



TCFD

TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

Climate disclosures for year ended 31 March 2024

Produced by: AWE Pension Trustees Limited on behalf of the AWE Pension Scheme

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 AWE Pension Scheme's (the "Scheme") 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. The four elements covered in the report are:

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

This report has been prepared by the AWE Pension Trustees Limited (the "Trustee", "we", "us") 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.

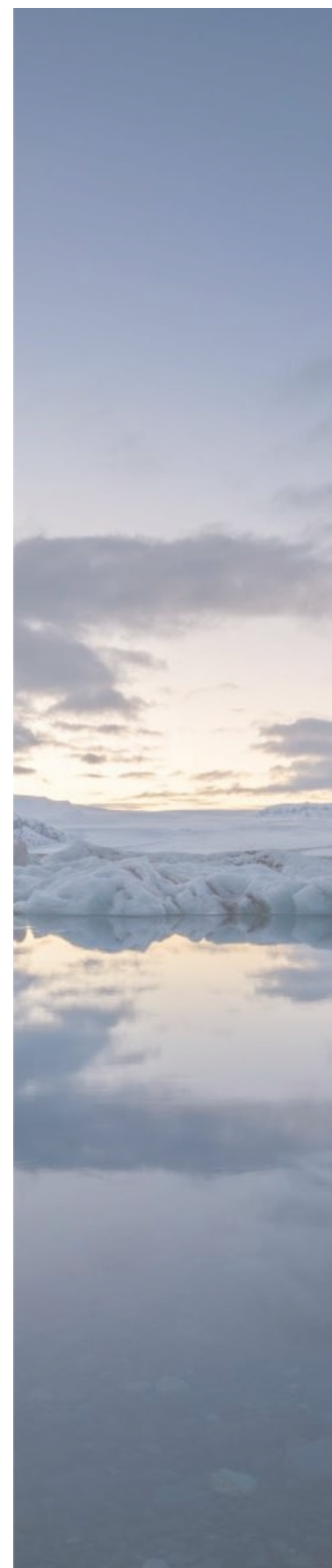


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Executive summary

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 invests across a range of assets, including “alternative” asset classes through investment in property, infrastructure, and absolute return funds. Alongside this, the Scheme also invests in more traditional asset classes such as equities and bonds. These assets sit alongside the Scheme’s matching assets which are invested in Liability Driven Investments (“LDI”).

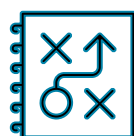
Within this report we consider the impact of climate related risks on these asset classes, the investment strategy and potential impact on the funding of the Scheme.

The Trustee has been supported by its investment adviser, Aon Investments Limited (“Aon”) in producing this report.



Governance

- We, the Trustee, take responsibility for ensuring that consideration of climate related risks and opportunities are integrated into the Scheme’s investment strategy, implementation, and reporting.
- We have delegated oversight of climate change risk management to the Investment Committee (“IC”) where it relates to investment and funding matters, to manage our response to climate risks and opportunities.
- We require our investment managers and advisers to take account of climate related risks and opportunities in the roles that they perform for us and the Scheme. These are monitored through a bi-annual Environmental, Social and Governance (“ESG”) Dashboard which covers a range of different ESG aspects, including climate change, and annual reporting on stewardship. As part of this we undertake ongoing engagement with our managers to help improve the quality of information they provide to complete this report.



Strategy

- Our qualitative analysis of climate related risks and opportunities showed that the asset classes in which the Scheme invests in are impacted to some degree by climate-related risks and over time, the risk exposure is expected to increase. This is consistent with last year’s findings.
- Our managers also identified numerous investment opportunities for the different asset classes. The decision on how to incorporate these opportunities is delegated to our investment managers.
- We reviewed the climate scenario analysis undertaken as at 31 December 2022 and we are comfortable that the analysis remains appropriate for this year’s report.

- The climate scenario analysis indicated that the Scheme's investment portfolio is exposed to the risks of climate change under some of the scenarios considered. This is primarily as a result of:
 - High allocation to equities and alternative assets, with these assets being more sensitive to negative climate shocks over the medium and long term time horizons.
 - Low levels of liability hedging assets, which lead to the assets not matching the changes in the liabilities under scenarios where there is a climate shock. In certain scenarios, this can lead to an increasing funding gap.
 - The increasing maturity of the Scheme within the timeframes considered, which leads to increasing amounts of assets being sold to meet the cashflow requirements.

