

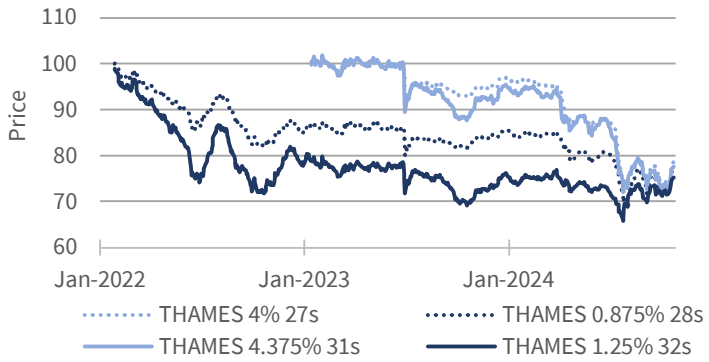
Why does it always rain on Thames Water?

Jonas David [(*)], Josephine Richardson

Thames Water (ticker THAMES), the UK's largest water utility, is under pressure amid severe financial difficulties. The coming months will be critical for the company and its investors. Large equity holders have already written down their stakes,[1] and discussions on how to deal with the utility's debt pile are ongoing while creditors assess their options.[2] In its latest credit opinion, Moody's states that a distressed exchange is likely in the near term.[3] If all negotiations fail, the government might have to renationalise the company. Meanwhile, the UK's water regulator is in the midst of finalising determinations for the next five years, which will shape the operating environment for the sector over the medium term.[4]

As a regular and sizable issuer of green bonds from 2018-2023, Thames Water likely attracted investors that value sustainability considerations. However, the structures used did not provide the desired accountability, as the company's sustainability efforts have lagged. We analyse the current situation for investors, and provide the following takeaways:

Figure 1. Thames Water – price of green EUR bonds. Source: AFII, Bloomberg, accessed 21 Oct 2024.



- **Green bonds are theoretically a good value proposition for utility companies** due to their need to make sustainability improvements and ability to generate recurring cash flow. Water companies are also increasingly exposed to climate change risks, and so need to invest in adaptation.
- Thames Water's **business operations undermined overall investor confidence amid deteriorating credit quality**. Labelled bonds are pari-passu to vanilla securities, and so are exposed to the overall financial situation of their issuer.
- Updated performance targets are expected to be announced by the regulator soon. **Investors concerned about sustainability could push for these targets to be embedded in Sustainability-Linked Bonds (SLBs)**, to strengthen accountability and potentially improve outcomes in the water sector.

[1] "Abu Dhabi writes off 9.9% stake in Thames Water", Financial Times, 8 Oct 2024.
[2] "Thames Water Bondholders Sign NDAs in Preparation for Cash Injection", Bloomberg, 8 Oct 2024.
[3] "Thames Water Utilities Ltd. Update following downgrade to Caa1 negative", Moody's, 8 Oct 2024.
[4] "Draft Determinations", Ofwat, accessed 10 Oct 2024.

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Thames Water green bond issuances

Thames Water has accumulated GBP 18.7bn of debt in total[5] and could run out of cash by the end of this year.[6] Moody's has reacted to the financial pressure; in July, Thames Water lost its investment grade rating, and in September the rating agency downgraded the corporate family rating by five notches to Caa1 (with a negative outlook).[7] It reports specifically that ESG considerations have a pronounced impact on the rating. S&P announced a similar downgrade in September.[8]

Between 2018 and 2023 the company issued several green bonds with a total outstanding amount equivalent to over GBP 3bn, which account for about 18% of total senior debt at the relevant entities. Green bonds, or Use-of-Proceeds (UoP) bonds, place restrictions on the projects that can be financed by the debt. Most UK water companies have issued UoP debt; 'green' where projects are entirely environmental and 'sustainable' where they have included some social projects.[9]

Thames Water's green bonds can be classified into two categories. See Appendix for details on the individual bonds, the green projects they financed and impact reporting.

