

love every drop.

anglianwater



Providing consistent objectives across our supply chain and liaison between operational and network teams has delivered a low carbon low cost solution. Building this pumping station off site and constructing above ground has delivered a 38% capital (embodied) carbon saving, 23 t/CO<sub>2</sub>e operational carbon saving and 23% cost saving against target.



# GREENHOUSE GAS EMISSIONS ANNUAL REPORT 2013



# 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.

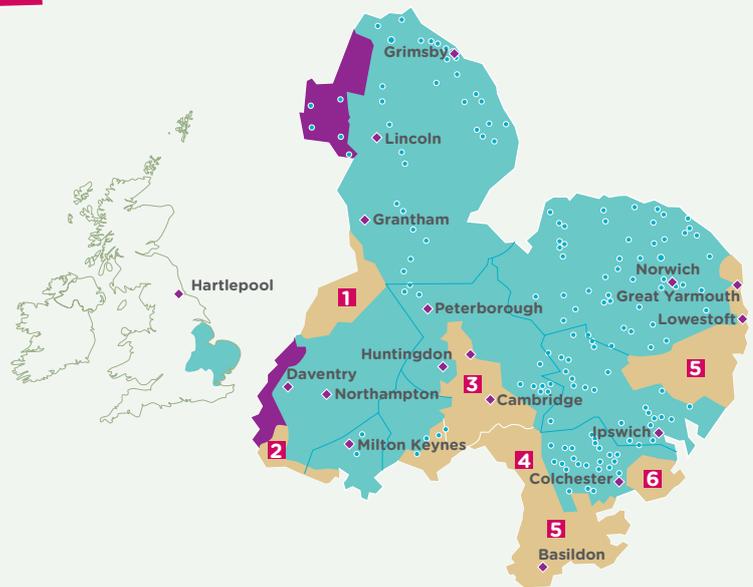
These challenges are a priority, and current actions in the adaptation of our operations include increased flood protection for 20 water sites and resilience enhancement to our water supply network, benefiting over 750,000 customers.

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

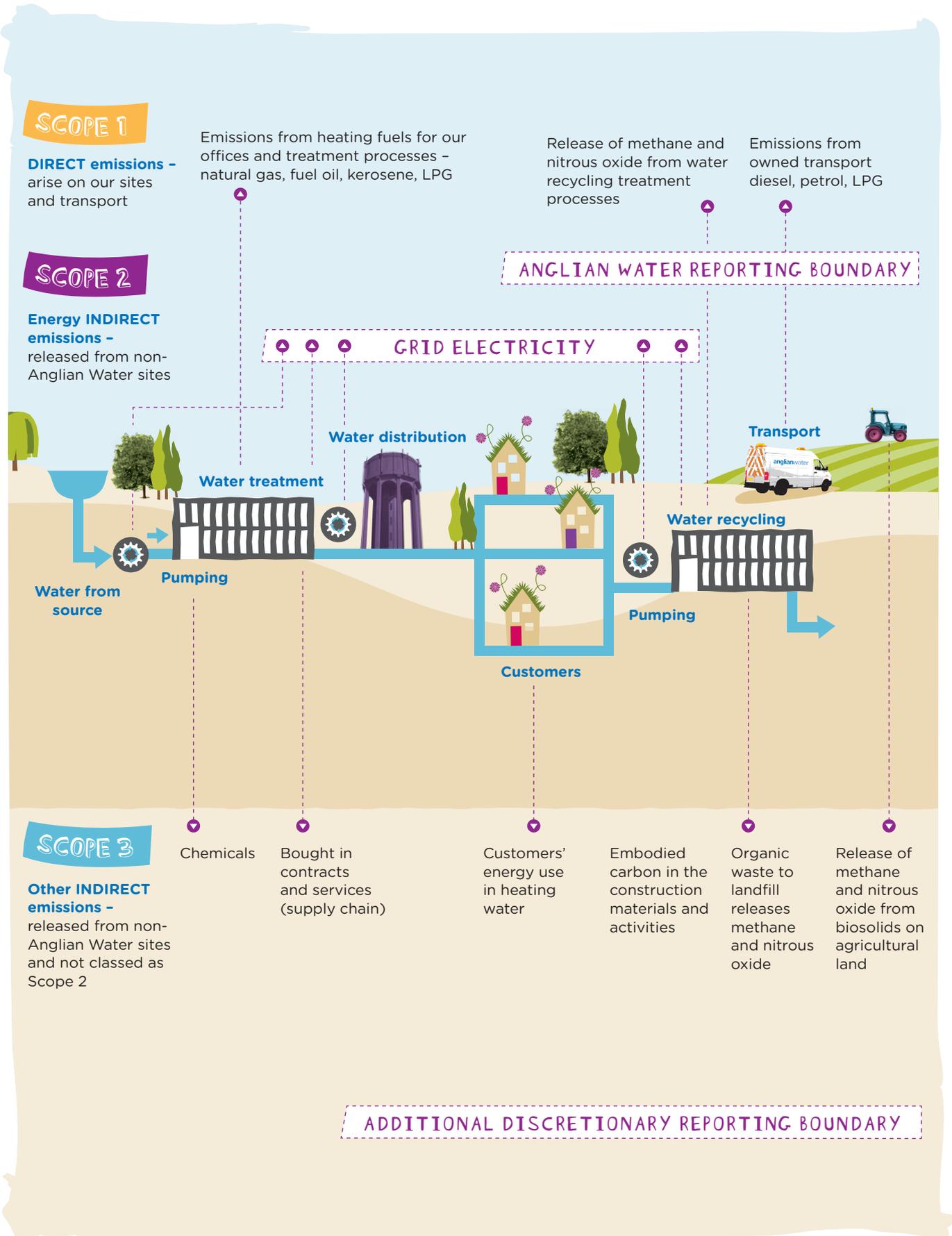
The map shows our sources of supply and the services we and other water companies provide.

