

**Anglian Water Services Ltd  
Anglian Water Services Financing PLC**

# **Green Bond Framework 2018**



# Anglian Water Services Financing Green Bond Framework

Anglian Water Services Ltd (the “Company” or “Anglian Water”), together with its financing subsidiary vehicle Anglian Water Services Financing plc has developed a framework under which it can issue Green Bonds to finance its Asset Management Plan for the period 2015-2020.

The Anglian Water Green Bond Framework supports the financing of water and water recycling projects that demonstrate our environmentally sustainable management of natural resources and land use, as well as climate adaptation.

The Anglian Water Green Bond Framework follows the ICMA Green Bond Principles 2018 (“GBP”), which has four components:

1. Use of Proceeds
2. Process for Project Evaluation Selection
3. Management of Proceeds
4. Reporting

It is Anglian Water’s intention to follow, where possible, best practices in the market as the standards develop.

## Background

### a. About Anglian Water – Introduction

Anglian Water supplies water and water recycling services to more than six million customers in the east of England and Hartlepool. We employ 4,600 people and direct employee salaries contribute around £115 million to the regional economy every year. Everyday Anglian Water looks after over 38,200 km of water mains and 77,000 km of sewer pipes, 132 water treatment works, 6,200 pumping stations and 1,129 water recycling centres.

The activities of Anglian Water can be summarised as follow:



Over 2015 to 2020, Anglian Water will spend almost £5 billion on running the business, protecting communities from extremes of weather including flooding and helping to underpin economic growth, while at the same time keeping bills affordable.

Following its mission of providing a consistent supply of clean and safe water, and on the back of big challenges to be faced – in particular a combination of climate change, population and economic growth, and the need to protect the environment – Anglian Water strongly believe that it is its duty to support sustainable growth, increase the resilience of the region, and reduce its impact on the environment and on the climate.

Anglian Water has agreed 10 key outcomes that it will deliver for its customers through the plan to deliver the “regulatory contract” for the period 2015 -2020, and business performance is monitored using these:



## b. Anglian Water – Corporate Sustainability Framework

Sustainability is embedded in the core business of Anglian Water.

Anglian Water has adopted a long-term visionary campaign and business strategy "Love Every Drop" which captures the Company's commitment to sustainability and includes the whole business, from the water it supplies to the recycling of used water before it is returned to the environment.

Anglian Water has adopted a carbon mitigation strategy called "Drop CO2" – which aims to minimize both the "operational" carbon created in its everyday operation and the capital carbon used in building assets such as water mains, sewers and pumping stations – as well as a stated target to achieve carbon neutrality by 2050. Anglian Water has already delivered a 55% reduction in capital carbon and 11% reduction in operational carbon in real terms from a 2010 base line.

Anglian Water has also achieved PAS 2080 accreditation, a standard launched by the Green Construction Board to encourage a consistent approach to the management of carbon by all involved in infrastructure, setting out principles and components to manage whole life carbon emissions and deliver reduced carbon over the whole value chain.

Anglian Water's sustainability strategy runs throughout the Company's Business Plan 2015-20 which includes investment in resilience to climate change impacts as directly reflected in Anglian Water Business Plan Outcomes and supporting Goals.

Anglian Water projects fall within the following category from the Green Bond Principles 2018: "sustainable water and wastewater management (including sustainable infrastructure for clean and/or drinking water, wastewater treatment sustainable urban drainage systems and river training and other forms of flooding mitigation". The projects contribute to five "environmental objectives":

1. Climate change mitigation
2. Climate change adaption
3. Natural resource conservation
4. Biodiversity conservation
5. Pollution prevention and control



We also map our contribution to wider societal goals by aligning our projects and outcomes to the United Nations Sustainable Development Goals (SDGs).



## 1. Use of Proceeds

Anglian Water intends to provide institutional investors with the opportunity to invest in Anglian Water's Green Bonds to finance parts of the environmental investments made through the Asset Management Plan for the period 2015-2020. The use of proceeds will include capital expenditures of eligible investments and expenditures in respect of the respective projects identified.

