

Analysis of the impact of credit rating downgrades on customer bills

Prepared for Centrica plc and Water UK
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Purpose of this note and summary of findings

Oxera has been asked by Centrica plc and Water UK to examine the potential impact which a credit rating downgrade could have on the cost of capital, and in turn on customer bills, in the energy and water sectors.

This analysis is undertaken in the context of the UK Government's proposed reforms to the regulatory appeals framework for economically regulated sectors—including the water sector in England and Wales and the energy sectors in Great Britain—and concerns that these reforms could reduce the perceived stability and predictability of economic regulation to a degree that adversely affects credit quality, the cost of capital, and ultimately customer bills.

Two approaches exist to estimate the impact of a credit rating downgrade on water and energy bills:

- 1 a benchmark approach, based on the spread between the iBoxx A/BBB and BBB corporate bond indices; and
- 2 an approach based on comparing the yields on individual companies' own bonds.

For **water**, using the iBoxx benchmark approach implies an illustrative bill impact of £14.30 p.a. per household (2026 prices). In contrast, the approach based on individual water bonds points to an illustrative bill impact of £39.30 p.a. per household (2026 prices). This larger figure is because water company bond yields have tended to trade above the relevant iBoxx benchmark, due to various factors such as company

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performance and downgrades, including that driven by a lowered stability and predictability score.

We consider both figures to be within the plausible range of impacts following a downgrade: this is because while Ofwat's regulatory framework does not in principle allow water companies to pass through their actual cost of debt in full, in practice Ofwat does have regard to sector-wide evidence on companies' actual cost of debt when calibrating this allowance. We therefore note that a benchmark-only approach may understate the actual increase in debt costs that companies could face under this scenario.

For **energy**, we have relied solely on the iBoxx benchmark approach. On this basis, our benchmark approach implies a bill impact of £10.70 p.a. per household (2026 terms), totaled across the electricity and gas distribution and transmission networks.

These findings illustrate a wider point. Delivering the Government's objectives for UK infrastructure will depend on mobilising substantial amounts of private capital and on maintaining credible, stable institutional arrangements capable of attracting that capital.¹ Any assessment of the Government's proposals should therefore account for potential effects of this nature, and consider whether these support the Government's wider objectives.

Overview of analysis and findings

As noted in our April 2025 submission to the Independent Water Commission, reductions in perceived regulatory stability have contributed to recent downgrades in the water sector (although we note this is not the sole determinant of credit quality).² PR24 was the second consecutive price control where the ratings agencies downgraded the stability and predictability of the regulatory regime in water within their ratings assessments. This has led to weaker ratings

¹ We note the latest NISTA Infrastructure Pipeline identified 734 planned projects representing approximately £718 billion of public and private investment over the next decade. See: National Infrastructure and Service Transformation Authority (2026), ['Infrastructure Pipeline update signals future workforce needs'](#), 9 March.