1) *Green bonds issued by Thames Water Utilities Ltd in March 2018 and Thames Water Utilities Finance PLC in late 2020*
   These bonds were issued under the company's green bond framework.[10] The proceeds were used for water management and water recycling projects with a reduced climate footprint. (e.g. water and wastewater treatment works, water and wastewater network, renewable energy). Work on these started in April 2015. Proceeds of GBP 779mm were used primarily for the refinancing of networks projects (GBP 580mm) and, to a lesser extent, treatment projects (GBP 199mm). One project financed this way was the Deephams sewage treatment works. This project is an important contributor to key performance indicators (KPIs), according to impact reports.[11] The latest report highlights energy generated (MWh), CO_2 equivalent emissions saved (kg), water saved (Ml/day) and effluent discharge prevented (Ml) as key metrics. Figure 2 overleaf shows full details as reported by Thames Water.

[5] Reconciling the latest outstanding debt of Thames Water across sources has been a challenge, and so we take our totals from "Thames Water Utilities Limited Investor Report", Thames Water, 31 Mar 2024.
[6] From "Thames Water Utilities Ltd. Update following downgrade to Caa1 negative", Moody's, 8 Oct 2024: "On 20 September 2024, Thames Water announced that, as at 31 August 2024, it had £1.57 billion of liquidity consisting of £1.15 billion of cash and cash equivalents (including dedicated reserves of £0.38 billion) and £0.42 billion of Class A and Class B undrawn committed facilities. The company's announcement indicates that the company will run out of cash by December 2024 unless it utilises its reserves with creditor consent, rather than the company's previously stated liquidity runway to May 2025."
[7] "Moody's Ratings downgrades Thames Water's CFR to Caa1, negative outlook", Moody's, 25 Sep 2024.
[8] "Thames Water Class A Debt Lowered To 'CCC+' And Class B Debt To 'CCC-' On Near-Term Liquidity Stress", S&P Global Ratings, 25 Sep 2024.
[9] For our earlier analysis on the sector please see "Thames Water green bonds: all in the same puddle", AFII, 4 Jul 2023 and "UK Water company reports: it never rains but it pours", AFII, 18 Jul 2023.
[10] "Our Green Bond Framework", Thames Water, accessed 10 Oct 2024.
[11] "Our 2020/21 Green Bond Impact Report", Thames Water, accessed 10 Oct 2024.

Figure 2. Thames Water - Green Bond Impact Report 2020/21: Projects and deliverables. Source: Thames Water – Green Bond Impact Report 2020/21.

Project	Description	Deliverables
Deephams sewage treatment works (STW)	Upgraded one of the largest sewage treatment works, which serves 880,000 people, to help accommodate population growth and meet higher environmental standards	Serve additional 100,000 customers Two new Combined Heat & Power (CHP) engines installed
Household metering	Installing water meters across the customer base, helping to reduce water use	301,313 meters installed, 97,578 revenue meters maintained or replaced Reduction in water needing to be produced
Mains rehabilitation	Replacing and repairing some of the oldest parts of the network to help reduce leaks	246km of mains rehabilitated (including 26km of trunk mains)
Thames Tideway Tunnel interfacing works	This 25km tunnel will help to boost the capacity of London's existing sewerage system and prevent millions of tonnes of sewage from going into the Thames	21 sites handed over to the Thames Tideway Tunnel delivery team as part of connecting and enabling works

2) *Green bonds issued by Thames Water Utilities Finance PLC in January 2022 and January 2023*
These bonds were issued after the publication of the company's Sustainable Financing Framework in 2021[12] and have a combined outstanding amount of EUR 2.8bn. We have found no public allocation or impact report for these issuances. Figure 1 on the front page shows the prices of the four green bonds denominated in EUR, currently trading in the 75-79 area following a slight rebound. Trading at these levels with little differentiation in cash prices indicates investors' concerns about a credit event.

