



TCFD

TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

Climate disclosures for year ended 31 March 2024

Produced by: Boots Pension Limited, as Trustee of the Boots Pension Scheme

Date: October 2024

Introduction

Climate change is affecting the planet, causing extreme weather events, impacting crop production and threatening Earth’s ecosystems. Understanding the impact of climate change and the Scheme’s vulnerability to climate-related risks will help us to mitigate the risks and take advantage of any opportunities.

UK regulations require trustees of pension schemes with more than £1bn in assets to meet certain climate governance requirements and publish an annual report on their scheme’s climate-related risks.

Better climate reporting should lead to better-informed decision-making on climate-related risks. And on top of that, greater transparency around climate-related risks should increase accountability and provide decision-useful information to investors and beneficiaries.

This report is the annual climate disclosures for the Scheme for the year ended 31 March 2024. This report has been prepared by Boots Pension Limited (the “Trustee”), in its capacity as Trustee of the Boots Pension Scheme (the “Scheme”), in accordance with the regulations set out under The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the “Regulations”) and is aligned to the Taskforce for Climate-related Financial Disclosures (“TCFD”) framework.

The four elements covered in the report are:

- Governance:** The Scheme’s governance around climate-related risks and opportunities.
- Strategy:** The potential impacts of climate-related risks and opportunities on the Scheme’s strategy and financial planning.
- Risk Management:** The processes used to identify, assess and manage climate-related risks.
- Metrics and Targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities.



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Executive summary

This report sets out the actions that we, the Trustee, have taken to understand the potential impact climate change could have on the Scheme.

We have worked closely with our investment adviser to identify the climate-related risks and opportunities faced by the Scheme, and to understand ways we can manage and mitigate those risks.

Overview of the Scheme

The Scheme is set up as a Defined Benefit (“DB”) Scheme.

The Scheme’s investment portfolio was previously invested across a range of assets. During November 2023, the Scheme underwent a full buy-in with Legal & General Assurance Society Ltd. (“LGAS”) whereby a Bulk Annuity Agreement (“Annuity Policy”) was purchased. This was carried out with the aim to.

- Provide a return which matches the liabilities insured for the membership of the Scheme.
- Remove unrewarded risks such as interest rates, inflation, and longevity, that are associated with those liabilities insured.

The Scheme currently holds an immaterial amount of physical cash, alongside residual assets, which are in the process of being sold. These residual assets include property, insurance linked securities and cash.

Given the nature of these assets listed above, and in line with the regulations, much of the analysis within this report focuses on the assets held over the reporting year that are categorised as relevant assets¹ i.e., the uninsured residual assets. However, we have included details of the insured assets within the Metrics and Targets pillar as setting a target is a forward-looking action that only makes sense within the context of assets held by the Scheme.

We have been supported by our investment adviser, Aon Investments Limited (“Aon”) producing the TCFD report.

Governance



We, the Trustee, are ultimately responsible for the oversight of all strategic matters relating to the Scheme, this includes climate-related risks and opportunities.

We undertake the day-to-day oversight of the Scheme's climate change risk management where they related to actuarial matters and delegate oversight to the Investment Committee (“IC”), where they relate to investment matters.

¹ Relevant assets are assets of the Scheme used to secure member benefits, excluding the value of any contracts of insurance that have been bought to secure benefits.



Strategy

We have undertaken a combination of qualitative and quantitative analysis of climate related risks and opportunities. A summary of our analysis can be found below.

- From the qualitative analysis it showed that the asset classes in which the Scheme invests are impacted to some degree by climate-related risks. And over time, the risk exposure is expected to increase.
- Over time, there was a general expectation that the impact of both physical and transition risks increases.
- Whilst the investment managers identified climate-related opportunities for the different asset classes in which the Scheme invests, the Trustee has taken the decision to sell these assets to fund the purchase of the Annuity Policy.

The Trustee previously undertook scenario analysis, which concluded that the portfolio exhibited resilience under the climate scenarios considered. The Trustee reviewed this through the reporting year and deemed that it remained appropriate at that time.

Since then, the Trustee has entered into the Annuity Policy with LGAS. It is noted that LGAS considers the potential impacts of climate change on managing assets within the Legal and General ("L&G") Group. As part of this L&G produces its own TCFD report, has also developed a climate transition plan and is a member of the Net-Zero Asset Owner Alliance.



Risk Management

We have integrated climate-related risks into our policies and processes. As part of the insurer selection process undertaken in 2023, we considered Environmental, Social and Governance ("ESG"), including climate change, as part of the due diligence.

We do not intend to influence the insurer's ESG integration or stewardship policies and practices, but we believe these align with our own beliefs as outlined in our Statement of Investment Principles ("SIP").

We have outlined our Climate Risk Management Plan on pages 23-25, which assists with the ongoing management of climate related risks and opportunities. As part of this, we also undertake ad-hoc training on responsible investment to understand how ESG factors, including climate change, may impact the Scheme's assets and liabilities. More details can be found in the Governance and Risk Management sections.



Metrics and Targets

We have gathered the carbon metrics from our investment managers, supported by our investment consultant. We have collated and disclosed information on the following four climate-related metrics for the Scheme's investment portfolio as far as we were able to:

- Total Greenhouse Gas ("GHG") emissions.
- Carbon Footprint.
- Data quality (measured by the data coverage).
- Portion of the portfolio with net zero or Paris aligned targets.

The reporting metrics were chosen as a combination of recommendations in the Regulations and through discussion with our investment adviser. The Trustee has excluded cash due to the lack of relevance of this asset class in the context of climate risk, this is in line with the

guidance from the Department for Work and Pensions (“DWP”). More detail is provided on page 30.

Following changes to the Scheme’s investments after purchasing the Annuity Policy, we have updated our target.

Given the majority of the Scheme’s assets are now invested in the Annuity Policy, we have decided to adopt the target which is set by our insurer. More detail can be found on page 33.

Following completion of the report, the Trustee concluded that the various analysis showed that the potential financial impact of climate change on the Scheme is not thought to be significant. We have spent appropriate time to monitor the potential impacts of climate change on the Scheme, which will continue next year.

We hope you enjoy reading this report and understanding more about how we are managing climate-related risks and opportunities within the Scheme.

Chair’s signature

on behalf of the Trustee of Boots Pension Scheme.



Governance

Governance is the way the Scheme operates and the internal processes and controls in place to ensure appropriate oversight. Those undertaking governance activities are responsible for managing climate-related risks and opportunities. This includes us, as the Trustee, and others making Scheme-wide decisions, such as those relating to the investment strategy or how it is implemented, funding, the ability of the sponsoring employer to support the Scheme, and liabilities.



Our Scheme's governance

We, the Trustee of the Scheme are responsible for overseeing all strategic matters related to the Scheme. This includes the governance and management frameworks relating to environmental, social and governance ("ESG") considerations and climate-related risks and opportunities.

Role of the Trustee

Given its importance, we have not identified one individual to specifically be responsible for our response to climate risks and opportunities. Rather, the Trustee Board has collective responsibility for setting the Scheme's climate change risk framework.

We have discussed and agreed our climate-related beliefs and overarching approach to managing climate change risk.