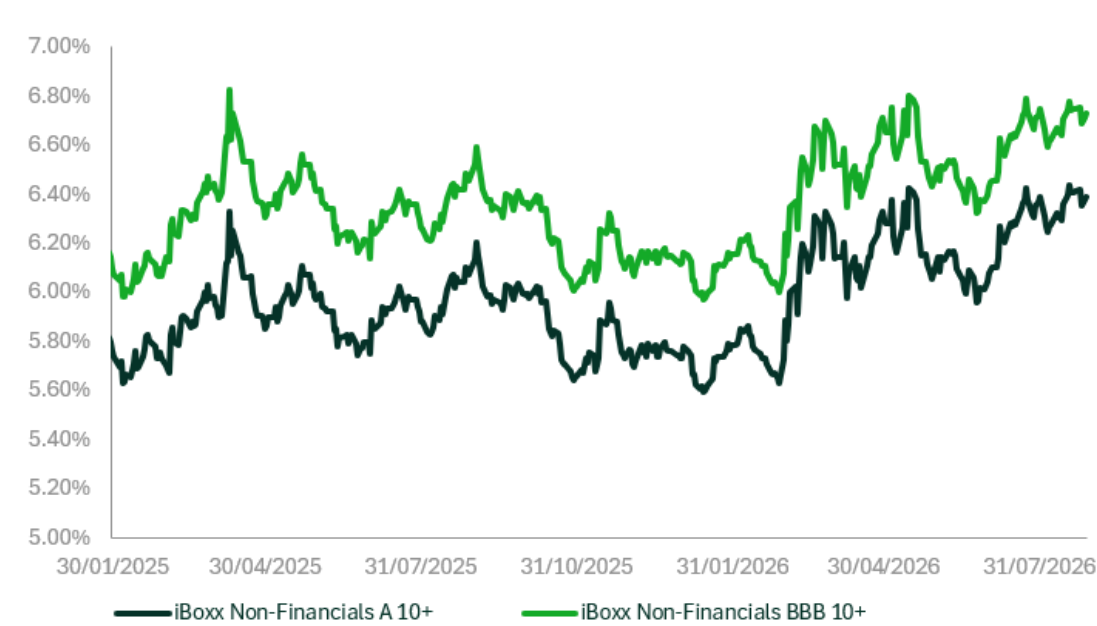
² Oxera (2025), ['A sustainable and investable regulatory framework for the England and Wales water sector'](#), 23 April. See also: (i) Moody's (2018), 'Regulator's proposals undermine the stability and predictability of the regime', 22 May; (ii) Moody's (2024), 'Reduced predictability of regulatory environment pressures credit quality', 18 November.

for water companies, leading to a higher cost of debt finance which will, at least partially, be passed on to customers via bills over time.³

This note summarises analysis which seeks to illustrate the impact which credit rating downgrades of water companies and energy networks could have on household bills. We have formed our illustrative modelling on the basis of a one-notch downgrade from A/BBB to BBB in the water sector, and expanded this to consider a similar downgrade scenario in the energy sector.

Our benchmark-based approach relies on calculating how the iBoxx BBB index trades in comparison to gilts, and then comparing that figure with the same calculations for the A/BBB index.⁴ The iBoxx A/BBB index currently serves as the benchmark index underpinning the cost of debt allowance for water and energy companies, and so feeds into customer bills.

Figure 1 iBoxx Non-financials 10+ index, A and BBB yields



Source: Oxera analysis based on Bloomberg data.

³ This analysis is grounded primarily in the downgrades of the sector ratings by Moody's (in November 2024), S&P (in January 2025), and Fitch (February 2025), largely predicated on downgrades to Ofwat's regulatory stability and predictability score. Source: Moody's (2024), 'Regulated Water Utilities—UK: Ofwat's draft determination increases sector risk', 14 August.
⁴ We measure spreads based on a 12-month average up to the cut-off.

As reflected in Figure 1, the iBoxx BBB index trades at higher yields to the higher-rated iBoxx A index. Since the lower-rated index has a higher spread to gilts (to account for its higher risks), this difference can proxy for the extra financing costs incurred as a result of a downgrade.

While the primary impact of a credit rating downgrade is reflected in higher debt costs, it also has an impact on the cost of equity. This reflects the principle that equity investors will require higher returns if the risk profile of the firm increases, including as measured through higher borrowing costs.⁵

We have undertaken illustrative modelling to estimate the increase in financing costs associated with a one-notch downgrade in the credit rating of the notionally structured water and energy company, from the target rating of A/BBB to BBB.⁶ For further details of the theory and methodology applied to the water and energy analyses, please refer to Annex A1.

After estimating the adjusted cost of capital following a downgrade, using the relevant sector-specific regulatory parameters and feeding the results into the relevant models, we estimate the resulting illustrative impact on household bills under our benchmark approach based on the most recently defined regulatory parameters. The corresponding impacts on household bills are set out in Table 1 and Table 2.

Table 1 Household water bill impact, p.a. basis (2026 prices)

Cut-off date	Downgrade from A/BBB to BBB
30 January 2025	+£16.20
28 August 2026	+£14.30

Note: We calculate the company-level impact by inputting the impacted WACC into each company's PR24 financial model, which recalculates customer bills accordingly. The sector-level impact is calculated by weighting the individual company level impacts by their respective RCVs. The analysis aligns with the period covered by the PR24 financial model, from April 2025 to March 2030. See annex A1 for the full methodology. Figures are rounded to the nearest £0.10.