The existence of the Green Bond Framework (2018) and subsequent Sustainable Financing Framework (2021) suggest Thames Water appreciated the importance of sustainability to its business operations. Notwithstanding its initial ambitions,[13] there are some activities which may undermine the credibility of the company's green efforts. These include the regular discharge of sewage, which is arguably the most prominent example of poor environmental practices. The latest penalty imposed by its regulator, Ofwat, amounted to GBP 56.8mm, increasing total payments to more than GBP 250mm since 2020. While this year's fine was lower than last year's and the company moved from the "lagging behind" to the "average" category in the regulator's taxonomy, serious concerns remain.

[12] "Sustainable Financing Framework 2021", Thames Water, accessed 10 Oct 2024.
[13] As an example, from the annual report 2020/21: "In 2018, in line with the International Capital Market Association ("ICMA") Green Bond Principles, we established our first Green Bond Framework to support the financing of our water and wastewater recycling projects related to the environmentally sustainable management of natural resources and land use, as well as climate adaptation. We aim to provide transparency, disclosure, integrity and quality in our Green Bond reporting, and this includes our annual Green Bond Impact Report, which highlights the positive environmental impacts our Green Bonds have contributed towards."

Sustainability in the water sector

Water utility companies operate in a highly regulated sector and report on a wide range of indicators, including ESG metrics. Ofwat assesses the largest waste and wastewater companies annually – underperformance can have financial implications, as shown by the latest penalties. Furthermore, the Environment Agency analyses water resource performance to ensure reliable water supply. Thames Water lists more than 40 indicators related to the environment in its latest Sustainability Report and ESG Statement.[14] In short, there is no lack of data on sustainability performance, which has been found wanting. For example, Ofwat's latest report found that:

- Despite the sector committing to reduce pollution incidents by 30% in the 2020-25 period, the increase in pollution incidents in 2023 means there has only been a 2% reduction to date.
- On leakage, while progress has been made, companies have only achieved a reduction of 6% on an annual basis to date, against a target of 16% by 2025.
- The sector committed to reduce internal sewer flooding incidents by 41%, but four years in it has achieved only a 10% reduction.

David Black, Ofwat CEO, had this to say: "This year's performance report is stark evidence that money alone will not bring the sustained improvements that customers rightly expect. It is clear that companies need to change and that has to start with addressing issues of culture and leadership. Too often we hear that weather, third parties or external factors are blamed for shortcomings."[15]

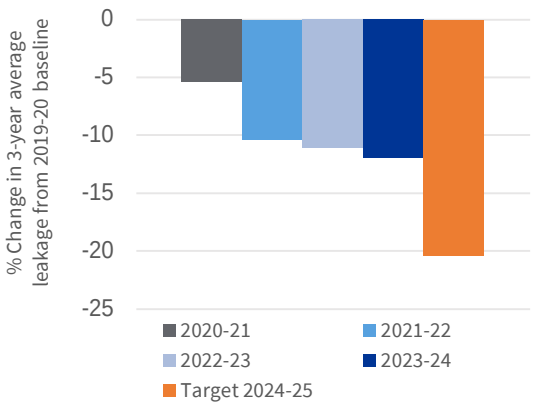
Thames Water sustainability performance

Leakage has been a persistent issue.

The average leakage over the last three years is 592mm litres per day. That amounts to 23% of water supplied.

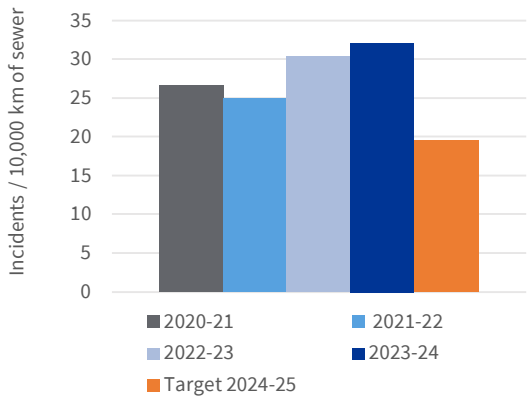
Thames Water had to pay a GBP 8.6mm penalty as it didn't meet its target for 2016-17. This was highlighted in the green bond framework in 2018. Fast–forward to today, and the company needs to make substantial improvements to achieve its target for 2024-25, as shown in Figure 3.