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



# OUR APPROACH

We have followed the Defra guidance 2009 on how to measure and report greenhouse gas emissions.



Our mitigation activities have been brought together under 'Drop CO<sub>2</sub>'. Drop CO<sub>2</sub> 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 CO<sub>2</sub> 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 2009 – 31 March 2010, which we set using a fixed-base year approach.

## Intensity measurement

We have chosen 'kg of CO<sub>2</sub>e 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 has reduced against the baseline with more efficient pumping and lower GHG emissions in grid electricity we use.

Our intensity measurement for water recycling (flow to full treatment) has reduced significantly against the previous year, due to a more accurate measure of treated flow.

## 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.

**487,659**  
**TONNES** (of CO<sub>2</sub>e)

measurement of greenhouse gas emissions in compliance with ISO 14064.

**52 GWh**  
of renewable generation equating to a 88% increase compared to 2010.

## Greenhouse gas emissions data for period 1 April 2009 to 31 March 2013

	Tonnes of CO <sub>2</sub> e		
	2013	2012	Baseline
Scope 1	130,110	129,411	115,035
Scope 2	353,764	351,252	375,301
Scope 3	3,785	4,610	3,367
<b>Total annual gross emissions</b>	<b>487,659</b>	<b>485,273</b>	<b>493,702</b>
Exported renewables	4,919	3,929	687
Green tariff	0	0	0
<b>Total annual net emissions</b>	<b>482,740</b>	<b>481,343</b>	<b>493,015</b>
Kg CO <sub>2</sub> e per Ml water treated	424	428	448
Kg CO <sub>2</sub> e per Ml recycled water	807	757	792
Kg CO <sub>2</sub> e per Ml recycled water, flow to full treatment*	360	476	n/a

\*This is a new measure.

	Tonnes of CO <sub>2</sub> e	Specific exclusions
Scope 1		
Gas/fuel oil consumption	36,728	None
Process and fugitive emissions	66,829	None
Owned transport	26,553	None
<b>Total Scope 1</b>	<b>130,110</b>	<b>None</b>
Scope 2		
Purchased electricity	353,764	
<b>Total Scope 2</b>	<b>353,764</b>	
Significant Scope 3		
Business travel	633	None
Outsourced transport	3,152	None
<b>Total significant Scope 3</b>	<b>3,785</b>	We have not included commuting, capital (embodied) carbon and emissions from use of water in customers' homes.

