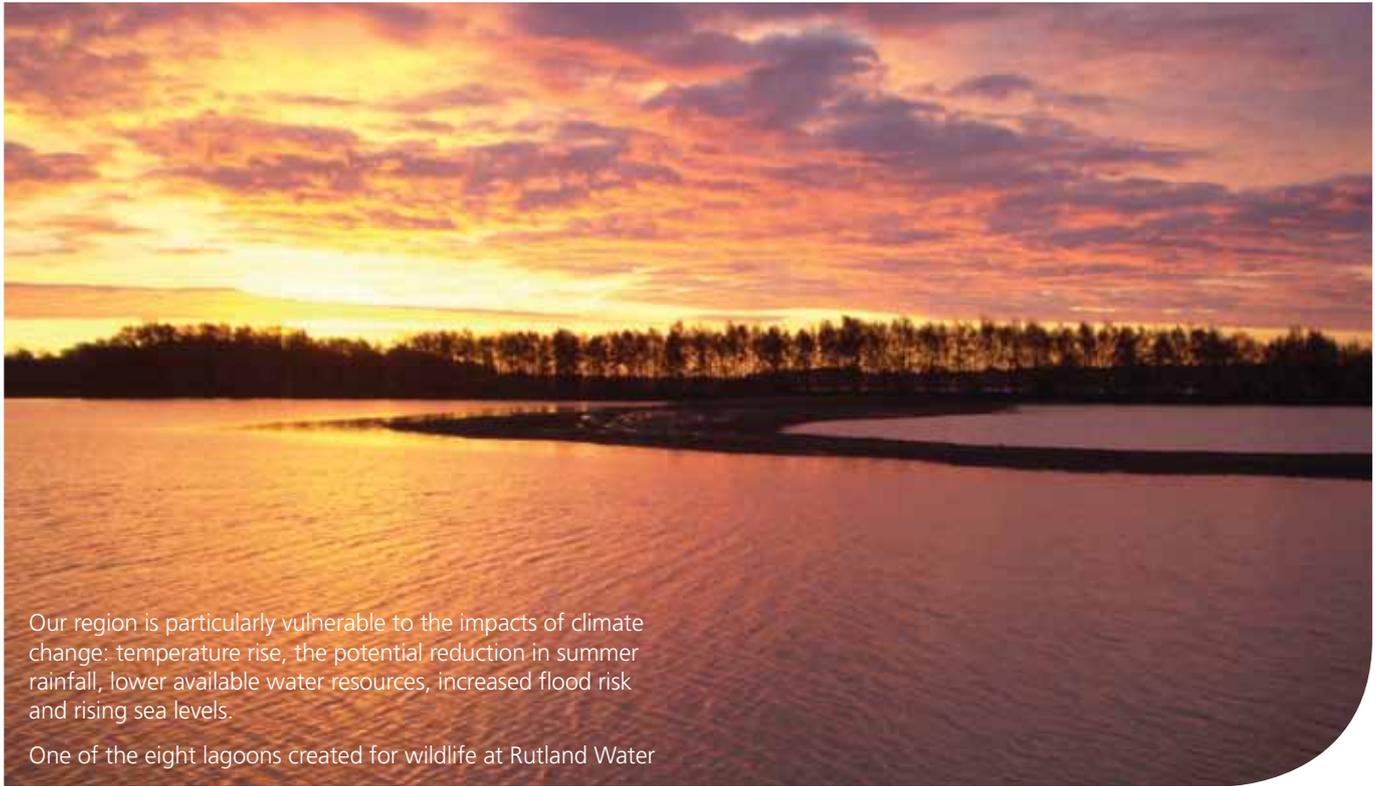




A low carbon solution to the installation of a new tank. Embodied carbon emissions were significantly reduced on this site through the use of a plastic tank installed in a curved bottom trench in comparison to the conventional use of in-situ reinforced concrete.

## Our unique environment



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

One of the eight lagoons created for wildlife at Rutland Water

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.

We will need to adapt the way we operate to maintain the level of services our customers expect of us, for example by storing more winter rainfall for summer use, by groundwater recharging and by more sustainable drainage schemes.