Anglian Water will allocate an amount at least equal to the net proceeds from sales of the Green Bonds to investments in a portfolio (**Eligible Green Portfolio**) of projects (**Eligible Green Projects**) that deliver the 2015-2020 regulatory contract. Projects will be identified for each Green Bond that is issued, as well as an overall pool of Green Projects financed by Green Bonds issued by Anglian Water. Some of the projects may have already been financed since the commencement of the regulatory contract in April 2015, and a proportion of proceeds may be used to refinance these projects.

Anglian Water intends to maintain a healthy buffer of investments and expenditures and ensure the quantum of spend is no less than investments in the Eligible Green Portfolio at any time. The Eligible Green Portfolio will finance, in whole or in part:

- Projects helping mitigating climate change impacts by GHG emissions reduction through the use of energy-efficient facilities and conservation of water resources
- Projects helping adapting to long term impacts of climate change such as flood risks.

Environmental benefits will be demonstrated through reducing the amount of embodied and operational carbon from the Company's agreed baseline, measured across the Eligible Green Projects in the Eligible Green Portfolio.

Projects will be individually identifiable across the respective Green Bonds issues.

**"Eligible Green Projects"** means: **Sustainable water and wastewater management**

- **Sustainable Water Management Projects with a reduced climate footprint**
  - Capital Maintenance
  - Enhanced Service Level
  - Growth (Supply Demand)
  - Quality