Our climate beliefs

- We believe the risks associated with climate change can have a materially detrimental impact on the Scheme's investment returns within the timeframe that the Trustee is concerned about and, as such, the Trustee integrates assessments of climate change risk into its investment decisions.*
- We believe climate-related factors may create investment opportunities. Where possible, and appropriately aligned with the Trustee's strategic objectives and fiduciary duty, the Trustee will seek to capture such opportunities through its investment portfolio.*
- The most appropriate time horizons for the Scheme are as follows:
 - short term: 1-3 years
 - medium term: 4-10 years
 - long term: 11-20 years

We have determined these time horizons are appropriate given the membership profile of the Scheme, however given the Scheme's strategic objective of buy-out soon, the focus for the Scheme is the short-term horizon.

* However, given the majority of the Scheme's assets have been sold to purchase the Annuity Policy, the Trustee acknowledges there will be fewer investment decisions taken, and the focus on investment returns and opportunities is far less so.

Trustee's update

We have completed our third year TCFD report in line with regulations prescribed by The Pensions Regulator ("TPR").

We will continue to monitor the value of residual assets to determine whether the Scheme's assets fall below the limit to cease climate reporting regulations.

Climate-related risks and opportunities are assessed over the above time horizon. Where appropriate, we consider transition and physical risks separately.

We receive training, on an ad-hoc basis, on climate-related issues to ensure we have the appropriate knowledge and understanding to support good decision-making. We expect our advisers to bring important and relevant climate-related issues and developments to our attention in a timely manner and expect our advisers to have the appropriate level of knowledge on climate-related matters.

We undertake the day-to-day oversight of the Scheme's climate change risk management where they relate to actuarial matters and delegate oversight to the Investment Committee ("IC"), where they relate to investment matters.

Role of the Investment Committee

Implementation is detailed later in this report, but key activities undertaken by the IC*, with the support of our advisers, are:

- ensuring the investment strategy or any implementation proposals consider the impact of climate risks and opportunities.
- proactively seek investment opportunities which enhance the ESG and climate change focus of the Scheme's portfolio.
- engaging with the Scheme's investment managers to understand how climate-related risks are considered in their investment approach.
- working with the investment managers to disclose relevant climate-related metrics as set out in the TCFD recommendations.
- ensuring stewardship activities are being carried out appropriately on the Scheme's behalf.

*However, given the majority of the Scheme's assets have been sold to purchase the Annuity Policy, the Trustee acknowledges there will be fewer opportunities to fulfil these roles.

The IC will monitor and review progress against the Scheme's climate change risk management approach on a biannual basis. The initial framework was agreed by the Climate Working Group ("CWG"), which was temporarily set up for the Scheme's first TCFD disclosures and approved by the Trustee Board. The CWG was subsequently disbanded in Q4 2021 and the responsibility for monitoring of the Scheme's climate risk approach is taken up by the IC.

The IC will keep us apprised of any material climate-related developments through regular (at least annual) updates.

Role of the Boots Pensions Team

The Boots Pensions Team may assist the IC with the day-to-day aspects of the implementation of the TCFD framework, as and when required.

Trustee's update

During the Scheme year we reflected on the progress we have made to date regarding our TCFD disclosures.

The focus for the Trustee and IC was the insurer selection undertaken through the year. As part of this, we considered ESG, including climate change as part of the due diligence and selection process. We note that the insurer which we appointed incorporates climate change into the management of its portfolios.

Trustee's update

The Valuation Committee ("VC") will be disbanded after purchasing the Annuity Policy, with the responsibilities previously undertaken by the VC becoming the responsibility of the Trustee Board.

Role of external advisers

We expect our advisers and investment managers to bring important climate-related issues and developments to its attention in a timely manner, and to have the appropriate knowledge on climate-related matters.

We review the quality of our adviser's provision of advice and support on climate-related issues annually. For our investment adviser, this is part of the annual review against investment consultant objectives.

Investment consultant – our investment consultant, Aon, provides investment-related strategic and practical support to the IC and Trustee in respect of the management of climate-related risks and opportunities. This includes provision of regular training and updates on climate-related issues, climate change scenario modelling and ESG ratings for investment managers.

Scheme Actuary - the scheme actuary, will help us assess the potential impact of climate change risk on the Scheme's funding position where appropriate.

Covenant adviser - our covenant adviser, EY, will help us understand the potential impact of climate-related risk on the sponsor covenant of the principal employer of the Scheme.



Strategy

It is crucial to think strategically about the climate-related risks and opportunities that will impact the Scheme if we are to stand a chance of mitigating the effects of climate change.

Assessing the climate-related risks and opportunities the Scheme is exposed to is key to understanding the impact climate change could have on the Scheme in the future.



What climate-related risks are most likely to impact the Scheme?

We carry out a qualitative risk assessment of the asset classes the Scheme is invested in. From this we identify which climate-related risks could have a material impact on the Scheme. We also identify suitable climate-related opportunities.

Given the nature of asset classes in which the Scheme invests in, we completed this exercise to the best of our ability. To help us with our assessment, we surveyed our investment managers asking them to rate the climate-related risks and opportunities they believe their funds is exposed to.

This assessment was carried out as at 31 December 2023 and we have focused on the relevant assets defined by the regulations, which in this case is the residual assets in property and insurance linked securities.

Cash funds have also been excluded from the analysis on the grounds of materiality.

Our investments

The Scheme's asset allocation, for the relevant assets (i.e. excluding the Annuity Policy) is as follows:

Asset Class	Property	Insurance-Linked Securities	Other assets	Cash
Asset Allocation	34.0%	18.8%	19.5%	27.7%

Asset allocations as at 31 March 2024. Figures may not sum due to rounding.

Other assets include other residual assets, including the Pension Funding Partnership, which is a specific form of special purpose vehicles set up for the Scheme.

Trustee's update

This year we modified our approach when asking the Scheme's underlying managers to complete the strategy questionnaire. Managers who responded to the questionnaire last year were asked if any material changes had taken place since. Where a response was not given last year, we asked managers to complete a new questionnaire.

How the risk assessment works



Risk categories

In the analysis, the climate-related risks have been categorised into physical and transition risks.

Transition risks are associated with the transition towards a low-carbon economy.

Physical risks are associated with the physical impacts of climate change on companies' operations.



Ratings

The analysis uses a RAG rating system where:

Red denotes a high level of financial exposure to a risk.

Amber denotes a medium level of financial exposure to a risk.

Green denotes a low level of financial exposure to a risk.



Time horizons

We assessed the climate-related risks and opportunities over multiple time horizons considering the liabilities of the Scheme and its obligations to pay benefits. We decided the most appropriate time horizons for the Scheme are:

short term: 1-3 years
medium term: 4-10 years
long term: 11-20 years

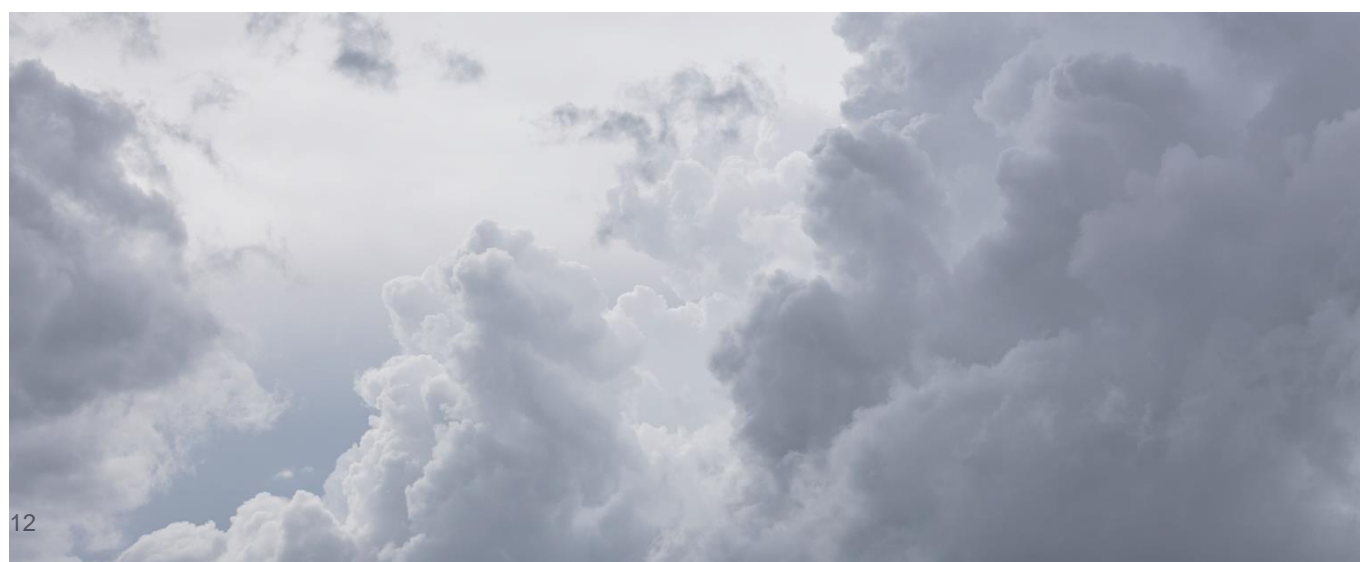
However, given the Scheme's strategic objective of buy-out soon, the focus for the Scheme is the short term.

More details about transition and physical risks can be found in the [Appendix](#).

Key conclusions

Overall, the Scheme's investments display a green to amber level of financial exposure to the risks and time periods considered, indicating climate risks are not expected to have a material impact on the Scheme's funding and investment strategy over the time periods.

The Trustee has instructed sales of these assets, which is expected to be completed in the short-term time horizon.



Climate-related risk assessment (on asset class level)

The assessments provided by our managers are provided in the tables below. Each table summarises the physical and transitional risks for each asset class the Scheme is invested in and includes the associated commentary provided by the managers.

Property – 34.0% of portfolio as at 31 Mar 2024

	Physical Risks		Transitional Risks			
	Acute	Chronic	Regulatory	Technology	Market	Reputation
Short term	Green	Green	Green	Green	Green	Amber
Medium term	Amber	Green	Amber	Amber	Amber	Amber
Long term	Amber	Amber	Amber	Amber	Amber	Amber

Source: Investment Manager. Data as at 31 December 2023.

Given the Trustee has instructed these assets to be sold, it expects the risks over the short term to be the most likely impact for the Scheme's assets.

- **Physical Risks:** The Scheme's property manager has identified in the medium- and long-term, the physical effects of changing climate present potential material financial impacts, for example, in relation to heating or cooling buildings, in changing climates, weather events and availability of water.
- **Transitional Risks:** The reputational risks in the short-term recognise the substantial increase in climate-related engagement in relation to real estate over recent years. Over the longer-term the investment manager has identified all transitional risks as a medium risk due to the significant transformation in real estate, driven by societal demands, regulatory changes, and investor attitudes, ultimately putting pressure on property portfolios.

Insurance-linked securities – 18.8% of portfolio as at 31 Mar 2024

	Physical Risks		Transitional Risks			
	Acute	Chronic	Regulatory	Technology	Market	Reputation
Short term	Green	Green	Amber	Green	Green	Amber
Medium term	Green	Green	Amber	Green	Amber	Amber
Long term	Amber	Amber	Amber	Green	Amber	Amber

Source: Investment Manager. Data as at 31 December 2023.

Given the Trustee has instructed these assets to be sold, it expects the risks over the short term to be the most likely impact for the Scheme's assets.

- Physical Risks:** The Scheme's insurance-linked securities manager has not identified any material physical risks in the short- or medium-term. As the long-term approaches the manager believes that as certain hazards such as wildfires and flooding increase due to rising temperatures and sea-levels, the impact of these physical risks are likely to have a growing impact at the portfolio level. However, the manager notes the significant uncertainty involved with long-term timescales.
- Transitional Risks:** The manager does not see any significant transitional risks in the short-term associated with technology and market. As time passes, market risks are likely to increase given the potential influence of changing risk profiles, loss experience and risk perception on capital requirements and supply, which may impact product availability and returns. A lack of coherence in approaches globally across political and regulatory environments may also have a detrimental impact, leading to material regulatory risks across all three time periods. Reputational risks are also viewed as a medium risk across all three time periods due to perception of risk associated with changing exposure and risk levels linked to climate change.

Climate-related opportunities

We have identified some climate-related opportunities which may be suitable for the Scheme. These opportunities are valid over the short-, medium- and long-term time horizons:

- | | |
|-----------------|---|
| Property | <ul style="list-style-type: none"> • The development of more efficient buildings that exhibit greater resilience to changing weather patterns and an ability to operate under more extreme conditions. • Enhanced resilience of portfolio asset, through adoption of low carbon technology and energy efficiency measures. • Ability to diversify business activities and access new markets. |
|-----------------|---|

- | | |
|------------------------------------|---|
| Insurance-Linked Securities | <ul style="list-style-type: none"> • Greater demand for insurance coverage as changing weather patterns and more extreme conditions emerges. • Growth of green energy as green industries continue to develop in response to combatting climate change, they will require insurance protection to ensure appropriate risk management and financial stability. |
|------------------------------------|---|

Bulk Annuity	<p>In light of the recent buy-in of the Scheme's assets, the climate-related opportunities available to the Scheme's assets are limited. The insured assets have been secured with an insurer, LGAS, and we have limited control over these assets in order to take advantage of any opportunities. We do, however, expect the insurer will take advantage of opportunities available to it across its bulk annuity portfolio.</p>
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Source: Investment Managers

Whilst the residual assets, property and insurance linked securities, of the Scheme are not intended to be held for a long period, there is also currently limited opportunity to take advantage of climate-opportunities for these assets given the often-long-term nature of climate-opportunities.



How resilient is the Scheme to climate change?

We previously carried out climate change scenario analysis to better understand the impact climate change could have on the Scheme's assets and liabilities.

The analysis looks at four climate change scenarios. We chose these scenarios because we believe that they provide a reasonable range of possible climate change outcomes. The climate scenarios are compared to a "base case" scenario.

Each climate scenario considers what may happen to the Scheme when transitioning to a low carbon economy under different temperature-related environmental conditions. These scenarios were developed by Aon and are based on detailed assumptions. They are only illustrative and are subject to considerable uncertainty.

The climate scenarios intend to illustrate the climate-related risks the Scheme is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the investment portfolio.

Other relevant issues such as governance, costs and implementation (including manager selection and due diligence) must be considered when making changes to the investment strategy.

Investment risk is captured in the deviance from the base case scenario, but this is not the only risk that the Scheme faces. Other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

Trustee's update

Under the Regulations, climate scenario analysis must be carried out at least every 3 years, with an annual review in interim years. There may be circumstances which may require the climate scenario analysis to be re-done. These circumstances include, but are not limited to:

- a significant/material change to the investment and/or funding strategy; or
- the availability of new or improved scenarios or modelling capabilities or events that might reasonably be thought to impact key assumptions underlying scenarios.

We have reviewed the analysis for the Scheme and are comfortable that the analysis undertaken for the TCFD report remains appropriate for this year's report.