Figure 3. Thames Water change in average leakage. Source: AFII, Ofwat.



[14] "Sustainability Report and ESG Statement 2024", Thames Water, accessed 10 Oct 2024.
[15] "Ofwat calls on water sector to improve its performance after companies fall short on targets", Ofwat, 8 Oct 2024.

Figure 4. Thames Water pollution incidents. Source: AFII, Ofwat.



Pollution is another persistent issue. Historic data and the target for 2024-25 are shown in Figure 4.

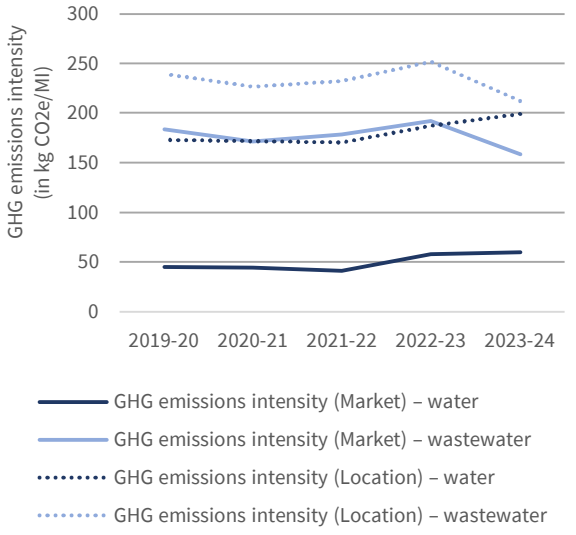
With the exception of 2021-22, incidents have been increasing every year since 2010 and the current number of incidents is significantly above target.

Thames Water is one of four companies (the others being Anglian Water, South West Water, and Southern Water) that has failed to meet this performance target for four consecutive years.

Greenhouse gas (GHG) emissions are an important metric. Scope 1 emissions make up a large share of Thames Water's total carbon footprint, primarily related to wastewater. They mainly come form process and fugitive emissions. Scope 2 emissions (location-based) have primarily increased due to an increase in the grid emissions factor. Meanwhile, scope 3 emissions associated with the purchase of chemicals and disposal of waste have reduced, but they are still meaningful overall.[16]

Figure 5 illustrates historic emissions intensities for Thames Water. This shows a decrease for wastewater and a slight increase for water. The data comes from Thames Water's latest Sustainability Report and ESG Statement.

Figure 5. Thames Water GHG emissions intensity. Source: AFII, Thames Water.



A sector-wide issue?

Thames Water is the most prominent example of a distressed water utility, and the company is likely to remain in the headlines over the coming months as the various stakeholders race to find a solution for its predicament. However, it is not the only company to watch, and the water sector will likely be under increased scrutiny from investors over the near future, particularly as Ofwat prepares to make announcements that will impact all market participants.

[16] "Sustainability Report and ESG Statement 2024", Thames Water, accessed 16 Oct 2024.

Anglian Water and Southern Water (tickers AWLN and SWSFIN), for instance, are lagging behind in Ofwat's performance review. Significantly, Anglian Water issued SLB in 2021 (ticker OSPRAQ) and has several outstanding loans linked to sustainable benchmarks, creating an incentive to improve sustainable performance. The accompanying reporting is comprehensive.[17]

Southern Water bonds weakened at the end of July as Moody's put the rating under review for a downgrade to speculative grade, and the company plans to raise almost GBP 4bn in debt financing over the coming years.[18]

Next steps

Currently, a range of options for Thames Water are under discussion, ranging from (temporary) renationalisation under the government's special administration regime to market solutions. Stabilising the company's finances is in the interest of stakeholders, but it's not clear who would provide equity financing in the current environment.[19] Reportedly, a large creditor group, representing about GBP 10bn of the company's total debt and advised by the investment bank Jefferies, is exploring options including a debt-to-equity swap.[20]

In terms of key dates, we are monitoring the following:

- **November**: We will follow the news flow around potential negotiations with creditors in the High Court.[21]
- **12 Dec:** CAD 250mm bond maturity (equivalent to about GBP 140mm)
- **19 Dec:** Following the draft determinations for the 2024 price review,[22] the regulator is expected to publish its final decision, which will define the water sector's business and operating environment for the next five years (e.g. increase in bills, investment needs).