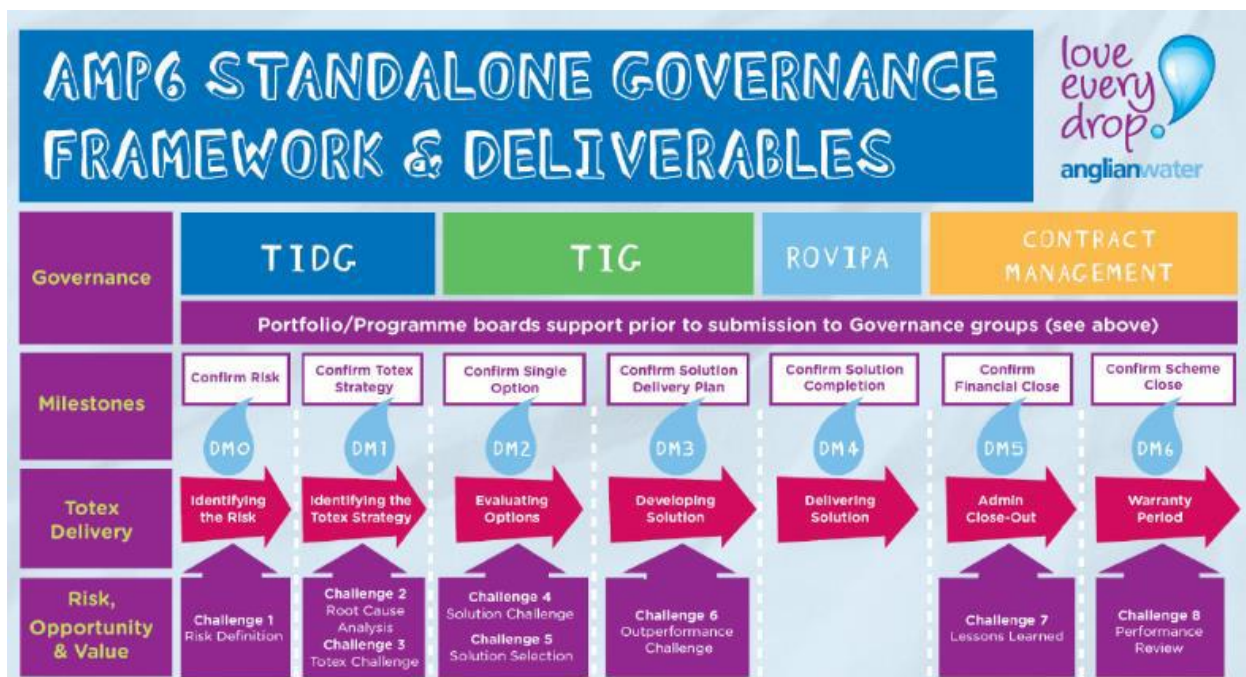


- **Sustainable Water Recycling Projects with a reduced climate footprint**
  - Capital Maintenance
  - Enhanced Service Level
  - Growth (Supply Demand)
  - Quality

## 2. Process for Project Evaluation and Selection (Eligibility Criteria)

All capital expenditure which Anglian Water undertakes must meet Anglian Water's Governance Framework (**the Eligibility Criteria**), a summary of which is set out below. Accordingly, all capital expenditure which Anglian Water undertakes is capable of being an Eligible Green Project for inclusion in an Eligible Green Portfolio.

Anglian Water has a strict governance process for investments. This process includes risk identification (Delivery Milestone 0), solution selection (Delivery Milestone 2) and carbon reduction calculations through monitoring, Decision and Delivery Milestones as shown in the table below.



Anglian Water continuously:

1. Agree business outcomes and identify potential output measures against strategic and customer requirements
2. Identify risks
3. Develop solutions to mitigate risks using private and societal costs to measures value and approve investments for consideration

4. Collaboratively plan an optimal set of investments and timing to maximize value against its agreed outcomes, within and across portfolios
5. Publish a 5 year plan in line with regulatory cycles and approve internally annually
6. Execute the delivery plan
7. Monitor and review plans
8. Review outputs and performance (Delivery Milestone 6)

The carbon related measures considered in the Governance Framework are embodied carbon, changes in operational carbon and changes in power consumption. Risks are assessed and then prioritised collaboratively by business representatives from Operations, Asset Management, Wholesale Services and Regulation. Promotion into the Totex Delivery Process is signed off at DM0 at the Totex Investment Development Group (TIDG) which includes representation from Operations, Asset Management, Regulation and Finance. The delivery teams for both capex and opex solutions are challenged at DM2 (single option) and DM3 (confirm delivery plan) to ensure the most efficient, sustainable and effective solution to deliver both optimum risk reduction and answer the challenges of carbon reduction, water reduction and efficiency in meeting the 10 key outcomes and 32 Outcome Delivery Incentives. Selection of projects into the Green Bond Portfolio is undertaken at DM2. The Totex Investment Group (TIG) challenges major capital solutions and has representation from across the business, primarily at Management Board Director Level.

It is expected that the list of selected Eligible Green Projects, investments and expenditures within the Green Bond Portfolio will be dynamic, and change over time depending on the investment and expenditure priorities of Anglian Water but will be segregated to each green bond that is issued. It is expected that these will include projects achieving carbon reduction from the Company's internal agreed baseline, which is the subject of the PAS2080 accreditation. For example large infrastructure projects, sustainable abstraction schemes, river restoration projects, work on the natural environment program and significant energy saving schemes. An overview of example schemes is available at the end of this document.

Anglian Water maintains minimum environmental and social requirements for all activities, including those financed with the proceeds of the Green Bonds. These are enshrined in the 10 Outcomes, agreed with customers in the development of the AMP6 business Plan. Anglian Water's focus on these 10 Outcomes also means that negative impacts are avoided. Anglian Water complies with UK legal requirements and the regulations governing the UK water which are extensive. Below are the definitions of the most relevant Outcomes and the complete set can be found in the company's Outcomes In Detail document.