The Trustee has dedicated significant time and resource to securing member benefits via the Annuity Policy. We will review / refresh the analysis next year.

Impact on the funding level

Key conclusions

The Scheme's investment portfolio exhibits a relatively high degree of climate resilience under three of the four climate scenarios. This was driven by the high level of diversification in the assets, low risk strategy and high levels of hedging against changes in interest rates and inflation expectations.

The Trustee has since entered into an Annuity Policy to secure member benefits in the future. As a result, we will provide a further update in next year's report.

Impact on the funding level – Results analysis

The table below describes the climate scenarios we chose to model and the impact of each scenario on the Scheme over the short-, medium- and long-term time horizons.

Disorderly Scenario

Temperature rise
<4°C

Reach net-zero
after 2050

Environmental
regulation

Late and
Aggressive

Summary of the Scenario

In the short term:

Insufficient consideration given to long-term policies and there is no action taken to combat climate change.

In the medium term:

Late but coordinated action is taken to tackle climate change. The late timing means it is less effective and more costly to implement. Adverse impacts from climate change leads to a drag on risk assets.

In the long term:

After the costly implementation to tackle climate change and the resulting drag on risky assets, the transition to clean technologies and green regulation begins to boost economic growth when considering the very long term. However, the late and disorderly climate transition means that physical climate risks remain prominent over the very long term.

Summary of the impact to the Scheme

In the short term:

There is no initial risk to the Scheme, as the performance of the assets, and the liabilities and therefore the Scheme's funding level, is expected to follow a similar path to the base case.

In the medium term:

The Scheme's funding level deteriorates as a result of late and aggressive action to tackle climate change and falls into deficit. This may place a strain on the sponsoring employer, should it be required to make up any funding shortfall.

In the long term:

After 10 years the Scheme's funding level sharply deteriorates and does not recover within the 20-year time horizon, relative to the base case, leaving the Scheme materially worse off. This is the worst-case scenario for the Scheme and under the period of analysis, the Scheme is in deficit.

<p>Orderly Scenario</p> <p>Temperature rise <2°C</p> <p>Reach net-zero 2050</p> <p>Environmental regulation</p> <p>Coordinated</p>	<p>Summary of the Scenario</p> <p>In the short term:</p> <p>Immediate coordinated global action is taken to tackle climate change. Risky assets perform poorly.</p> <p>In the medium term:</p> <p>The rapid transition to clean technologies and green regulation begins to boost economic growth.</p> <p>In the long term:</p> <p>The rapid transition to clean technologies and green regulation begins to boost economic growth. This represents the fastest transition to a green economy, combined with limited physical impacts from climate change despite the large initial transition cost.</p>	<p>Summary of the impact to the Scheme</p> <p>In the short term:</p> <p>The Scheme experiences an initial fall in the funding level. This may place a strain on the sponsoring employer, should it be required to make up any funding shortfall via contributions.</p> <p>In the medium term:</p> <p>The funding position begins to recover as risky assets perform well, benefitting from the economic growth. The Scheme is expected to return to a surplus in funding.</p> <p>In the long term:</p> <p>The funding position recovers long term and continues to increase its surplus. However, performance does lag versus the base case.</p>
<p>Abrupt Scenario</p> <p>Temperature rise <2°C</p> <p>Reach net-zero 2050</p> <p>Environmental regulation</p> <p>Aggressive</p>	<p>Summary of the Scenario</p> <p>In the short term:</p> <p>Despite growing public awareness, material action is not undertaken to combat climate change.</p> <p>In the medium term:</p> <p>Increasing effects of extreme weather lead to a rapid introduction of policies to tackle climate change. The delayed action leads to higher costs to tackle climate change and risky assets perform poorly as a result. The higher costs are the result for the economy being forced to transition away from fossil fuels.</p> <p>In the long term:</p> <p>Following rapid action in the medium term, the longer-term benefits from tackling climate change lead to higher growth.</p>	<p>Summary of the impact to the Scheme</p> <p>In the short term:</p> <p>There is no initial risk to the Scheme, as the performance of the assets and the liabilities, and therefore the Scheme's funding level, is expected to follow a similar path to the base case.</p> <p>In the medium term:</p> <p>The Scheme's funding level deteriorates as a result of delayed action to tackle climate change and falls into deficit. This may place a strain on the sponsoring employer should it be required to make up any funding shortfall. However, funding does begin to recover within the period as the economy begins to recover, which boosts growth, but the Scheme remains in a deficit.</p> <p>In the long term:</p> <p>The funding position recovers long term and moves into a surplus, before continuing to increase. However, performance does lag versus the base case, in addition to lagging the orderly and smooth scenarios.</p>

Smooth transition	Summary of the Scenario	Summary of the impact to the Scheme
<p>Temperature rise <1.5°C</p> <p>Reach net-zero 2045</p> <p>Environmental regulation</p> <p>High coordination.</p>	<p>In the short term:</p> <p>Collective and coordinated action in the short term, despite initial costs of funding the structural costs to transition the economy, leads to innovation and green technology development which boosts growth.</p> <p>In the medium term:</p> <p>The rapid technological advancement combined with government actions drives a smooth transition to a low carbon economy and enjoys growth.</p> <p>In the long term:</p> <p>The rapid technological advancement combined with government actions drives a smooth transition to a low carbon economy. Risk assets perform well.</p>	<p>In the short term:</p> <p>The Scheme is expected to benefit, relative to the base case and the surplus increases.</p> <p>In the medium term:</p> <p>The Scheme continues to benefit from a growing surplus, following innovation and a green technology revolution which boosts economic growth.</p> <p>In the long term:</p> <p>The Scheme's funding position is expected to continue to grow. The Trustee noted this was the scenario which provided the best outcome for the Scheme, based on the strategic asset allocation.</p>

Source: Aon. Effective date of the impact assessment is 31 March 2021 on the Scheme's Technical Provisions Basis.

Modelling limitations

Please refer to the Appendix for further details in relation to the assumptions used for the scenario analysis and its limitations.

Covenant Assessment

The Trustee recognises the importance of climate change and the risk it poses to the Scheme. The Trustee takes climate-related risks into account in determining its investment strategy.

Another key risk identified from the analysis is the volatility of the funding level. Under the *abrupt transition* and the *disorderly transition*, the Scheme experiences sudden falls in the funding level before recovering (with the Scheme remaining in deficit for most of the period under analysis for the disorderly transition). Deterioration of the funding level will place a strain on the Employer covenant if it must make up a bigger shortfall through deficit contributions. It may also require the Scheme to re-risk its portfolio or extend the time frame for achieving full funding.

The Trustee recognises that climate change may have an impact on the Employer covenant. The Trustee monitors the covenant on a regular basis, with the support of its covenant adviser, and maintains a regular dialogue with the Employer. It is supported in this by its covenant adviser who considers relevant climate-related risks and opportunities in the context of the Scheme's covenant horizon and reliance on the Employer covenant.

Risk management

We must have processes to identify, assess and manage the climate-related risks that are relevant to the Scheme and these must be integrated into the overall risk management of the Scheme.

Reporting on our risk management processes provides context for how we think about and address the most significant risks to our efforts to achieve appropriate outcomes for members.



Our process for identifying and assessing climate-related risks

We have established a process to identify, assess and manage the climate-related risks that are relevant to the Scheme. This is how we monitor the most significant risks to the Scheme in our efforts to achieve appropriate outcomes for members.