Improving accountability of sustainable objectives

The questionable track record of privatisation among critical utility companies (Thames Water was privatised in 1989) and the involvement of financial investors with limited oversight has been covered extensively in the media. Our focus is different: did green bond investors achieve the sustainability impacts they desired and, if not, what can (green) bond investors learn from all this? Could alternative bond structures help align incentives and improve accountability?

Theoretically, UoP structures are value-additive to utility companies. These firms need green investments in size and have the ability to generate recurring cash flow from their operations to pay off debt. At the same time, their operations are increasingly exposed to climate change, meaning they have to invest in adaptation.[23] However, setting up a green bond or sustainable financing framework is not enough, particularly if business practices are not fully aligned. Looking at this specific case, the green bonds issued by Thames Water appear not to have provided the sustainability accountability that investors would expect.

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[17] "Sustainable Finance Impact Report 2024", Anglian Water Group Limited, accessed 10 Oct 2024.
[18] "Southern Water seeks to borrow nearly £4bn from investors", Financial Times, 7 Oct 2024.
[19] "Abu Dhabi writes off 9.9% stake in Thames Water", Financial Times, 8 Oct 2024.
[20] "Thames Water Bondholders Sign NDAs in Preparation for Cash Injection", Bloomberg, 8 Oct 2024.
[21] "Thames Water seeks extension to debt terms to avoid nationalisation", Financial Times, 19 Sep 2024.
[22] "Draft Determinations", Ofwat, accessed 10 Oct 2024.
[23] "UK Water company reports: it never rains but it pours", AFII, 18 Jul 2023.

SLBs are debt structures where the payouts vary depending on the achievement of set targets based on sustainability metrics.[24] They therefore have the potential to incentivise issuers to improve their sustainability. They can also promote accountability as SLBs come with extensive reporting requirements, and a higher cost of capital should outcomes not meet the required targets.

While the presence of an SLB in Thames Water's capital stack would have been unlikely to change its financial situation and/or avert the current crisis, it could have offered more accountability for sustainability-focused investors. With such a structure, it becomes possible to incorporate a more holistic assessment of overall business operations into investors' analyses, which is sensible in sectors where most of the capital expenditures relate to sustainability considerations in some form or other.

Conclusions

Thames Water is the third-largest corporate issuer of green bonds in the UK,[25] and these are now trading at distressed levels (see Figure 1). While issuers with an investment grade rating often tap the green bond market, the risk of deteriorating credit quality is an inherent part of any investment.[26]

Sustainability performance from Thames Water has been poor. Several indicators are off-target, and this has resulted in fines from the regulator.

While one SLB has been issued by Anglian Water in 2021, these structures have the potential to play a role in making the water sector more attractive for investors by strengthening accountability and aligning incentives.

The regulator's upcoming determination of sector performance targets for the next five years can act as a reference for defining sustainable performance targets for such bond structures.

[24] For more information on the structure please see "Sustainability-Linked Bond Handbook", AFII, May 2024.
[25] "Green bonds down the drain: What Thames Water's debt crisis could mean for UK sustainable finance", IEEFA, 11 Oct 2024.
[26] Incidentally Thames Water would not be the first green bond default. We count 40 green bonds that have defaulted in the past, mainly in China. The largest non-Chinese green bond default was from Spanish renewables firm Abengoa which filed for insolvency in 2020, "Abengoa files insolvency proceedings in Spain", S&P, 18 Aug 2020.