In mitigating our impacts on climate change, we will need to improve energy efficiency and better understand our carbon footprint, invest in renewable energy generation and promote water efficiency. Over the long term, we will also need to design and commission 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
- Wastewater services only
- Water and wastewater services
- Groundwater supply



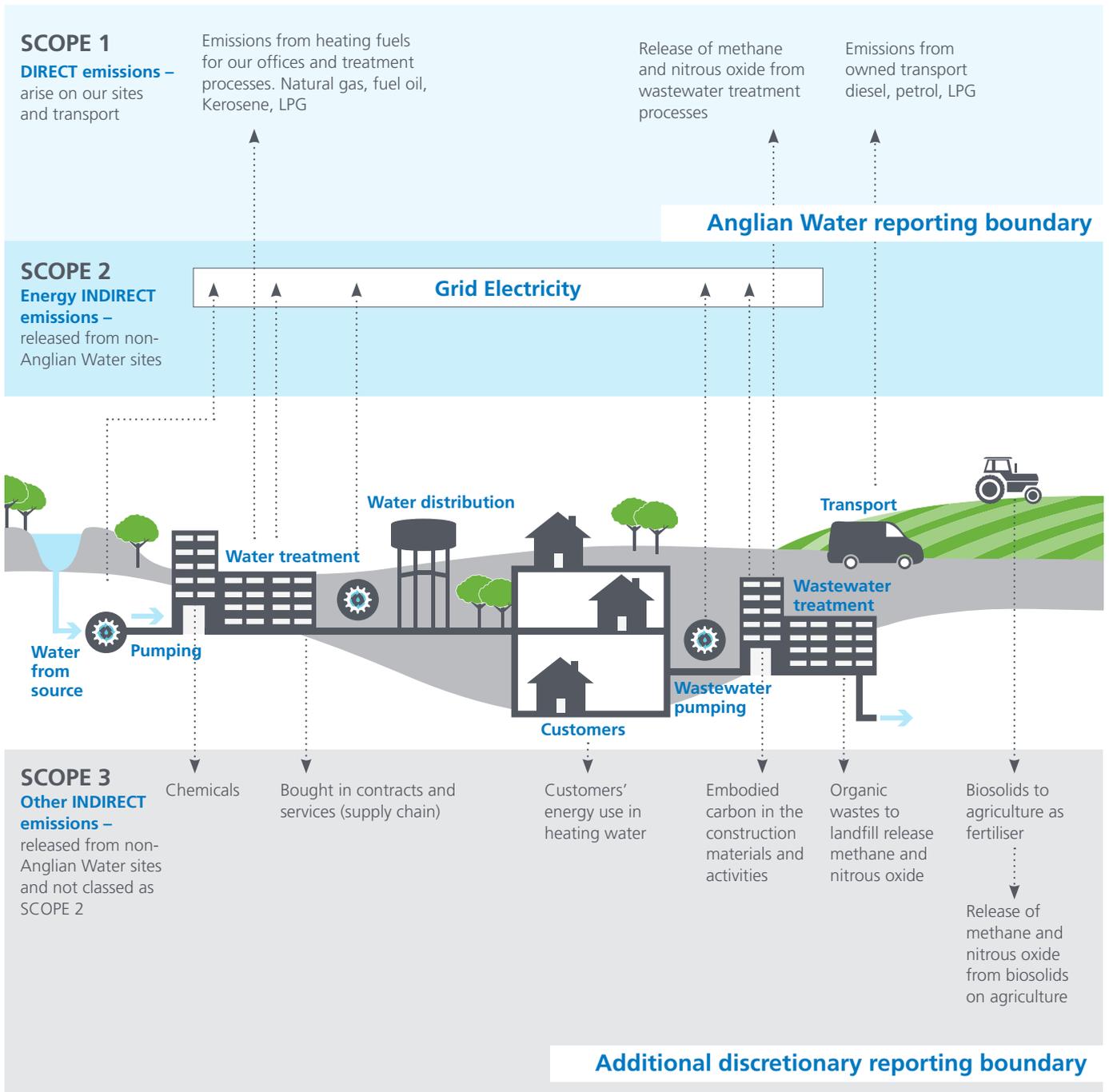
For more information visit:  
[www.anglianwater.co.uk](http://www.anglianwater.co.uk)



# Greenhouse Gas Emissions

## Approach

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



## Organisational Boundary

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

## Company Information

Anglian Water Services is a public limited company, incorporated in the UK. Registered address is Ambury Road, Huntingdon, Cambridgeshire PE29 3NZ.