[https://www.anglianwater.co.uk/assets/media/54702\\_OID\\_v3a\\_WEB.pdf](https://www.anglianwater.co.uk/assets/media/54702_OID_v3a_WEB.pdf)



## FLOURISHING ENVIRONMENT

### A good outcome will be...

The environment in our region flourishes. Rivers, lakes, aquifers and coastal waters support a rich biodiversity, contribute to a growing economy and provide a valuable amenity for families and communities. There is joined-up, effective and collaborative management of the water cycle in our catchments (an area drained by a river) from source to tap and back to the environment. Our activities are sensitive to environmental needs, and risks and adverse impacts are avoided. People, businesses, water- and land-users in our region are engaged in the challenges of maintaining a sustainable environment. All legal requirements are met.

## A SMALLER FOOTPRINT

### A good outcome will be...

We lead by example on mitigating climate change and protecting natural resources. Decarbonisation and resource efficiency are central to investment and operational decisions. We continue to reduce energy consumption and carbon emissions related to water production, consumption and disposal. Water footprinting is established as a social and business norm and drives down usage.

Anglian Water senior-level Climate Change Steering Group, chaired by Paul Gibbs, Director of Water Recycling assesses the implications for the Company's business and has visibility of the delivery of Anglian Water mitigation and adaptation strategies. Climate change scenarios are being integrated into the decisions about future investment.

### 3. Management of Proceeds

The proceeds from the Green Bonds will be managed by Anglian Water's Treasury Team on a portfolio approach.

Funds raised from the Green Bonds will be paid to its Capex Reserve Account. Funds will be transferred to the Payment Account matching the amount of investments and expenditures for the **relevant** Eligible Green Portfolio. The proceeds of the Green Bonds will be allocated to a portfolio of Anglian Water's Eligible Projects in the company's accounting records.

Anglian Water will provide investors with information regarding the projects financed by Green Bond issuance. This information will be made available in the impact reporting.

To prevent double counting of Eligible Projects, Anglian Water will issue Green Bonds allocated to eligible investments and expenditures on a unique project identifier basis. Reconciliation to the project budget will prevent any double counting in allocation of proceeds. Anglian Water has expenditure targets allocated for the regulatory review period, the current period being 2015-2020.

Pending the allocation of the Green Bonds proceeds, the Company will temporarily invest an amount equal to the balance of the proceeds held in the Capex Reserve Account in cash or cash equivalents. Payment of principal and interest on the Green Bonds will be made from the Company's Debt Service Payment Account.

Anglian Water ensures that the systems and processes as specified in section 4 (Management of Proceeds) above meet their requirements over the lifetime of the bond.

## 4. Reporting

### Allocation Reporting

Allocation reporting will be available to investors annually through a Green Bond Report, until the proceeds have been fully allocated, and as necessary thereafter in the event of material developments. One Green Bond report will be issued annually incorporating all the Green Bonds issued to date. The report will detail:

- i. Insights into the total amount of the investments and expenditures in the Eligible Green Portfolio in the format in section 3 above.
- ii. The savings/mitigations of embodied and operational carbon from the Company's agreed baseline measured across the Eligible Green Projects within the Eligible Green Portfolio.
- iii. The balance of unallocated cash and/or cash equivalent still held by the Issuer.

Anglian Water may additionally report on impact indicators mentioned in the ICMA document. Suggested Impact Reporting Metrics for Sustainable Water and Wastewater Management Projects (published June 2018).

## The global context

We live on a planet with finite resources and a growing population. The sustainability challenge continues to evolve: the United Nations adopted 17 Sustainable Development Goals (UN SDGs) as part of its 2030 Agenda for Sustainable Development. These goals came into effect on 1 January 2016 and demand action from governments, the private sector, civil society and

individuals. We have recognised the important role we can and should play in working towards meeting the goals and in setting an example for others. We have analysed which of our activities contribute to the Sustainable Development Goals. We will challenge ourselves to push for even more stretching outcomes in the future. The figure below shows how our outcomes fit with the UN SDGs.



## TABLE OF ELIGIBLE INVESTMENTS PER CATEGORY

A list of sample eligible investments, expenditures and/or projects; and initially estimated potential allocations of the Green Bond issuance.

