

**Green Evaluation**

# Bazalgette Finance plc (Tideway)

**Transaction Overview**

In June 2017, Bazalgette Tunnel Ltd. established its £10 billion, multicurrency bonds program. Proceeds are raised through its debt-financing platform Bazalgette Finance plc and used to design, build, commission, and maintain the Thames Tideway Tunnel (TTT) in London, U.K. Our Green Evaluation applies to all bonds series issued under this program.

**Green Evaluation Overview**

**Transaction's Transparency**

- Use of proceeds reporting
- Reporting comprehensiveness

**88**

**Transaction's Governance**

- Management of proceeds
- Impact Assessment Structure

**93**

**Mitigation**

**Sector** → **Net Benefit Ranking** → **Hierarchy adjustment**

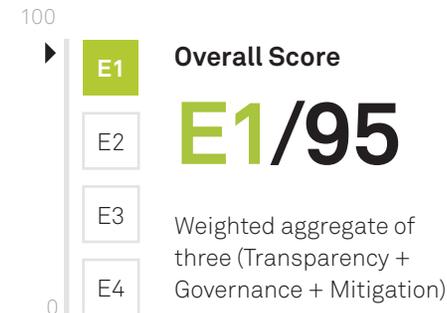
Water → Increasing availability of fresh water → Water

**97**

**Adaptation**

**NA**

**Entity:** Bazalgette Finance plc  
**ICB subsector:** N.A.  
**Location (HQ):** U.K.  
**Financing value:** £10 billion  
**Amount evaluated:** 100%  
**Evaluation date:** Nov. 15, 2017  
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## Project Description

The construction of the TTT is part of the broader London Tideway Improvements (LTI) plan. This plan includes the construction of the 25 kilometer (16 mile) TTT, the construction of the Lee Tunnel to connect the TTT to the Beckton wastewater treatment works, and the upgrade of five sewage treatment works: Mogden, Crossness, Beckton, Riverside, and Long Reach.

The LTI plan is part of the U.K.'s efforts to comply with the 1991 EU Urban Waste Water Treatment Directive, of which it was found in breach by the European Court of Justice in 2012. The plan aims to manage the amount of sewage discharged in the river Thames and the growth in water and sewerage demand associated with London's growing population, to 9.9 million by 2030 and 10.9 million by 2050 from approximately 8.8 million people in 2016, according to the Greater London Authority. It was also designed to ensure the resilience of the infrastructure to changing weather patterns associated with climate change, in particular warmer and wetter winters that are likely to result in more frequent combined sewer overflows (CSOs).

The TTT is the component of the LTI plan delivered by Bazalgette Tunnel Ltd. The construction of the tunnel aims to increase sewage storage capacity and reduce the amount of CSOs discharged into the Thames. The installation will capture 15.5 million cubic meters of untreated wastewater annually and reduce over 90% of the typical CSOs discharge in conjunction with the other infrastructure of the LTI plan. Wastewater will be redirected to the Beckton sewage treatment works where it will be treated. Furthermore, 40% of the works' power requirements will come from methane recovery. Our Green Evaluation includes the positive environmental impact from the increase of available fresh water in the tidal Thames from wastewater treatment as well as carbon savings. Other positive environmental impacts of the TTT currently outside the scope of our Green Evaluation include reducing water pollution and supporting local biodiversity.

## Scoring Summary

This transaction received an overall score of 95 out of 100, equivalent to an E1, the highest Green Evaluation score on our scale (E4 is the lowest). We determined the E1/95 score by taking a weighted aggregate of the subscores derived from our review of the project's very strong Transparency (88) and excellent Governance (93) as well as an excellent environmental impact and resultant Mitigation score (97). The project's favorable environmental impact in our view and its Tier 1 position at the top of our water sector hierarchy also contribute to the overall score.

## Rationale

- The excellent Governance score (93) reflects the pure play and regulated nature of Bazalgette Tunnel Ltd. as sole owner of the TTT. The company has been set up solely to "design, build, own, maintain, and finance" the TTT and operates under a specific regulatory framework, which supports high scores for the management of proceeds and evaluation of the project's environmental impact.
- The very strong Transparency score (88) reflects the disclosure requirements set by the regulators. This includes annual reporting on the project's performance as well as comprehensive assessment of the environmental impacts associated with the construction and operational phases of the project.
- The excellent Mitigation score (97) reflects our view that system enhancement projects such as this one increase the availability of fresh water in the tidal Thames for general purposes and do not result in a significant byproduct with a negative water impact.

## Key Strengths And Weaknesses

Proceeds of Bazalgette Finance bonds are allocated exclusively through Bazalgette Tunnel Ltd. to the TTT project. In our view, water-related mitigation projects focus on using water resources and networks more efficiently and improving the quality of water treatment for various end uses and the environment. The key environmental impact of Bazalgette Tunnel Ltd.'s debt-financing program is improved water treatment compared with a baseline scenario. Importantly, the majority of projects in this sector incorporate regional water stress, which is a relative measure of supply and demand for potable water uses. Water stress is different from scarcity and can be high in places that are wet but where demand is high, and it can be low in places that are dry but where there is little or no demand. We rank the water stress for London as high due to the city's high population density, exposure to changing weather patterns, and strict regulation on water withdrawals. This results in a net benefit ranking of 89. The medium-high carbon intensity of the U.K. also factors into our evaluation of the power generation component of the Beckton sewage treatment works, which is being supplied with wastewater by the TTT. These factors, when combined with the large systemwide nature of the project and its position at the top end of our water sustainability hierarchy, results in a final Mitigation score of 97.