Appendix 1: Labelled bonds in the UK water sector

Table 1. ESG-labelled bonds in the UK water sector. Source: AFII, Bloomberg, accessed 16 Oct 2024.

Issuer	Ticker	ISIN	Bond Type	Issue Date	Maturity	Amount outstanding (mn)	Currency
Anglian Water Services Financing PLC	AWLN	XS1659112616	Green	10-Aug-17	10-Aug-25	250	GBP
Anglian Water Services Financing PLC	AWLN	XS2382155013	Green	15-Sep-21	15-Sep-26	35	USD
Anglian Water Osprey Financing PLC	OSPRAQ	XS2356450846	SLB	13-Jul-21	31-Jul-28	300	GBP
Anglian Water Services Financing PLC	AWLN	GB00BH0PBL15	Green	03-Dec-18	06-Feb-29	53	USD
Anglian Water Services Financing PLC	AWLN	GB00BH0PBJ92	Green	03-Dec-18	06-Feb-29	85	GBP
Anglian Water Services Financing PLC	AWLN	XS1895640404	Green	26-Oct-18	26-Oct-29	300	GBP
Anglian Water Services Financing PLC	AWLN	GB00BH0PBK08	Green	03-Dec-18	06-Feb-31	25	GBP
Anglian Water Services Financing PLC	AWLN	XS2638380506	Green	20-Jun-23	20-Jun-31	300	GBP
Anglian Water Services Financing PLC	AWLN	CAG0372VCQ54	Green	26-Aug-22	26-Aug-32	350	CAD
Anglian Water Services Financing PLC	AWLN	XS2257836838	Green	13-Nov-20	13-Nov-35	50	GBP
Anglian Water Services Financing PLC	AWLN	XS2638381819	Green	20-Jun-23	20-Jun-39	560	GBP
Anglian Water Services Financing PLC	AWLN	XS2010166572	Green	20-Jun-19	20-Jun-39	7,000	JPY
Anglian Water Services Financing PLC	AWLN	XS2151024598	Green	03-Apr-20	03-Apr-40	65	GBP
Anglian Water Services Financing PLC	AWLN	XS2275077308	Green	23-Dec-20	23-Dec-40	7,000	JPY
Anglian Water Services Financing PLC	AWLN	XS2778383971	Green	07-Mar-24	07-Jun-43	375	GBP
Anglian Water Services Financing PLC	AWLN	XS2898771774	Green	12-Sep-24	12-Sep-44	700	GBP
Severn Trent Utilities Finance PLC	SVTLN	XS2445344570	Sustainable	22-Feb-22	22-Feb-33	400	GBP
Severn Trent Utilities Finance PLC	SVTLN	XS2775728269	Sustainable	05-Mar-24	05-Mar-34	500	EUR
Severn Trent Utilities Finance PLC	SVTLN	XS2560756798	Sustainable	30-Nov-22	30-Nov-34	400	GBP
Severn Trent Utilities Finance PLC	SVTLN	XS2607194086	Sustainable	04-Apr-23	04-Apr-36	450	GBP
Severn Trent Utilities Finance PLC	SVTLN	XS2870262859	Sustainable	31-Jul-24	31-Jul-38	350	GBP
Severn Trent Utilities Finance PLC	SVTLN	XS2182065149	Sustainable	02-Jun-20	02-Jun-40	300	GBP
South West Water Finance PLC	PNNLN	XS2870909863	Green	05-Aug-24	05-Aug-41	400	GBP
Southern Water Services Finance Ltd	SWSFIN	XS2325617939	Sustainable	30-Mar-21	30-Mar-27	300	GBP