## Change in emissions

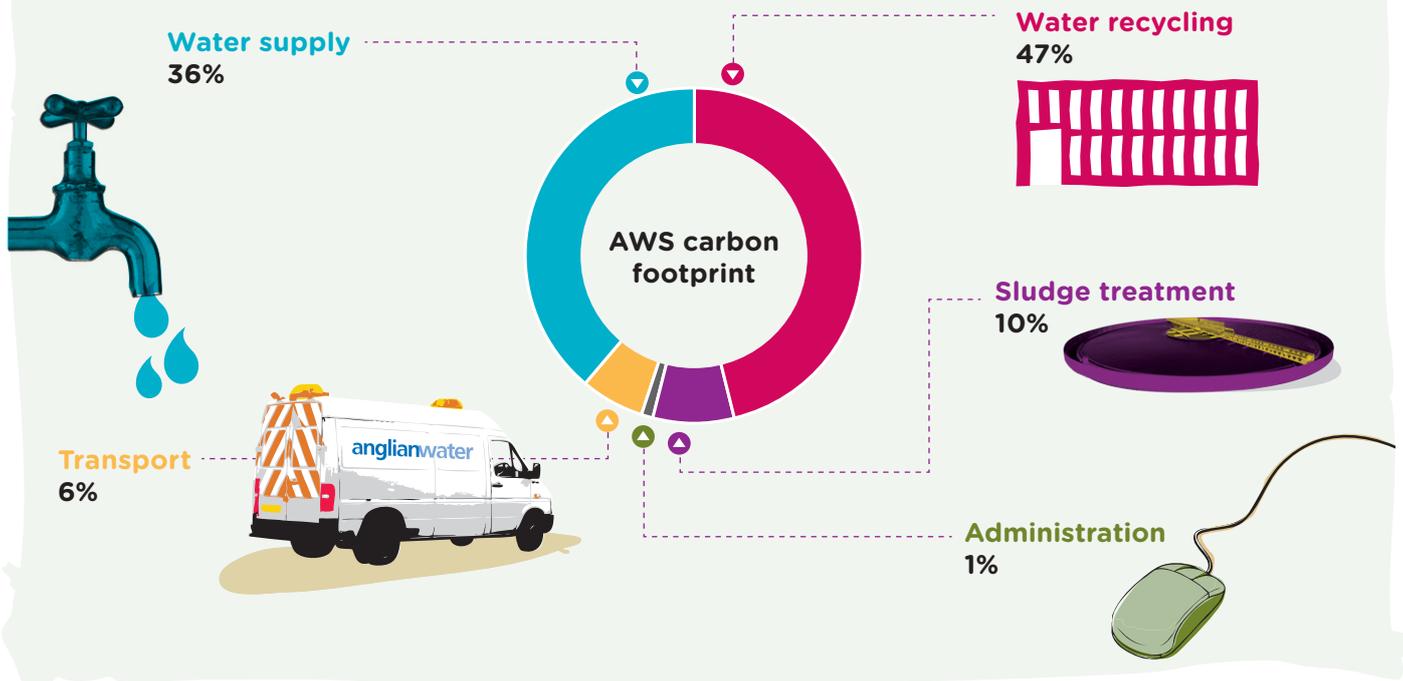
Our gross annual carbon emissions have decreased by 6,043 t/CO<sub>2</sub>e between 2010 and 2013. Although through the period, we have installed new assets for quality schemes and to serve a growing population, operational emissions have stabilised over the last financial year. This is due to more

efficient use of energy and an increase in the generation of renewable power.

During 2012/13 as part of our carbon mitigation strategy we saved 11.84 GWh of electricity (6,157 t/CO<sub>2</sub>e) and generated 52 GWh of renewable power.

Capital (embodied) carbon emissions have reduced by 39% 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 2010-2015, 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 £2.3 billion in maintaining and improving our infrastructure. This investment will result in a forecast 900 kt/CO<sub>2</sub>e of embodied carbon in the materials we use to build and replace assets. These new assets will also add an additional 45,000 t/CO<sub>2</sub>e of annual operational carbon emissions in 2015.

With a continued focus on energy management, innovation in design and commissioning of new generation assets, we have set a challenging objective of mitigating against future potential increases in operational carbon emissions. We have also targeted to halve the embodied carbon of assets we design and build in 2015 against similar assets we built prior to 2010.

### Medium-term target

Our medium-term target is to reduce our operational carbon emissions by 10% in real terms by 2015 from a 2010 baseline. We also expect to report a reduction in gross emissions during this period in line with a decreasing grid electricity emissions factor as forecast by Defra.

### 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 and OMC.

## 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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