## Reporting Period

1 April 2009 – 31 March 2010.



Filter bed at one of our wastewater treatment works

#### Greenhouse gas emissions data for period 1 April 2007 to 31 March 2010

	Tonnes of CO <sub>2</sub> e		
	2010	2009	2008
Scope 1	115,035	109,677	85,484
Scope 2	375,301	385,182	391,969
Scope 3	3,367	3,255	998
<b>Total annual gross emissions</b>	<b>493,702</b>	<b>498,115</b>	<b>478,450</b>
Exported renewables	687	319	0
Green tariff	83,609	89,961	88,553
<b>Total annual net emissions</b>	<b>409,406</b>	<b>407,834</b>	<b>389,898</b>
Kg CO <sub>2</sub> e per Ml water treated	352	349	350
Kg CO <sub>2</sub> e per Ml wastewater treated	667	653	637

#### Change in Emissions

Our gross annual emissions have reduced by 4,413 t/CO<sub>2</sub>e between 2009 and 2010. Overall, emissions have fallen in the last financial year due to continued investment in energy-efficient technologies and processes, and a continued increase in renewable energy generation.

During 2009–10, we saved approximately 9 GWh of electricity (5,000 t/CO<sub>2</sub>e) and generated over 27 GWh of renewable electricity (Renewable Energy Guarantee of Origin Certification in progress where required).

In meeting our regulatory requirements, we have increased the volume of natural gas used in wastewater treatment. Data quality improvements for the collection and reporting of transport fuel usage have further improved since 2008.

#### Operational Scopes

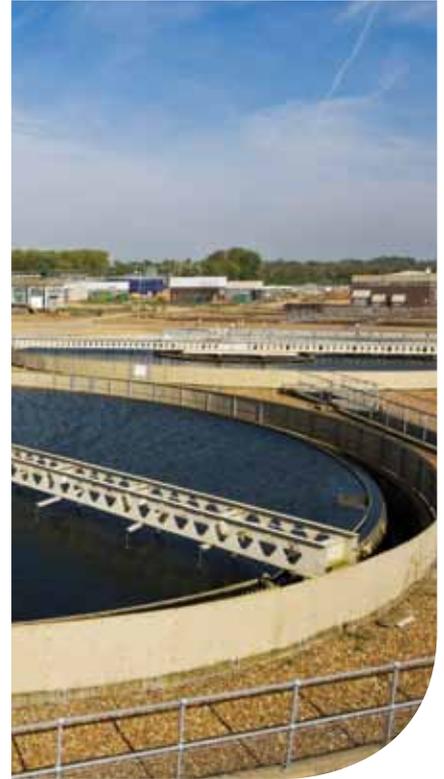
We have measured our Scope 1, Scope 2 and our significant Scope 3 emissions for business travel and outsourced transport.



