

RESILIENCE TO CLIMATE CHANGE IN THE UK WATER SECTOR

SIGNATORY TYPE

Asset Manager

OPERATING REGION

United Kingdom

ASSETS UNDER MANAGEMENT

£84 billion of AUM (30% in corporate debt).

Royal London Asset Management is the largest mutually-owned asset manager in the UK, with over £84 billion of assets under management, of which about 30% is in corporate debt. We believe that judicious use of ESG factors can lower risk and help identify emerging opportunities across different asset classes. We have significant holdings in UK water utilities.

The PRI's Fixed Income Case Study series highlights examples of interesting and innovative approaches to responsible investment. Written by fixed income practitioners from around the world, the case studies cover topics such as integrating ESG, negative and positive screening, thematic investment and engagement.

Sharing these examples will enable investors to collectively build a concept of emerging good practice. The PRI aims to publish a set of these short pieces every quarter. If you would like to learn more or contribute your own case study please [contact us](#).

WHY EXAMINE CLIMATE CHANGE'S IMPACT ON THE UK WATER SECTOR?

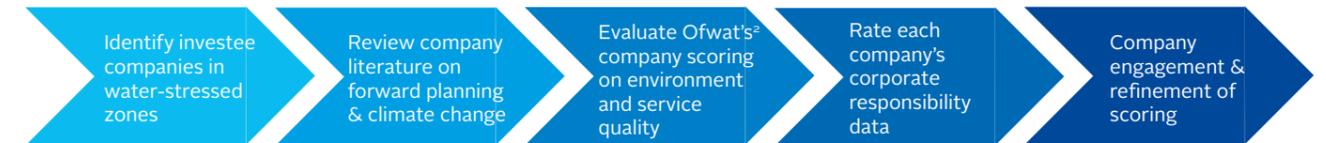
The ESG team surveyed the water sector for plausible risks, focusing on climate change, because of climate change's expected impacts on extreme weather and water quality. Most of the South East of England is classed as water-stressed. The Met Office's projections suggest drought and greater flooding will only intensify, putting greater strain on the ability of companies and agencies to deliver a high standard of service. We decided to focus on Southern England as the most stressed zone.

HOW WE EXAMINE CLIMATE CHANGE'S IMPACT ON THE UK WATER SECTOR

The ESG team identified physical impacts the sector may experience from climate change:

PRIMARY CLIMATE CHANGE EFFECTS	PHYSICAL IMPACT ON WATER SECTOR	OUTCOMES FOR COMPANIES
<ul style="list-style-type: none"> Increased flooding incidence and severity 	<ul style="list-style-type: none"> Storm damage to water infrastructure, much of which is coast- or river-based Cross-contamination of waste and drinking water (sewer failure) 	<ul style="list-style-type: none"> Increased spend on repairs and upgrades
<ul style="list-style-type: none"> Increased drought incidence Increased evaporation 	<ul style="list-style-type: none"> Unsustainable use of slow-accumulating underground water ('groundwater') Reduced water supply Reduced hydro power from lower reservoir levels 	<ul style="list-style-type: none"> Regulators impose restrictions on companies abstracting groundwater Increase in expensive supply alternatives: e.g. trucks, desalination
SECONDARY CLIMATE CHANGE EFFECTS	PHYSICAL IMPACT ON WATER SECTOR	OUTCOMES FOR COMPANIES
<ul style="list-style-type: none"> Ecological changes 	<ul style="list-style-type: none"> New pathogens enter water system because of increased sea temperatures 	<ul style="list-style-type: none"> Increased spending on water purification and treatment
<ul style="list-style-type: none"> Impact on Infrastructure interdependency 	<ul style="list-style-type: none"> Competition for water with thirsty electricity generation methods such as coal and nuclear 	<ul style="list-style-type: none"> Capex may be skewed toward certain technologies e.g. desalination Uneven rainfall would increase demand for water trading¹, which is expensive and energy/carbon intensive.

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This included:

- overlying water stress maps on different companies' exclusive zones of operation;
- examining their statutory 25-year water management plans for scenario planning and investment;
- examining the relevant corporate responsibility KPIs for ambition, momentum and external validation.

We could then broadly align our holdings with it to reduce investment risk.

WHAT THE MODEL REVEALED ABOUT COMPANIES

Overall, we agree with the view expressed to us by the Environment Agency, that "climate change is genuinely embedded" in how UK water companies plan for the future. The top operational risks that the water companies identified were climate change (in particular, flooding), population growth and prospective legal reductions in water abstraction. The order of these risks varies from company to company.