Southern Water Services Finance Ltd	SWSFIN	XS2180916525	Sustainable	28-May-20	28-May-28	375	GBP
Southern Water Services Finance Ltd	SWSFIN	XS2180916871	Sustainable	28-May-20	28-May-37	450	GBP
SW Finance I PLC	SWSFIN	XS2793261301	Sustainable	26-Mar-24	16-Apr-40	600	GBP
SW Finance I PLC	SWSFIN	XS2731297235	Sustainable	12-Dec-23	12-Dec-41	550	GBP
SW Finance I PLC	SWSFIN	XS2771442980	Sustainable	21-Feb-24	21-Feb-43	72	GBP
SW Finance I PLC	SWSFIN	XS2772125790	Sustainable	23-Feb-24	23-Feb-43	20	GBP
Thames Water Utilities Ltd	THAMES	GB00BDC5BJ90	Green	22-Mar-18	22-Mar-25	285	USD
Thames Water Utilities Finance PLC	THAMES	XS2576550326	Green	18-Jan-23	18-Apr-27	650	EUR
Thames Water Utilities Finance PLC	THAMES	XS2278588343	Green	23-Dec-20	23-Dec-27	40	USD
Thames Water Utilities Finance PLC	THAMES	XS2438026440	Green	31-Jan-22	31-Jan-28	575	EUR
Thames Water Utilities Ltd	THAMES	GB00BDC5BK06	Green	22-Mar-18	22-Apr-28	216	GBP
Thames Water Utilities Ltd	THAMES	GB00BDC5BL13	Green	22-Mar-18	22-Mar-30	210	GBP
Thames Water Utilities Finance PLC	THAMES	XS2254339331	Green	12-Nov-20	12-Nov-30	57	USD
Thames Water Utilities Finance PLC	THAMES	XS2576550672	Green	18-Jan-23	18-Jan-31	1,000	EUR
Thames Water Utilities Finance PLC	THAMES	XS2438026366	Green	31-Jan-22	31-Jan-32	575	EUR
Thames Water Utilities Ltd	THAMES	GB00BDC5BM20	Green	22-Mar-18	22-Mar-33	40	GBP
United Utilities Water Finance PLC	UU	XS2291328735	Sustainable	28-Jan-21	28-Oct-29	300	GBP
United Utilities Water Finance PLC	UU	XS2771661357	Green	23-Feb-24	23-May-34	825	EUR
United Utilities Water Finance PLC	UU	XS2641168997	Sustainable	26-Jun-23	26-Jun-36	400	GBP
United Utilities Water Finance PLC	UU	XS2608701574	Sustainable	06-Apr-23	06-Oct-38	300	GBP
United Utilities Water Finance PLC	UU	XS2828827449	Sustainable	28-May-24	28-May-51	350	GBP
Wessex Water Services Finance PLC	YTLPMK	XS2569776136	Sustainable	31-Mar-23	31-Oct-32	300	GBP
Yorkshire Water Finance PLC	KEL	XS2084420582	Sustainable	26-Nov-19	26-Nov-26	300	GBP
Yorkshire Water Finance PLC	KEL	XS2591021113	Sustainable	28-Feb-23	28-Apr-30	250	GBP
Yorkshire Water Finance PLC	KEL	XS2333224314	Sustainable	27-Apr-21	27-Oct-32	350	GBP
Yorkshire Water Finance PLC	KEL	XS2901492582	Sustainable	18-Sep-24	18-Nov-34	400	GBP
Yorkshire Water Finance PLC	KEL	XS2591021972	Sustainable	28-Feb-23	28-Apr-35	275	GBP
Yorkshire Water Finance PLC	KEL	XS1984257029	Sustainable	18-Apr-19	18-Apr-41	725	GBP