Qualitative assessment

A qualitative assessment of climate-related risks and opportunities which is prepared by our investment adviser and reviewed by us.



Quantitative analysis

Climate scenario analysis, which is provided by our investment adviser and reviewed by us.

Trustee's update

This process of identifying and assessing climate related risks has been reviewed in the process of producing this TCFD report and we believe it is still suitable.

Together these give us a clear picture of the climate-related risks that the Scheme is exposed to. Where appropriate, we distinguish between transition and physical risks. And all risks and opportunities are assessed with reference to the time horizons that are relevant to the Scheme.

When prioritising the management of risks, we assess the materiality of climate-related risks relative to the impact and likelihood of other risks to the Scheme. This helps us focus on the risks that pose the most significant impact.

Our climate risk management framework

We recognise the long-term risks posed by climate change and have taken steps to integrate climate-related risks into the Scheme's risk management processes.

We have a climate risk management framework to manage climate-related risk and opportunities. The climate risk management framework set out in the tables below clearly describes who is involved, what is done and how often. We delegate a number of key tasks to different committees but retain overall responsibility.

Governance

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Approve climate risk management framework	Trustee	IC, Investment Consultant	Completed
Publish TCFD report	Trustee	IC, Investment Consultant	Annual (with review)
Receive training on climate-related issues	Trustee	Advisers	Ad-hoc
Review adviser objectives to ensure advisers have appropriate climate capability, and bring important, relevant and timely climate-related issues to the Trustee's attention	Trustee	Advisers	Annual
Ensure investment proposals explicitly consider the impact of climate-related risks and opportunities, and seek investment opportunities	IC	Investment Consultant	Ongoing
Ensure that actuarial and covenant advice adequately incorporates climate-related risk factors where they are relevant and material	Trustee	Scheme Actuary, Covenant Adviser	Triennial
Engage with the investment managers to understand how climate risks are considered in their investment approach, and stewardship activities are being undertaken appropriately	IC	Investment managers, Investment Consultant	Annual

Trustee's update

We monitor the above activities as part of our management of climate-related risks and opportunities. We have delegated responsibility of several activities in this pillar to the IC. We attended a session throughout the year on a recap of our climate-related disclosures and specific policy guidance of future TCFD reporting, following the Scheme's full buy-in.

We have monitored progress of the IC and its respective implementation of the climate change governance framework through the year, receiving regular updates from the IC and querying information as and when required. As part of the selection process for the insurer, we conducted due diligence on the insurer's ESG credential, including climate change.

The Valuation Committee ("VC") will be disbanded, following the Scheme's full buy-in. Responsibilities related to Actuarial matters, currently held by the VC, will rest with us, the Trustee Board.

Strategy

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Undertake quantitative scenario analysis to understand the impact of climate-related risks	IC	Investment Consultant	At least Triennial (with annual review)
Identify the climate-related risks and opportunities for investment & funding strategy and assess their likelihood and impact.	IC	Advisers	Annual

Trustee's update

The IC refreshed its risks and opportunities analysis, asking each remaining material manager for details how these are assessed. The conclusion of this is included in the Strategy pillar, outlined on pages 13-15.

We also considered the appropriateness of the climate change scenario analysis, carried out within the Scheme's initial TCFD disclosures, and are comfortable that the analysis remains relevant for the current reporting period.

Risk management

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Consider the prioritisation of those climate-related risks, and the management of the most significant in terms of potential loss and likelihood.	IC	Advisers	Annual
Include consideration of climate-related risks in the Scheme's other risk processes and documents, such as the risk register and the SIP, and regularly review these.	IC	Advisers	One-off, ongoing thereafter
Seek to understand the climate-related risks to the employer over the short-, medium- and long-term.	Trustee	Advisers	Annual

Trustee's update

We review our process of identifying and assessing climate-related risks as part of the annual TCFD process to evaluate its continued suitability. This is integrated into the ongoing activities of the Scheme.

We delegate to our advisers the review of the underlying investment managers and how ESG is integrated within their decision-making processes, including climate change. We also ask for details on how these have been implemented in practice, including key themes for engagement, such as climate change.

Metrics and Targets

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Obtain data for metrics	IC	Investment consultant, Fund managers	Annual
Review continued appropriateness of metrics	IC	Investment Consultant	Annual

Trustee's update

We, the Trustee, supported by our investment consultant, collect metrics data on an annual basis, to understand the current state of the investment portfolio regarding its emissions, data quality and portfolio alignment. This data is evaluated to produce a climate-related target.

Metrics have been collected in line with industry practice and supported by the IC and its advisers. Last year, we also agreed an additional metric for reporting, as per changes to the Regulations. In addition, we have reviewed the Scheme's target, which was set previously, and considered any refinements required to this. This year, following the full buy-in of the Scheme's assets and the corresponding purchase of the Annuity Policy, we have elected to align with the net zero by 2050 target set by the Scheme's Bulk Annuity provider, LGAS. More details can be found in the metrics and targets section on pages 28-33.

Assessing our Scheme's investment managers

To assess our managers' abilities to manage climate-related risks, we asked them to complete:

- A due diligence questionnaire asking our investment managers to identify the most significant climate-related risks and opportunities affecting the Scheme, and to quantify these risks; and
- The 10 questions designed by the Pensions Climate Risk Industry Scheme² to help trustees do just that. The questions cover a range of topics including the managers' approach to climate management, whether they produce their own TCFD reporting, their ability to conduct climate scenario analysis, their engagement policies, and their ability to provide GHG emissions data. We summarise the key highlights of this questionnaire below.

Summary of investment manager responses

Trustee's update

This year we modified our approach when asking the Scheme's underlying managers to complete the risk questionnaire. Managers who responded to the questionnaire last year were asked if any material changes had taken place since. Where a response was not given last year, we asked managers to complete a new questionnaire.

² Aligning your pension scheme with the Taskforce on Climate-Related Financial Disclosures recommendations - GOV.UK (www.gov.uk)

As part of the purchase of the Annuity Policy, we sold assets from the majority of the managers which we were previously invested in. Therefore, the analysis captured in the summary table below focuses on the most material managers which remain in the Scheme.

Manager	TCFD aligned climate reports	Climate-related risks analysis	Industry initiatives	Carbon reporting	Temperature alignment
Schroders	✓	✓	✓	In Progress	✓
Leadenhall	-	✓	✓	✓	-
LGIM	✓	✓	✓	✓	✓

Source: Investment Managers

Key conclusions

- Two out of three managers support reporting in-line with TCFD disclosures.
- All three managers participate in several industry initiatives such as the Net Zero Asset Manager Initiative, Climate Action 100+, and United Nations Principles for Responsible Investment (“UN PRI”).
- All three managers carry out climate-related scenario analysis and incorporate ESG considerations into their investment processes.
- Two out of three managers provide all carbon-related metric data items with the other remaining manager partially providing climate metric data.
- Two out of the three managers have plans in place to align their strategy towards a 1.5-2°C global warming scenario.

Given majority of the assets sit within the Annuity Policy and the residual assets are in the process of being sold in the near future, we are not taking any immediate action in line as a result of these responses.

Metrics & Targets

Metrics help to inform our understanding and monitoring of the Scheme's climate-related risks. Quantitative measures of the Scheme's climate-related risks, in the form of both greenhouse gas emissions and non-emissions-based metrics, help us to identify, manage and track the Scheme's exposure to the financial risks and opportunities climate change will bring.



Our climate-related metrics

We use some quantitative measures to help us understand and monitor the Scheme's exposure to climate-related risks.