Local factors and constraints are highly relevant, making each company's circumstances and their ability to meet their obligations very different. It was striking how on a small island like Great Britain the challenges facing a water company, including the anticipated effects of climate change, can be entirely different to one a mere hundred miles away. Our meetings with companies have helped us to understand this; something not available in a typical report from a credit ratings agency.

In the next 10 years, improving resilience against climate change will not involve many mega-projects because of the political focus on keeping bills low. Rather, companies are seeking to increase headroom in their physical assets to deal with an increase in the frequency and severity of climatological events by making adjustments to their existing plans.

Companies put off precautionary spending partly because of the wide margin of error inherent in long-term forecasting: it's not yet clear that large interventions would be the right ones, and this is compounded by a political environment giving mixed signals about priorities. Ultimately, political will, and how it interacts with the regulator, will be a key factor determining the level of protective investment from the sector.

The final analysis produced the following company rankings. The gross risk score reflects the prevailing local conditions, which are largely outside of the company's control. The net risk score reflects the company's capability and planning to overcome the challenges that these conditions present. The ideal company would have a score of 0 for gross risk and 10 for net risk (i.e. quality of its mitigation). Therefore, the lower the number from dividing the gross risk by the net risk, the lower the overall risk.

¹ Creating a national water grid, as there is for electricity, has been promoted as a long-term requirement but water is heavy making it energy-intensive to transport over long distances and varied topography. Some water companies are in areas with regional grids, which though limited, can help to balance supply and demand.

² Ofwat: the statutory regulator of the water and sewerage sectors in England and Wales.

COMPANY	OUTSIDE COMPANY CONTROL		
	ENVIRONMENT AGENCY'S 'AT-RISK REGION'	GROUNDWATER EXTRACTION	DEMOGRAPHICS AND OTHER LOCAL FACTORS E.G. CONSERVATION ORDERS, WATER ENDOWMENT
Company A	Moderate	Low	Central grid has high flexibility and headroom for drought and flooding because of favourable geology and over-endowed water infrastructure. Effects of climate change on Deployable Output are mild: 3.5%. Population growth less challenging.
Company B	Moderate	High	Abstraction reductions and climate change expected to reduce Deployable Output 10% each out to 2040 in its strategic grid zone, but other zones hardly affected at all.
Company C	Moderate	Very low	Low population density. Expecting Deployable Output <i>surplus</i> at 2040. Replacing old sewers and improving water quality will put £7 on bills versus £1 for resilience.
Company D	Serious	High	Urban congestion accentuated by expected 20% population growth by 2040. New reservoir needed in 2020s; concrete sprawl increases run-off and surface flooding risk.
Company E	Serious	High	Expecting 20% population growth by 2040. Large abstraction reductions to come, drought prone, poor raw water quality, coastal erosion, sea level rises (25% of land below sea level). Deployable Output would fall by 50% without mitigation.
Company F	Serious	Extremely high	Large abstraction reductions to come, multiple conservation zones. Flood risk low. Impact from climate change is on <i>supply</i> . Deployable Output would fall 50% without mitigation.

FROM ANALYSIS TO INTEGRATION

The rankings strongly correlated with our existing holdings, with two exceptions; one where we had a (small) holding in a high-risk company and one where we had no holding in a lower-risk company. For the higher-risk company, the small exposure and the attractive spread offered led to us to maintain the holding. We are considering taking a holding in the lower-risk company.

Our work finds that it would not be justified to use climate change as a primary factor in determining the attractiveness of a UK water company's debt, but it has given us a window on which companies are facing the biggest operational challenges and their capacity to overcome them.

UNDER COMPANY INFLUENCE			GROSS & NET RISK SCORES (IDEAL SCORE: 0 + 10)	LOWEST RISK FROM CLIMATE AND LOCAL FACTORS (LOW SCORE IS BEST)
REGULATOR PERFORMANCE RATING	WATER RESOURCES & CLIMATE CHANGE ADAPTATION PLANS /10	OVERALL CORPORATE RESPONSIBILITY /10		
Green	10	6	Gross risk: 6 Net risk: 10	#1 @ 0.6
Amber	9	10	Gross risk: 7 Net risk: 9	#2 @ 0.77
Red	7	7	Gross risk: 5 Net risk: 5	#3 @ 1
Amber	9	10	Gross risk: 8 Net risk: 7	#4 @ 1.14
Amber	8	9	Gross risk: 10 Net risk: 8	#6 @ 1.25
Red	6	6	Gross risk: 8 Net risk: 5	#7 @ 1.6

MISPRICING AND ADVANTAGE

Credit rating agencies are beginning to look at ESG issues such as climate change, but how safe they think these companies are does not yet capture the often stark differences in local circumstances. As a creditor, this information can give us an advantage over a market which often defers credit analysis to credit rating agencies and ESG analysis to the equity market.