⁵ As noted by the CMA: 'the risk faced by equity investors, for a given level of gearing, is higher than the risk faced by debt investors'. See: Competition and Markets Authority, 2026, '[Water PR24 References Final Determinations Volume 4](#)', 10 March, para. 7.672.

⁶ The notional capital structure assumes gearing of 55% for water and electricity transmission, and 60% for electricity distribution, gas transmission and gas distribution.

Table 2 Household energy bill impact, p.a. basis (2026 prices)

Sector	Downgrade from A/BBB to BBB
Electricity distribution	+£4.50
Electricity transmission	+£2.30
Gas transmission	+£0.40
Gas distribution	+£3.50
Total electricity and gas	+£10.70

Note: The RIIO-ED2 PCFM covers the period from April 2023 to March 2028, while the RIIO-3 PCFMs cover the period from April 2026 to March 2031. Accordingly, the averages presented in the table above are based on April 2026 to March 2031 for ET, GT and GD, whereas the ED average covers only April 2026 to March 2028. See annex A1 for the full methodology. Figures are rounded to the nearest £0.10.

Source: Oxera analysis.

For water, using the iBoxx benchmark approach implies an illustrative bill impact of £14.30 p.a. per household (2026 prices)—implying an average increase of 2.3% in water bills. This represents a smaller increase than that observed based on the January 2025 cut-off used in our submission to the Independent Water Commission, reflecting the narrowing of relative credit spreads as depicted in Figure 1.⁷

In contrast, the approach based on individual water bonds implies an illustrative bill increase of £39.30 p.a. per household (2026 terms).⁸ This implies an average increase of 6.1% in water bills. This larger figure is because water company bond yields have tended to trade above the relevant iBoxx benchmark, due to various factors such as company performance and downgrades, including that driven by a lowered stability and predictability score. In this way a benchmark-only approach may understate the actual increase in debt costs that companies face. We consider figures from both approaches to be within the plausible range of impacts following a downgrade.

⁷ Our report to the Independent Water Commission quoted an illustrative impact of £14 in 2022/23 terms, which is uprated to 2026 terms at an inflation factor of 1.1125 (based on Ofwat's PR24 RCV models) giving the £16.20 figure contained in Table 1.

⁸ This figure is adjusted for an inflation factor of 1.1125 based on Ofwat's PR24 RCV models, and uses a cut-off date of 31 January 2025.

For energy, our analysis based on the iBoxx benchmark approach implies an illustrative bill impact of £10.70 p.a. per household (2026 terms), totalled across the electricity and gas distribution and transmission networks.⁹ Although the estimated absolute increase in energy bills is smaller than that of water, these are relatively similar in percentage terms (to the estimates obtained under the benchmark approach) at: 2.8% for electricity transmission, 4.1% for electricity distribution, 2.6% for gas transmission, and 2.0% for gas distribution. This is because water bills are larger than the amounts paid to transmission and distribution companies through customers' energy bills, as only a proportion of each household energy bill is allocated to network companies. Consequently, the relative impact of a downgrade would be only broadly comparable across the two sectors in nominal terms.

Overall, this illustrative analyses highlights that if the stability and predictability of the regulatory environment were to weaken such that it results in weaker credit ratings, this could lead to a significant increase in household bills. This illustrates how inefficient regulatory costs can lead to higher customer bills.

It is important to note that for both water and energy, this illustrative impact would in practice apply to bills over future price control periods rather than within the current period as bills intra-price control are already set and allowed upfront with onward indexation to the benchmark index. Existing debt would gradually be replaced with new debt raised at a lower credit rating and higher cost. The impact would increase over multiple future price control periods until reaching the values presented in the tables.

A1 Methodology

Credit rating downgrades make it more expensive for water and energy companies to borrow, due to higher debt costs (higher debt premia), and also impacts on the cost of equity. This reflects the principle that equity investors will require higher returns if the risk profile of the firm increases, including as measured through higher borrowing costs. This altogether increases the bills that consumers pay.