The excellent Governance score reflects the pure play and regulated nature of Bazalgette Tunnel Ltd. The company operates under a specific regulatory framework defined by the Department for

Environment, Food and Rural Affairs, the Water Services Regulation Authority, and the Environment Agency. Under this framework, proceeds raised by Bazalgette Finance are ring-fenced for the design, construction, and operation of the TTT, supporting a high score on the management of proceeds. In addition, the development consent order (DCO) requires the company to monitor and measure the environmental impacts of the project during the construction and operational phases on key indicators. These key indicators will reflect the project's "legacy commitment" of reducing the amount of discharge and increasing the amount of treated wastewater in conjunction with the Lee Tunnel and the Beckton Sewage Treatment works. The project's performance on these indicators will be overseen by the regulators as well as an independent technical assessor over the delivery phase of the project.

The very strong Transparency score is also supported by the regulated nature of Bazalgette Tunnel Ltd. The company is required to disclose extensive information regarding the use of its proceeds given that it is only permitted to undertake the construction and operation of the tunnel. The company has also published an environmental statement describing the project's expected environmental impacts, in accordance with the U.K. Infrastructure Planning Regulations 2009, as well as an energy and carbon footprint report. These provide a detailed assessment of the water, waste, carbon, and energy impacts of the construction and operational phases of the project. Bazalgette Tunnel Ltd. is committed to tracking and reporting the reduction of discharge over the delivery phase of the project, although the scope and format of this reporting are yet to be finalized.

## Project level scores

Sector	Location	Technology	Use of Proceeds (GBP Mil.)	Use of Proceeds treatment	Net Benefit Ranking
Water	London, U.K.	Wastewater treatment with energy recovery	10,000.00	Estimated	89
			<b>10,000.00</b>		

## Green Evaluation Process

88

Transparency

93

Governance

97

Mitigation

Weighted aggregate of three  
(Transparency + Governance + Mitigation)

E1/95

Overall score

Improving Water Sustainability

Technology	Baseline water stress	Net Benefit Ranking	Water hierarchy adjustment	Environmental Impact Score	Proceeds (GBP Mil.)
	London, U.K. Extremely High <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Low				
Recycling wastewater for water (agricultural uses)					
Recycling wastewater for water (other uses)					
Wastewater treatment with no energy recovery					
<b>Wastewater treatment with energy recovery</b>		<b>89</b>	<b>Increasing freshwater availability through system enhancements</b>	<b>97</b>	<b>10,000</b>
Unspecified					
Reducing water losses in the water distribution network			Improving delivery of existing freshwater supplies		
Unspecified					
Water desalination to supply municipal water			Increasing freshwater availability with significant negative environmental impact		
Unspecified					
Conservation measure in residential buildings			Reducing demand on potable water supplies		
Conservation measure in commercial buildings					
Conservation measure in industrial buildings					
Smart metering in residential buildings					
Unspecified					
Technology	Baseline carbon intensity	Net Benefit Ranking	Carbon hierarchy adjustment	Environmental Impact Score	Proceeds (GBP Mil.)
Carbon					

Scores may vary slightly from the actual due to rounding.

# Our Green Evaluation Approach

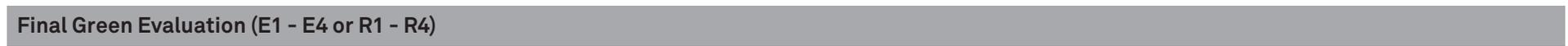
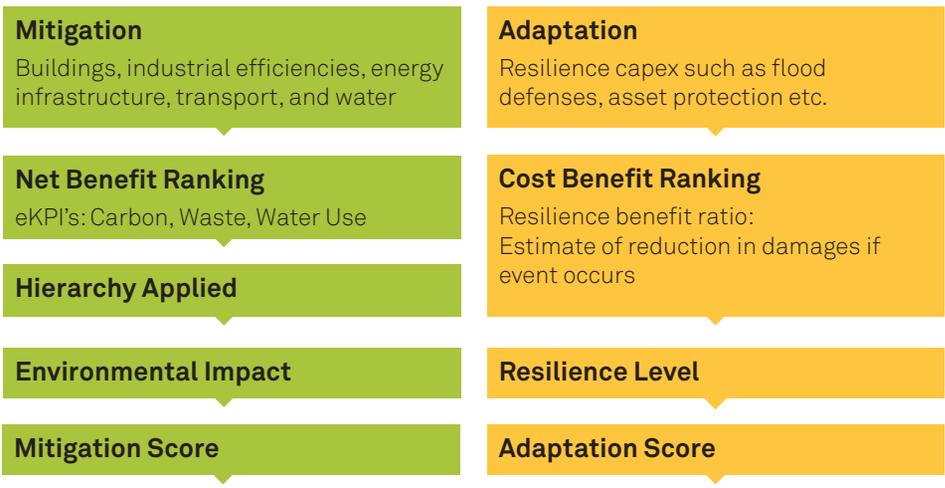
Weighted aggregate of three:



Common approach used amongst second opinion providers



Unique to S&P Global Ratings



eKPI – Environmental Key Performance Indicator

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