We are discussing the output of the climate scenarios with our investment adviser alongside ongoing discussions in relation to the Scheme's strategy review. More details are provided in the Strategy Pillar Section of this report.



Risk Management

- We have established a process to identify, assess and manage the climate-related risks and opportunities the Scheme is exposed to. This is integrated into the Scheme's wider risk management framework.
- Our Climate Risk Management framework is set out on pages 27-29, which assists with the ongoing management of climate related risks and opportunities. Alongside this, we undertake annual training on responsible investment to understand how ESG factors, including climate change, may impact the Scheme's assets and liabilities.
- Details of training we have undertaken through the Scheme year are included in the Governance Section and Risk Management Section of this report.
- In addition, we have a clear policy on ESG considerations within our Statement of Investment Principles ("SIP") and a Responsible Investment policy, which includes the steps we take to monitor and assess ESG related risks and opportunities.



Metrics and Targets

We have disclosed information on four climate-related metrics for the Scheme:

- Total Greenhouse Gas (GHG) Emissions.
- Carbon Footprint.
- Data Coverage.
- Portion of the portfolio with Net Zero, or Paris Aligned targets.

The target set in last year's report was to achieve data coverage of at least 30% by 31 March 2027. As part of the preparation of this year's report, we have reviewed the target which was previously set. When collecting the data, it has been noted that the target to achieve 30% coverage of data, has now been met. With that in mind, we have revised the target and set a new one for the Scheme:

Improve Scopes 1 & 2 data coverage (excl LDI) to 70% by 2027

We are taking the following steps to meet the target:

- Coverage of data is an area for improvement across all our mandates. We will engage with the relevant investment managers.
- We will engage with the managers to understand challenges with providing consistent data and find an appropriate solution. Where methodologies for certain assets are not yet developed, we will encourage our managers to participate in industry initiatives and consultations to develop these.

We are keen to understand the carbon emissions in the Scheme's portfolio, but note that at the current time, data is limited for certain asset classes. We expect that in the future better information will be available from managers as the industry aligns to expectations and best practice standards. We have reported the emissions for the portion of the portfolio where we have been able to obtain carbon data. We are aware that it is likely that our reporting of GHG emissions and carbon footprint may "increase." We note that an increase is an expected output as the availability and coverage of data expands as we engage with the Scheme's managers that were initially unable to supply full emissions data.

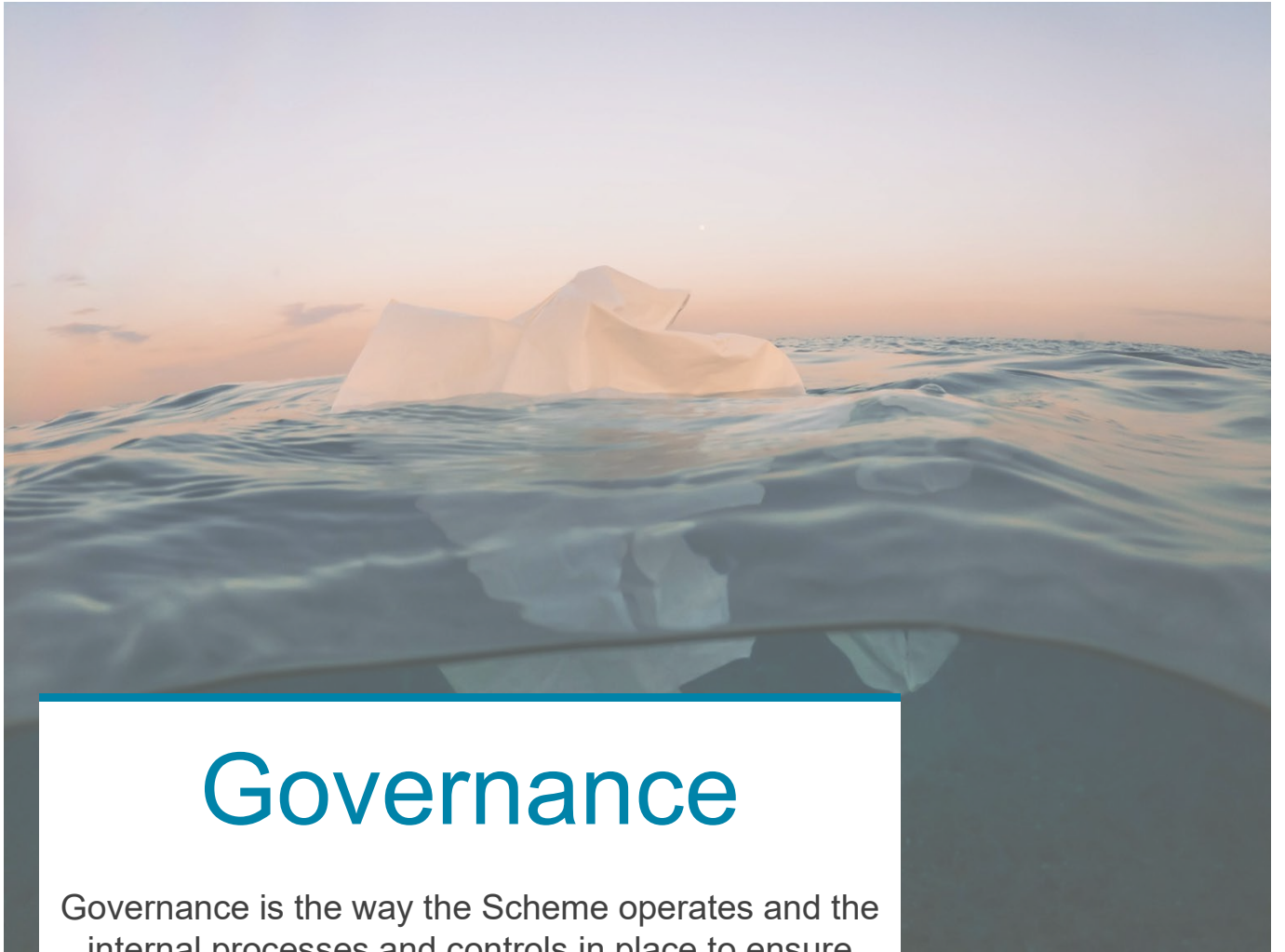
We have implemented a climate-risk monitoring framework in line with the recommendations of the TCFD and will use this to continue to monitor the potential impacts of climate change on the Scheme.