Category	Eligible project types	Potential impact indicators
<b>Sustainable water and wastewater management</b>	<ul style="list-style-type: none"> <li>(i) Sustainable water management projects with a reduced climate footprint</li> <li>(ii) Sustainable water recycling projects with a reduced climate footprint</li> </ul>	<ul style="list-style-type: none"> <li>- PR09 Baseline CO2 (eT)</li> <li>- Reduction in CO2 (eT)</li> <li>- Reduction in CO2 (%)</li> <li>- Actual CO2 (eT)</li> <li>- <b><u>Reduction in leakage of water (ml/d)</u></b></li> <li>- <b><u>Annual water treatment (million/m<sup>3</sup>)</u></b></li> </ul>

Anglian Water may report on a range of environmental and social impacts of the investments and expenditures funded with the Green Bonds proceeds in these formats in the future. They cover all aspects of the Company's service and examples include:

- Improving customer service and satisfaction
- Maintaining the highest quality drinking water and reducing interruptions to supply
- Reducing leakage within the network
- Helping customers with water efficiency
- Protecting and improving the quality of coastal bathing waters.
- Delivering favorable condition for Sites of Special Scientific Interest
- Operational and capital carbon performance
- Renewable energy generation
- Reducing the number of properties affected by sewer flooding
- Reducing the potential for pollution incidents
- Maintaining our assets such as water treatment works, sewers and pumps
- Delivering sustainable drainage systems
- ICMA Green Bond Principles suggested impact reporting metrics for water (June 2018)

In addition Anglian water separately publishes an annual GHG emissions report, available at <http://www.anglianwater.co.uk/environment/why-we-care/carbon-management.aspx>. The chosen 'kg of CO2e per mega litre' for water supply and water recycling treated as these are common business metrics for the industry sector.

The carbon data has been externally verified as part of the regulatory reporting requirements. Since 2010, Anglian Water has met the requirements of the CEMARS (Certified Emissions Measurement and Reduction Scheme), having measured greenhouse gas emissions in compliance with ISO 14064-1:2006.

## **1. External Review**

### ***Second party opinion***

The Anglian Water Green Bond Framework has been reviewed by DNV GL who has issued a Second Party Opinion. This opinion has been published on the Anglian Water's website. (<https://www.anglianwater.co.uk/about-us/investors/anglian-water-services/aws-green-bond-framework.aspx>)

### ***Verification***

Anglian Water may request on an annual basis, a limited assurance opinion of the allocation of the bond proceeds to eligible assets, provided by any appropriate external auditor.

### ***CBI Certified (optional)***

Anglian Water may obtain a Water Climate Bond Certification by adopting the necessary requirements set by Climate Bond Initiative. The independent certification will be published on the Anglian Water's website.

# SELECTED UPCOMING GREEN FINANCING SPOTLIGHT PROJECTS



£250m Green Bond 1.65%  
ISIN – XS1659112616  
See Green Bond Report

[https://www.anglianwater.co.uk/assets/media/HR\\_GREEN\\_BOND\\_ANNUAL\\_REPORT\\_website\\_version.pdf](https://www.anglianwater.co.uk/assets/media/HR_GREEN_BOND_ANNUAL_REPORT_website_version.pdf)





## FEATURED PROJECTS

The project categories contribute to five "environmental objectives":

1. Climate change mitigation
2. Climate change adaption
3. Natural resource conservation
4. Biodiversity conservation
5. Pollution prevention and control

We are mapping our contribution to wider societal goals by aligning our projects and outcomes to the United Nations Sustainable Development Goals (SDGs).