⁹ All figures rounded to the nearest £0.10.

Before estimating the impact on customer bills from a sector downgrade, it is therefore necessary to first consider the overall impact on the cost of capital across both debt and equity investors, as follows.

- The impact on debt costs of a change in credit rating can be observed from market data on bond yields.
- The impact on the cost of equity is not directly observable, but can be indirectly estimated. We estimate the impact of an increase in debt premia on the cost of equity using our asset risk premium–debt risk premium (ARP–DRP) framework. The ARP–DRP framework is based on the fundamental principle of risk aversion in finance: namely, that the risk premia required by equity investors must be strictly greater than the risk premia required by debt investors, due to differences in the priority of claims.¹⁰

A1.1 Water methodology

The key steps in our methodology are as follows.

- 1 Estimate the cost of debt for a company with a A/BBB credit rating (the target for the notionally-structured company at PR24 final determinations) based on relevant iBoxx benchmarks.
- 2 Determine the corresponding credit spreads by comparing the indices yields with duration-matched Bank of England gilts.¹¹
- 3 Calculate the credit-spread differential between the notional target credit rating and the notch below (i.e. BBB rated less A/BBB rated).
- 4 Apply the assessed spread to the cost of new debt and into the ARP–DRP framework to estimate the impact of higher debt premia on the cost of equity.¹²
- 5 Calculate the impact on the weighted average cost of capital (WACC), which is a component of customer bills.

¹⁰ Our ARP–DRP approach estimates the minimum asset risk premium (ARP)—and by extension cost of equity—by extrapolating the observed debt risk premium (DRP, based on the cost of new debt) to 100% gearing. This extrapolation is based on the principle that the risk premium for a fully debt funded company must be equal to the risk premium of the underlying asset as a whole. We then use the underlying ARP to calculate the implied cost of equity. Our report has previously found that—based on the observed level of volatility in regulated network utilities—this extrapolation is likely to be a lower bound on the required cost of equity. For more detail see Oxera (2024), '[Evaluation of the ARP–DRP framework](#)', 8 November.

¹¹ Yields on the indices should be compared with gilts that are matched with the corresponding Macaulay duration. This refers to the weighted average time it takes to receive all interest and principal payments. Duration-matching thus limits the effect of any time-based or tenor premia which may confound estimates of spreads.

¹² We estimate the change in the DRP at 100% gearing as the implied lower bound of the ARP using the change in credit spread. We then estimate the change in implied asset beta and equity beta using Ofwat's PR24 CAPM parameters, and subsequently derive the change in the implied cost of equity, which we apply to the cost of equity allowance from the PR24 Final Determinations.

- 6 Apply the updated cost of capital to Ofwat's and the CMA's PR24 price control financial models for each water company to estimate the resulting impact on average bills per household.¹³

The analysis presented in this report adopts only the iBoxx benchmark approach described above. Under the alternative methodology using a 31 January 2025 cut-off date based on reference to individual company bond yields, we used daily bond yield data to determine the corresponding credit spread against gilts, then calculated the spread differentials between water companies with different ratings. This spread was then applied from Step 4 and onwards (i.e. in line with the remaining steps outlined above used for the benchmark approach).

A1.2 Energy methodology

The first five steps of our methodology for energy remains consistent with water. However, since Ofgem's financial models do not provide an estimation of household bills, we employ the following steps to convert the updated cost of capital into an estimated bill impact.

- 1 Apply the updated cost of capital to Ofgem's RIIO-3 ET, GT, GD and ED2 Price Control Financial Models (as the latest available) to calculate the yearly percentage increase in allowed revenues.
- 2 Establish the baseline customer bills using Ofgem's price cap methodology, which provides estimated annual network costs per customer for gas transmission, gas distribution, electricity transmission and electricity distribution. The latest available estimates from August 2026 are used for this purpose.
- 3 Apply the calculated percentage increases in allowed revenues to the corresponding baseline bills for each network category to estimate the resulting impact on average bills per household.

¹³ We input the impacted WACC for each company in the 'Active Inputs' tabs, and then capture the resulting updated household bills per year from the 'Dashboard' tab of Ofwat's PR24 financial models.