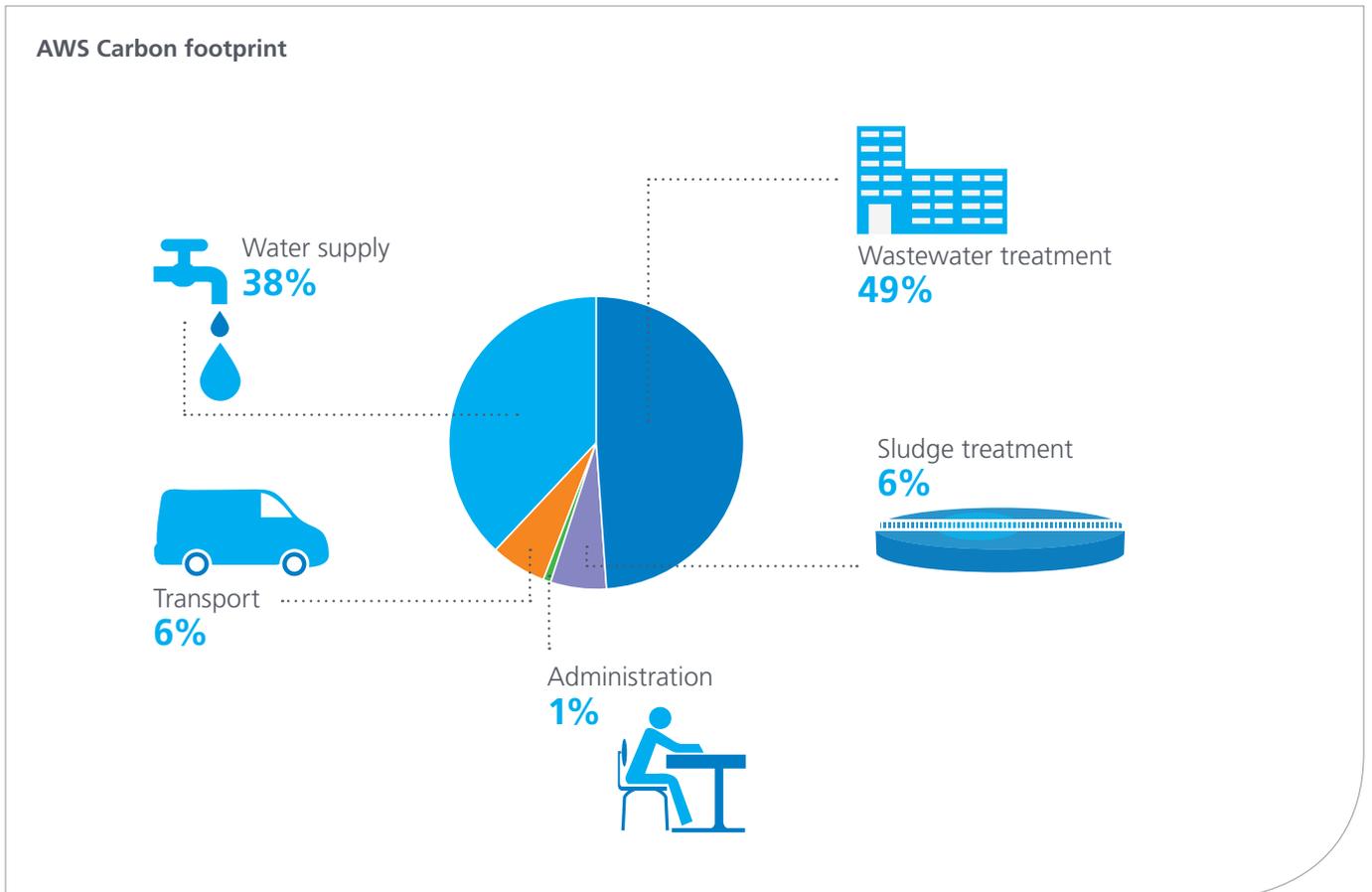
## Greenhouse gas emissions data for period 1 April 2009 to 31 March 2010

	GHG emissions 2010 (t/CO <sub>2</sub> e)	Specific exclusions
Scope 1		None
Gas/fuel oil consumption	34,338	None
Process and fugitive emissions water	56,418	None
Owned transport	24,279	None
<b>Total Scope 1</b>	<b>115,035</b>	
Scope 2		
Purchased electricity	375,301	None
<b>Total Scope 2</b>	<b>375,301</b>	
Significant Scope 3		
Business travel	959	None
Outsourced transport	2,408	None
<b>Total significant Scope 3</b>	<b>3,367</b>	

We have not included commuting, embodied carbon and emissions from the use of water in customers' homes.



## Operational Footprint by Activity



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

## Base Year

Our base year is 1 April 2009 – 31 March 2010, which we set using a fixed-base-year approach.

## Targets

The next five years will see additional pressures on our business with potential increasing GHG emissions through serving a growing population and meeting tighter quality standards. Through 2010–2015, we will be investing £2.3bn in maintaining and improving our infrastructure. This investment will result in a forecast 1.5m t/CO<sub>2e</sub> 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>2e</sub> 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.

Our medium-term target is to stabilise gross carbon emissions from our activities from a 2010 baseline by 2015. 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.

Our long-term aspiration is to reduce our total annual GHG emissions by 50 per cent 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 Wastewater.

## Intensity Measurement

We have chosen 'kg of CO<sub>2e</sub> per mega litre' for water supply and wastewater treated as these are common business metrics for our industry sector.

Our intensity measurement for water has remained stable over the previous two years at around 350 kg/CO<sub>2e</sub> per mega litre of water treated and pumped.

Our intensity measurement for wastewater has increased since 2008 in line with significant increases in natural gas demand, following the commissioning of new assets at Tilbury, Essex and Pyewipe, Lincoln.

## Data Assurance

The carbon data has been externally verified as part of our regulatory reporting requirements.

## Carbon Offsets

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

## Green Tariffs

We have purchased a green tariff which reduces our GHG emissions by 89,270 tonnes. We purchased all of our electricity with green tariffs from British Gas Business.

## Contacts

For further information on GHG emissions within Anglian Water, please contact our carbon manager David Riley:  
[driley3@anglianwater.co.uk](mailto:driley3@anglianwater.co.uk)