## EXAMPLES OF POTENTIAL GREEN FINANCING SPOTLIGHT PROJECTS

	Capital Maintenance	Enhanced Service Level	Growth	Quality	Environmental Objectives	SDGs
Northampton Breezehill – Flooding		✓			5	6   9   13
Fulmodeston & Barney – First time Rural Sewerage Scheme		✓			2   5	6   9   11
Wickford – Water Recycling Centre			✓		5	7   9   12
Cotton Valley - Additional Digester Capacity	✓				2   3	6   9

# NORTHAMPTON BREEZEHILL

## FLOODING

PRO9 CO2	SOLLUTION CO2	REDUCTION CO2		TOTAL FORECAST SPEND
eT	eT	eT	%	£m
146	77	69	47	0.8

EMBODIED WATER CONSUMPTION SAVINGS FROM INITIAL SOLUTION	
H2O e m3	%
79	52

## PROJECT BACKGROUND

Breezehill had a high risk of repeated internal and external surface water flooding as a result of a lack of hydraulic capacity in the system. In periods of high rainfall, flooding occurred through manholes and ran overland across to residential properties.

## SOLUTION AND HIGHLIGHTS

Early modelling of the network and optimisation allowed a storage solution to be sized at less than 70% of previously traditional approaches, along with the inclusion of enough storage to allow for future climate change.

As the issue was with surface water only, we were able to utilise Geo-cellular offline storage, an alternative to the traditional approach of concrete storage, resulting in both a lower embodied carbon value and a lower cost. This solution also allows the excess surface water to be released back into the water course, reducing the requirement for treatment downstream.

# FULMODESTON, BARNEY & CROXTON

## FIRST TIME RURAL SEWERAGE SCHEME

PRO9 CO2	SOLLUTION CO2	REDUCTION CO2		TOTAL FORECAST SPEND
eT	eT	eT	%	£M
1,248	687	560	45	4.2

POWER CONSUMPTION SAVINGS PER ANNUM	
kWh	%
71,804	74

### PROJECT BACKGROUND

First Time Sewerage provision for 171 connectable properties in the area based on a duty assessment conducted as part of our AMP6 business plan. A number of First Time Sewerage schemes are expected to be undertaken in the 2015-2020 investment period.

### SOLUTION AND HIGHLIGHTS

This is a major scheme involving the construction of new sewers, rising mains and a new pumping station.

Embodied carbon reduction has been driven by the use of no dig techniques in the laying of around 75% of all pipework which, in turn, are also fabricated from UPVC, a lower carbon material than traditional clay sewers. No dig techniques also bring less inconvenience to customers, less waste removal, and reduced traffic impacts

Off site build of a package pumping station allowed for less carbon, less cost, and much better engagement with the local community resulting in the scheme and team winning a local customer service award.

# WICKFORD

## WATER RECYCLING CENTRE

PRO9 CO2	SOLLUTION CO2	REDUCTION CO2		TOTAL FORECAST SPEND
eT	eT	eT	%	£M
1,045	808	237	23	4.5

OPERATIONAL WATER CONSUMPTION SAVING PER ANNUM	
H2O e m3	%
32,760	94

### PROJECT BACKGROUND

Predicted future growth through to 2021 in the Wickford catchment will mean the flow received by the WRC will exceed its design capacity.

### SOLUTION AND HIGHLIGHTS

The capital solution associated with this scheme has been designed utilising 3D modelling capability allowing, where possible, infrastructure to be built above ground thereby reducing embodied carbon values and reducing wastage levels. Alongside this, operational optimisation has enabled better baseline performance which reduced the overall build requirement.

# COTTON VALLEY

## ADDITIONAL DIGESTER CAPACITY

PRO9 CO2	SOLLUTION CO2	REDUCTION CO2		TOTAL FORECAST SPEND
eT	eT	eT	%	£M
556	544	13	2	4.9

### PROJECT BACKGROUND

The Sludge Treatment Centre at Cotton Valley has an opportunity for increased throughput to support both resilience and the production of more self-generated green energy.

### SOLUTION AND HIGHLIGHTS

The construction of an additional digester will increase throughput at the sludge treatment centre by 25%. Better treatment capability, combined with this increased capacity, will result in more gas production which then leads to more power production from the CHP.

This contributes 5.4GwH (and £0.59m/yr) to our ambition of over 140GwH of self-generated power production.

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