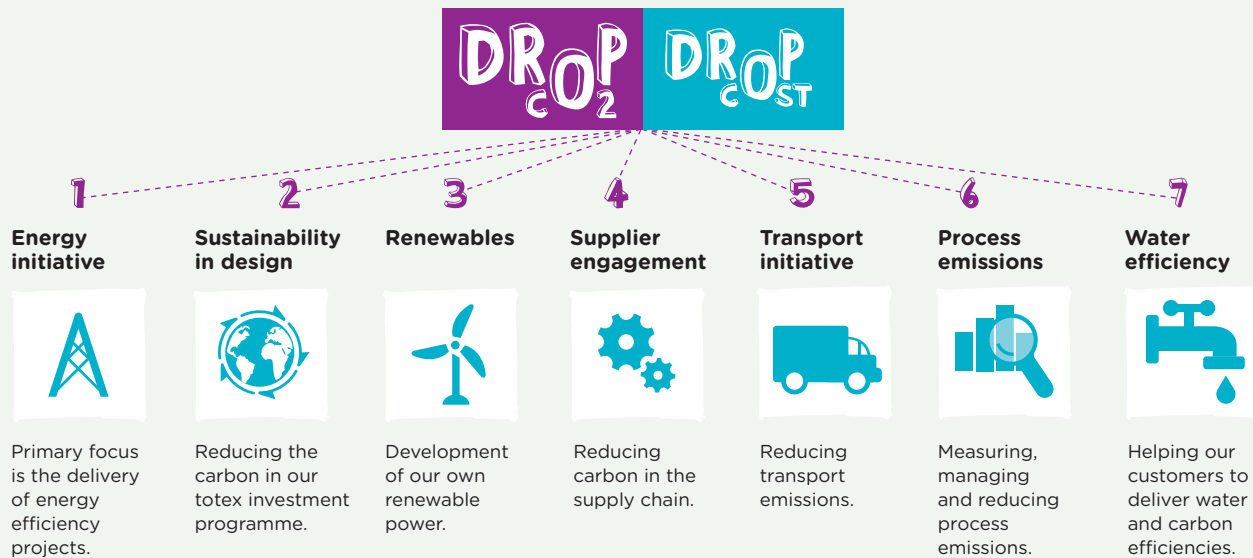


OUR APPROACH

We have followed the 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 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 water recycling treated as these are common business metrics for our industry sector.

Our intensity measurement for water and water recycling (flow to full treatment) 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 2009 to 31 March 2015

	Tonnes of CO ₂ e	
	2016	Baseline
Scope 1	105,141	97,627
Scope 2	289,622	315,555
Scope 3	37,883	42,153
Total annual gross emissions	432,646	455,335
Exported renewables	9,856	8,501
Green tariff	0	0
Total annual net emissions	422,790	446,834
Kg CO ₂ e per Ml water treated	388	422
Kg CO ₂ e per Ml recycled water	661	694
Kg CO ₂ e per Ml recycled water, flow to full treatment	364	372

432,646
TONNES (of CO₂e)

measurement of greenhouse gas emissions in compliance with ISO 14064.

112GWh

of renewable generation equating to a 315% increase compared to 2010.

	Tonnes of CO ₂ e	Specific exclusions
Scope 1		
Gas/fuel oil consumption	22,900	None
Process and fugitive emissions	59,831	None
Owned transport	22,410	None
Total Scope 1	105,141	None
Scope 2		
Purchased electricity	289,622	
Total Scope 2	289,622	
Significant Scope 3		
Business travel	751	None
Outsourced transport	13,213	None
Purchased electricity (transmission and distribution)	23,919	We have not included commuting, capital carbon and emissions from use of water in customers' homes.
Total significant Scope 3	37,883	