Measuring the greenhouse gas emissions related to our assets is a key way for us to assess our exposure to climate change.

Greenhouse gases are produced by burning fossil fuels, meat and dairy farming, and some industrial processes. When greenhouse gases are released into the atmosphere, they trap heat in the atmosphere causing global warming, contributing to climate change.

Greenhouse gases are categorised into three types or 'scopes' by the Greenhouse Gas Protocol, the world's most used greenhouse gas accounting standard.



Scope 1

All direct emissions from the activities of an organisation which are under their control; these typically include emissions from their own buildings, facilities, and vehicles.



Scope 2

These are the indirect emissions from the generation of electricity purchased and used by an organisation.



Scope 3

All other indirect emissions linked to the wider supply chain and activities of the organisation from outside its own operations – from the goods it purchases to the disposal of the products it sells.

Scope 3 are often the largest proportion of an organisation's emissions, but they are also the hardest to measure. The complexity and global nature of an organisation's value chain make it hard to collect accurate data.

For more explanation about GHG emissions, please see the [Appendix](#).



Our climate-related metrics – in detail

In our first year of TCFD reporting, we decided what metrics to annually report on. These are described below. This year we reviewed the metrics, and we believe they continue to be suitable for us to report against.



Total Greenhouse Gas emissions

The total greenhouse gas (“GHG”) emissions associated with the portfolio. It is an absolute measure of carbon output from the Scheme’s investments and is measured in tonnes of carbon dioxide equivalent (“tCO₂e”).

Where possible, we have obtained scopes 1&2 and scope 3 emissions from the managers separately.



Carbon footprint

Carbon footprint is an intensity measure of emissions that takes the total GHG emissions and weights it to take account of the size of the investment made. It is measured in tonnes of carbon dioxide equivalent per million pounds invested (“tCO₂e/£m”).

Where possible, we have obtained scopes 1&2 and scope 3 emissions from the managers separately.



Data Coverage

A measure of the proportion of the portfolio that we have high quality data for (i.e., data which is based on verified, reported, or reasonably estimated emissions, versus that which is unavailable).

This has been selected on the basis that it provides a consistent and comparable measure of the level of confidence in the data.

The Trustee has not made any estimates where data is unavailable.



Portion of the portfolio with net zero, or Paris-aligned targets

A metric which shows how much of the Scheme’s assets are aligned with a climate change goal of limiting the increase in the global average temperature to 1.5°C above pre-industrial levels.

It is measured as the percentage of underlying portfolio investments with a declared net-zero or Paris-aligned target or are already net-zero or Paris-aligned, or that have been verified by the Science Based Target Initiative (“SBTi”).

The carbon metrics

The tables below summarise the climate-related metrics for the Scheme's assets over the current and previous reporting year, including the Scheme's assets that are insured with the Bulk Annuity Provider, LGAS.

Asset class	Year	%	Scopes 1 & 2			Scope 3			Binary Target Measurement
			Data Coverage (%)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m)	Data Coverage (%)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m)	Portion of portfolio SBTi aligned (%)
Alternatives (including ILS)	2023	2.6	0.0	Not available		0.0	Not available		
	2022	11.8	12.5	2,487	21.7	12.5	8,594	74.8	3.0
Property	2023	5.4	70.5	612	2.2	70.5	2,610	2.7	11.4
	2022	8.6	79.3	1,021	3.2	79.3	1,909	6.0	N/A
Bulk Annuity	2023	90.5	100.0	273,166	57.0	0.0	Not available		
	2022	-	-	-	-	-	-	-	-
Total assets (ex-hedging / cash)	2023	98.5	94.2	273,778	54.5	4.3	2,610	11.4	0.7
	2022	59.3	50.3	60,798	39.5	35.5	275,713	253.4	30.2
Cash	2023	1.5	-	-	-	-	-	-	-
	2022	5.0	-	-	-	-	-	-	-
Hedging	2023	-	-	-	-	-	-	-	-
	2022	35.8	78.4	75,919	47.1	28.4	25,197	49.5	N/A

Source: Investment managers. 2023 carbon metrics data as at 31/12/2023 and 2022 data as at 31/12/2022. Bulk Annuity provider. 2023 carbon metrics data as at 31/12/2023. Where 'N/A' is stated this means 'not available'.

Additional notes:

- Cash has been excluded from the carbon analysis on a materiality basis.
- 2023 Asset Allocations (%) are as at 31/03/2024, as we believe the asset allocation as at 31/12/2023 does not fairly reflect the Scheme's position due to significant changes being implemented towards the end of 2023, following the purchase of the Annuity Policy. The allocations are scaled proportionately to exclude the deferred obligations.
- The Scheme's Insurance-Linked Securities manager has been unable to provide carbon data. This is because calculation methodologies for this asset class are not currently available. The other assets previously held last year in "Alternatives" such as the illiquid partnerships have since been sold.
- The binary target measurement shows the percentage of underlying portfolio investments with a declared net-zero or Paris-aligned target or are already net-zero or Paris-aligned, or that have been verified by the SBTi.
- The 2022 data shown for the hedging assets is based on the physical gilt holdings, which is considered a sovereign entity. As a result, SBTi is therefore not relevant as SBTi is an initiative that covers corporate entities and not sovereigns.

Notes on the metrics data

Our investment adviser, Aon, collected information from the Scheme's investment managers about their greenhouse gas emissions. Aon collated this information to calculate the climate-related metrics for the Scheme's portfolio of assets.

Availability of data:

- The Scheme's Insurance-Linked Securities ("ILS") manager was unable to provide carbon data at this time. The manager classified there being no attributable financed emissions to ILS. We recognise that managers in this area are faced with additional challenges as methodologies to calculate metrics are not yet available. We will continue to liaise with these managers where able to.
- The Scheme's property manager was the only manager who provided scopes 1, 2 and 3 GHG emissions.
- The Scheme's Bulk Annuity provider was only able to provide scopes 1 and 2 only, due to historical limitations and low-quality data in the market. The Bulk Annuity provider currently has no plans in place to incorporate scope 3 emissions within its reporting.
- When asked to provide the binary target measurement for the Bulk Annuity, the provider outlined that it does not disclose this information, and so was not able to comment further or provide anything further on this.

Aon does not make any estimates for missing data.

Because not all the Scheme's managers and Bulk Annuity provider were able to provide all the requested data, the reported metrics do not include all the Scheme's GHG emissions. Therefore, the metrics show the Scheme's GHG emissions to be lower than they really are.

Given plans for the remaining residual assets to be sold as part of the purchase of the Annuity Policy, we expect to see further changes in next year's report.

Trustee's update:

We acknowledge the differences in data provided from the previous reporting cycle. Many managers redeemed at the end of 2023, and significant strategy changes were implemented, making metrics from this year and last year not directly comparable.

Notes on the metrics calculations

There is no industry-wide standard for calculating some of these metrics yet and different managers may use different methods and assumptions. These issues are common across the industry and highlight the importance of climate reporting to improve transparency. We expect that in the future better information will be available from managers as the industry aligns to expectations and best practice standards.

The carbon metrics

Aon collected carbon metrics from managers before aggregating by asset class. The methodology used for this aggregation does not make any assumptions about the carbon emissions for assets for which data was unavailable. The aggregation methodology is as set out below:

$$G = A \times C \times F$$

G = Total GHG expressed as (tCO₂e).

A = Assets expressed in £ Millions.

C = Data Coverage expressed as a decimal between 0 and 1.