Appendix 2: Thames Water: Inaugural eligible green projects[27]

Deephams sewage treatment works upgrade

Category: Water and Wastewater treatment

We are upgrading an entire sewage treatment works to meet new environmental standards and expected population growth for the area up to 2031. The upgrade will also improve the local environment by delivering significant odour reductions from the sewage works.

Deephams serves approximately 880,000 people and we are committed to minimising disruption, therefore whilst the upgrade works are ongoing we are continuing to operate this site at normal capacity.

Metering

Category: Water and Wastewater networks

Due to an ever-growing population, ensuring that we can match supply of water with demand is key to being sustainable into the future. By fitting water meters we are able to better understand our water network and our customers' usage, which enables us to locate and fix leaks quicker. We have a number of metering programmes in operation including our progressive metering programme and bulk metering programme.

Trunk mains replacement

Category: Water and Wastewater networks

We have a network of 3,214km of trunk mains and other assets, with 38% of these trunk mains put in place before 1930. Trunk main bursts can cause a significant impact on our customers, including repeated flooding of homes, damage to businesses, and road closures. We are committed to reducing the risk of trunk main bursts and are investing heavily in:

- Expanding the monitoring of high consequence trunk mains
- Replacing of highest consequence trunk mains
- Gathering information, developing new technology, and building data models on condition and deterioration of trunk mains in order to make a case for further investment in the next regulatory period review.

Thames Tideway Tunnel interfacing works

Category: Water and Wastewater networks

The Thames Tideway Tunnel is the biggest infrastructure project ever undertaken by the UK water industry. London's rapid population growth has put increasing strain on existing sewer networks. The 15 mile long tunnel will boost the capacity of London's sewer network and divert millions of tonnes of sewage from the River Thames. An independent company Bazalgette Tunnel Limited was commissioned following a competitive bidding process to construct the Thames Tideway Tunnel. We are responsible for certain interface and connecting works which joins our infrastructure to the Thames Tideway Tunnel.

[27] "Our Green Bond Framework", Thames Water, accessed 10 Oct 2024.

Appendix 3: Thames Water: 2021/21 Green Bond Impact Report[28]

Project[1]	Project description	KPI outputs for financial year 2020/21				Total AMP6 Spend (£m)	Deliverables[6]
		Energy generated (MWh)[2]	CO_2e saved (kg)[3]	Water saved (Ml/day)	Effluent discharge prevented (Ml)[5]		
Deephams sewage treatment works (STW)	We have upgraded one of our largest sewage treatment works, which serves 880,000 people, to help accommodate population growth and meet higher environmental standards.	12,967	7,061,424[4]	-	394.2	216.7	Serve additional 100,000 customers Two new Combined Heat & Power (CHP) engines installed
Household metering	We're installing water meters across our customer base, helping to reduce water use.	-	193,583	28.3	-	511.3	301,313 meters installed 97,578 revenue meters maintained or replaced Reduction in water needing to be produced
Mains rehabilitation	We're replacing and repairing some of the oldest parts of our network to help reduce leaks.	-	479,683	70.0	-	290.1	246km of mains rehabilitated (including 26km of trunk mains)
Thames Tideway Tunnel interfacing works	This 25km tunnel will help to boost the capacity of London's existing sewerage system and prevent millions of tonnes of sewage from going into the Thames.					298.7	21 sites handed over to the Thames Tideway Tunnel delivery team as part of connecting and enabling works
Total		12,967	7,734,690	98.3	394.2	1,316.8	

1 All projects deliver an ongoing annual benefit from commissioning. This was calculated in 2017/18 and independently reviewed by DNV.
2 This is based on actual outputs from Deephams for 2020/21.
3 We use carbon accounting multiples for water savings and reduced leakage (all for 2020/21): Kg of CO_2e per mega litre is 18.77, energy generation is 0.24 Kg of CO_2e per KWh. CO_2e means carbon dioxide equivalent emissions.
4 This figure includes any emissions reductions that have resulted from heat generated by our new CHP engines to heat the anaerobic digestors instead of fossil fuels and from avoiding the use of gasoil which was utilised in the old CHP units.
5 Effluent prevented from flowing into the river during storm surges.
6 Base data has been updated and restated to reflect actuals which have become available since initial reporting.
7 This allocated expenditure includes an element of overcollateralisation (c.16%), which can be used should the projects require substitution during the life of the bonds. The reported benefits arise out of the total spend allocated. Project spend from December 2017 March 2018 is included in the table following this issuance.

[28] "Thames Water – Green Bond Impact Report 2020/21", Thames Water, accessed 10 Oct 2024.

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