Change in emissions

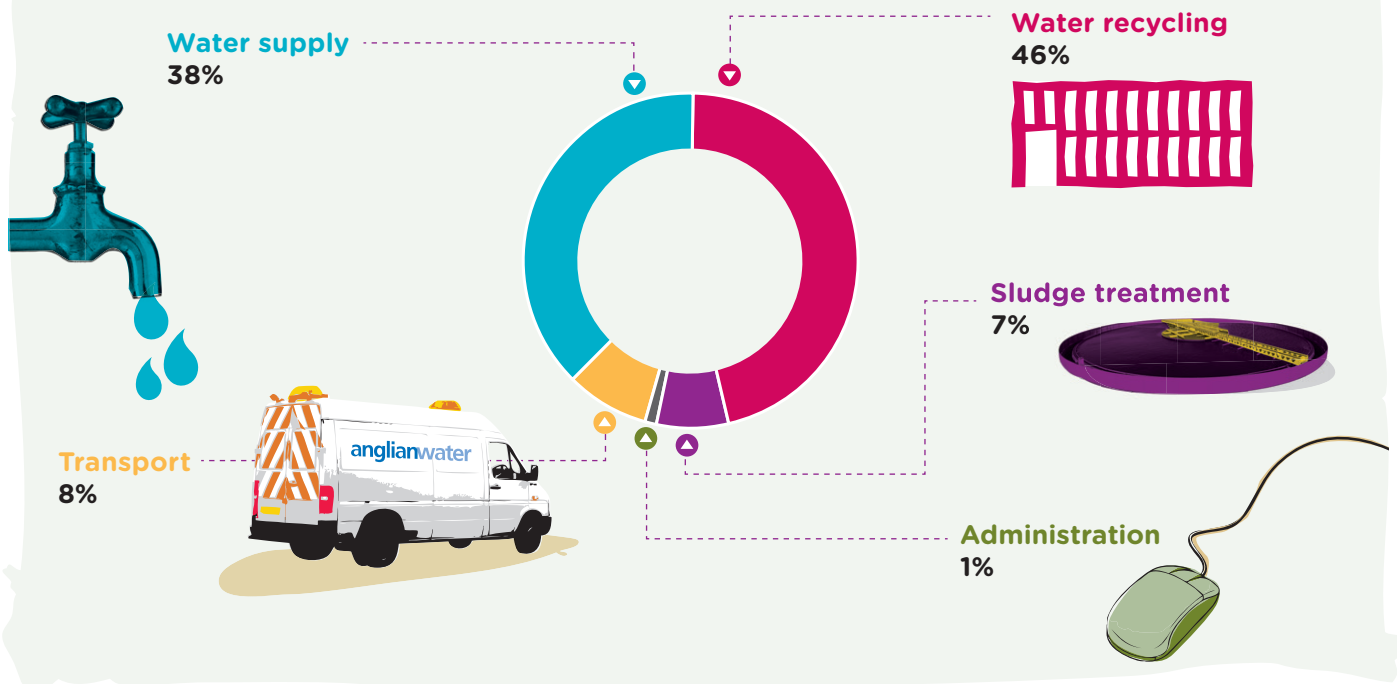
Our gross annual carbon emissions have decreased by 22,689 t/CO₂e between 2015 and 2016. The main influencing factors include a further increase in renewable generation, a 2 per cent reduction in electricity imported from the grid and decarbonisation of the grid

by 7 per cent, which was slightly offset by an increase in the emissions factor for methane.

During 2015/16 as part of our carbon mitigation strategy we saved 10.69GWh of electricity (5,345 t/CO₂e) and generated 112GWh of renewable power from biogas CHP and wind.

Capital carbon emissions have reduced by 52 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 in delivering more sustainable assets, reducing carbon, the use of finite raw materials and 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

Our long-term aspiration is to reduce our total annual GHG emissions by 50% from a 2010 baseline by 2035. This assumes successful implementation of the Government's low carbon transition plan (2009).

Responsibility for achieving these carbon targets lies at Board level with Chris Newsome, Asset Management Director and Paul Gibbs, Director of Water Recycling Services.

Contacts

For further information on GHG emissions within Anglian Water, please contact our carbon manager David Riley:

Email us

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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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