F = Carbon Footprint expressed as (tCO₂e/£M invested).

The methodology used follows the industry-standard best-practice established within the Carbon Emissions Template ("CET")³.

Binary target measurement

Aon calculated the binary target measurement (i.e. the portion of the portfolio with net zero or Paris aligned targets) for the Scheme based on the information provided by the investment managers. Aon requested the portion of the portfolio with SBTi aligned targets for each mandate from the Scheme's investment managers and aggregated the results based on the portion of assets invested in each mandate.

Aon did not make any estimates for missing data. The Scheme's binary target measurement only represents the portion of the portfolio for which we, the Trustee, have data for.

The Carbon Emissions Template ("CET")

Our investment adviser, Aon, collected the carbon emissions data from our managers on our behalf using the industry standard CET. The CET was developed by a joint industry initiative of the Pension and Life Savings Association, the Association of British Insurers and Investment Association Working Group. The CET provides a standardised set of data to help pension schemes meet their obligations under the Climate Change Governance and Reporting Regulations, and associated DWP Statutory Guidance.

³ <https://www.plsa.co.uk/Policy-and-Research/Document-library/Carbon-Emissions-Template>



Looking to the future

Our climate-related target

Climate-related targets help us track our efforts to manage the Scheme's change risk exposure.

In our first year of reporting, we set a target to improve Data Quality by December 2026 across the Scheme's different asset classes. Since the Scheme's assets have been transferred to an insurance company, LGAS, to secure the Scheme's liabilities under a bulk annuity policy during the Scheme year, we have revised our target this year.

Our revised target

We are required to set at least one target for the Scheme in relation to at least one of the chosen metrics and as far as we are able, to measure performance against these targets on an annual basis.

Given majority of the Scheme's assets are held with the insurer in the Annuity Policy, setting a target based around one of the chosen metrics above is not suitable given our limited control over the assets.

Therefore, we have proposed a target for the Scheme that aligns with targets set by the insurer.

The Trustee acknowledges that the Scheme's assets will be targeting net zero by 2050. This target is in line with the net zero commitment made by the Scheme's bulk annuity provider, LGAS.

More information on LGAS's net zero commitment can be found [here](#).

Over time, this will indirectly show the Scheme's progress against the target, through its insurer. The insurer has set the following milestone to reduce GHG emission intensity, versus a 2019 baseline based on the emissions measured by the insurer at that time, with the following target reductions by the end of 2025 and 2030:

- 18.5% by the start of 2025
- 50% by 2030

The Trustee has established its interim targets for the Scheme with those that are aligned with the Insurer. This is in line with statutory guidance, whereby the Scheme's target should not be set more than 10 years into the future.

The Trustee will monitor the insurer's progress against these on an annual basis, recognising that we have limited ability to be able to influence how our insurer chooses to invest. We will engage with LGAS via at least annual meetings, documenting what has been discussed as part of these, and how LGAS has delivered against the targets it has set.

Trustee's update

Each year, we review the suitability of the Scheme's set target. Based on the data collected and the position of the Scheme's assets following the buy-in, we believe the target set around improving data quality is no longer suitable for the Scheme.



Appendices

Additional supplementary information regarding our climate disclosures report.



Appendix 1 - Glossary

Governance	refers to the system by which an organisation is directed and controlled in the interests of shareholders and other stakeholders. ⁴ Governance involves a set of relationships between an organisation's management, its board, its shareholders, and other stakeholders. Governance provides the structure and processes through which the objectives of the organisation are set, progress against performance is monitored, and results are evaluated. ⁵
Strategy	refers to an organisation's desired future state. An organisation's strategy establishes a foundation against which it can monitor and measure its progress in reaching that desired state. Strategy formulation generally involves establishing the purpose and scope of the organisation's activities and the nature of its businesses, taking into account the risks and opportunities it faces and the environment in which it operates. ⁶
Risk management	refers to a set of processes that are carried out by an organisation's board and management to support the achievement of the organisation's objectives by addressing its risks and managing the combined potential impact of those risks. ⁷
Climate-related risk	refers to the potential negative impacts of climate change on an organisation. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events (e.g., cyclones, droughts, floods, and fires). They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g., sea level rise). Climate-related risks can also be associated with the transition to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses, and reputational considerations. ⁸

⁴ A. Cadbury, Report of the Committee on the Financial Aspects of Corporate Governance, London, 1992.

⁵ OECD, G20/OECD Principles of Corporate Governance, OECD Publishing, Paris, 2015.

⁶ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

⁷ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

⁸ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

Climate-related opportunity	refers to the potential positive impacts related to climate change on an organisation. Efforts to mitigate and adapt to climate change can produce opportunities for organisations, such as through resource efficiency and cost savings, the adoption and utilization of low-emission energy sources, the development of new products and services, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market, and industry in which an organisation operates. ⁹
Greenhouse gas emissions scope levels ¹⁰	Greenhouse gases are categorised into three types or 'scopes' by the Greenhouse Gas Protocol, the world's most used greenhouse gas accounting standard. Scope 1 refers to all direct GHG emissions. Scope 2 refers to indirect GHG emissions from consumption of purchased electricity, heat, or steam. Scope 3 refers to other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 emissions could include: the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses), outsourced activities, and waste disposal. ¹¹
Value chain	refers to the upstream and downstream life cycle of a product, process, or service, including material sourcing, production, consumption, and disposal/recycling. Upstream activities include operations that relate to the initial stages of producing a good or service (e.g., material sourcing, material processing, supplier activities). Downstream activities include operations that relate to processing the materials into a finished product and delivering it to the end user (e.g., transportation, distribution, and consumption). ¹²
Climate scenario analysis	is a process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty. In the case of climate change, for example, scenarios allow an organisation to explore and develop an understanding of how the physical and transition risks of climate change may impact its businesses, strategies, and financial performance over time. ¹³

⁹ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

¹⁰ World Resources Institute and World Business Council for Sustainable Development, The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004.

¹¹ PCC, Climate Change 2014 Mitigation of Climate Change, Cambridge University Press, 2014.

¹² TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

¹³ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

Net zero

means achieving a balance between the greenhouse gases emitted into the atmosphere, and those removed from it. This balance – or net zero – will happen when the amount of greenhouse gases added to the atmosphere is no more than the amount removed.¹⁴

¹⁴ Energy Saving Trust, What is net zero and how can we get there? - Energy Saving Trust, October 2021

Appendix 2 – An explanation of climate risk categories

Climate-related risks are categorised into physical and transition risks. Below are examples of transition and physical risks.

Transition risks

Transition risks are those related to the ability of an organisation to adapt to the changes required to reduce greenhouse gas emissions and transition to renewable energy. Within transition risks, there are four key areas: policy and legal, technological innovation, market changes, and reputational risk.

Policy and legal

Examples

Increased pricing of GHG emissions
Enhanced emissions-reporting obligations
Regulation of existing products and services

Potential financial impacts

Increased operating costs (e.g. higher compliance costs, increased insurance premiums)
Write-offs, asset impairment and early retirement of existing assets due to policy changes

Technology

Examples

Cost to transition to lower emissions technology
Unsuccessful investments in new technologies

Potential financial impacts

Write-offs and early retirement of existing assets
Capital investments in technology development
Costs to adopt new practices and processes

Market

Examples

Changing customer behaviour
Uncertainty in market signals
Increased cost of raw materials

Potential financial impacts

Reduced demand for goods and services due to shift in consumer preferences.
Abrupt and unexpected increases in energy costs.
Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations).

Reputational

Examples

Stigmatisation of sector
Increased stakeholder concern or negative stakeholder feedback

Potential financial impacts

Reduced revenue from decreased demand for goods and services.
Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions)
Reduced revenue from negative impacts on workforce management and planning

Physical Risks

Physical risks refer to the physical impacts of climate change on a firm's operations. They directly impact a firm's ability to perform its function due to climate disruption. They fall into two subcategories: acute and chronic. Acute risks are extreme climate events such as flooding and wildfires, and chronic risks are trends over time such as an increase in temperature or ocean acidification.

Acute

Examples

- Extreme heat
- Extreme rainfall
- Floods
- Droughts
- Storms (e.g., hurricanes)

Chronic

Examples

- Water stress
- Sea level rises
- Land degradation
- Variability in temperature
- Variability in precipitation

Appendix 3 – Climate scenario modelling assumptions

The climate scenarios were developed by Aon and are based on detailed assumptions. They are only illustrative and are subject to considerable uncertainty. They consider the exposure of the Scheme to climate-related risks and the approximate impact on asset/liability values over the long-term.

The purpose of the model is to consider the long-term exposure of the Scheme to climate-related risks and the pattern of asset returns over the long term. In particular, the model considers different climate change scenarios and the approximate impact on asset/liability values over the long-term.

The model assumes a deterministic projection of assets and liabilities on the Technical Provisions basis, using standard actuarial techniques to discount and project expected cashflows.

- i. It models the full yield curve as this allows for an accurate treatment of the liabilities and realistic modelling of the future distribution of interest rates and inflation. It also allows the Trustee to truly assess the sensitivities of the assets and liabilities to changes in interest and inflation rates.
- ii. The parameters in the model vary deterministically for each scenario.

The liability update and projections are considered appropriate for the analysis. However, they are approximate, and a full actuarial valuation carried out at the same date may produce a materially different result. The liability update and projections are not formal actuarial advice and do not contain all the information needed to make a decision on the contributions payable or investment strategy.

The model intends to illustrate the climate-related risks the Scheme is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the portfolio allocation. Other relevant issues such as governance, costs and implementation (including manager selection and due diligence) must be considered when making changes to the investment strategy.

Investment risk is only captured in the deviance from the Base Case, but this is not the only risk that the Scheme faces; other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

The model has been set up to capture recent market conditions and views (as at 31 Mar 2021); the model may propose different solutions for the same strategy under different market conditions.

Key assumptions

	Temperature rise by 2100	Reach net zero by	Introduction of environmental regulation
Base Case	~2°C – 2.5°C	2050	Fragmented coordination
Disorderly	<4°C	After 2050	Late and aggressive
Orderly	<2°C	2050	Coordinated
Abrupt	<2°C	2050	Aggressive
Smooth transition	<1.5°C	2045	High coordination

Source: Aon

Appendix 4 – Greenhouse gas emissions in more detail







Greenhouse gases in the atmosphere, including water vapour, carbon dioxide, methane, and nitrous oxide, keep the Earth's surface and atmosphere warm because they absorb sunlight and re-emit it as heat in all directions including back down to Earth. Adding more greenhouse gases to the atmosphere makes it even more effective at preventing heat from leaving the Earth's atmosphere.

Greenhouse gases are vital because they act like a blanket around the Earth making the climate habitable. The problem is that human activity is making the blanket "thicker". For example, when we burn coal, oil, and natural gas we send huge amounts of carbon dioxide into the air. When we destroy forests, the carbon stored in the trees escapes to the atmosphere. Other basic activities, such as raising cattle and planting rice, emit methane, nitrous oxide, and other greenhouse gases.

The amount of greenhouse gases in the atmosphere has significantly increased since the Industrial Revolution. The Kyoto Protocol¹⁵ identifies six greenhouse gases which human activity is largely responsible for emitting. Of these six gases, human-made carbon dioxide is the biggest contributor to global warming.

Each greenhouse gas has a different global warming potential and persists for a different length of time in the atmosphere. Therefore, emissions are expressed as a carbon dioxide equivalent (CO₂e). This enables the different gases to be compared on a like-for-like bases, relative to one unit of carbon dioxide.

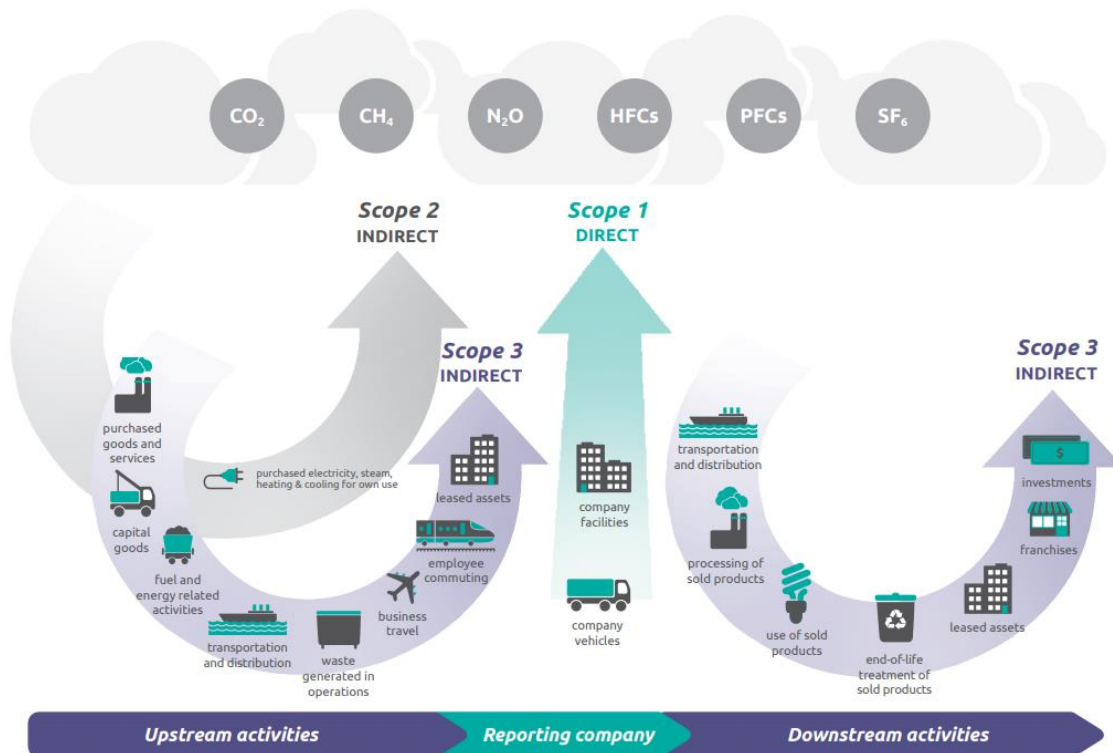
Six main greenhouse gases identified by the Kyoto Protocol

					
Carbon dioxide	Methane	Nitrous oxide	Hydro-fluorocarbons	Per-fluorocarbons	Sulphur hexafluoride
CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆

¹⁵ https://unfccc.int/kyoto_protocol

Greenhouse gases are categorised into three types or 'scopes' by the Greenhouse Gas Protocol, the world's most used greenhouse gas accounting standard.

Overview of GHG Protocol scopes and emissions across the value chain



Source: Greenhouse Gas Protocol, Corporate value chain (scope 3) Accounting and Reporting Standard, 2011