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

AWE Pension Trustees Limited

on behalf of the Trustee of the AWE 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

As the Trustee of the Scheme, we 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.

We have discussed and agreed our climate related beliefs and overarching approach to managing climate change risk. Details are set out in our Statement of Investment Principles (“SIP”), and Responsible Investment Policy. These documents are reviewed regularly, at least every three years.

Our climate beliefs

We, the Trustee of the AWE Pension Scheme, believe that the risks associated with climate change may have a detrimental impact on the Scheme's investment returns within the timeframe that we are concerned about. We are supportive of the key outcomes and goals from COP26, such as the Glasgow Climate Pact. As such, we integrate assessments of climate change risk into our investment decisions. Climate change, whether managed or unabated, carries direct risks through physical damage, changes in health, disruptions to the world economy etc. The global response to climate change carries consequential risks, through restructuring of the economy, regulatory changes, fiscal changes etc.

We influence and engage with our investment managers with regards to climate related factors, rather than simply divesting from assets that are currently not aligned. This approach is one that has the potential to have a real-world impact, which is important given the systemic risk posed by climate change and the potential macroeconomic impacts. We recognise that, ultimately, divestment is an option if engagement is not expected to achieve the desired results.

We liaise with the employer to understand its approach to climate change and take action where necessary.

Where possible, and appropriately aligned with our strategic objectives and fiduciary duty, we will consider investment opportunities linked to climate-related factors.

Climate-related risks and opportunities are integrated into our risk management framework so we can maintain oversight of the climate-related risks and opportunities that are relevant to the Scheme. Where appropriate, we consider transition and physical climate related risks separately.

We receive training on an annual basis (or more frequently if required) on climate-related issues to ensure that we have the appropriate knowledge and understanding to support good decision-making.

2024 Trustee update

Policy changes

Over the year, we updated our SIP with a particular focus on updating and enhancing our stewardship policy. In particular, we set stewardship priorities to highlight our key areas of concern, namely climate change and corporate governance. We expect our investment managers to prioritise and actively monitor these risks within their respective investment processes, including ongoing engagement and voting activities.

Training

We received training on feedback shared by the Pensions Regulator regarding their latest review of TCFD reports, including recommendations for best practice. We also undertook a workshop covering lessons learnt following our first year of TCFD reporting.

The purpose of this training session was to better equip us ahead of the preparation of our second TCFD report and to consider further actions to help protect the Scheme against potential climate-related risks.



We are responsible for oversight of all strategic matters relating to the Scheme. This includes approval of the governance and management framework relating to environmental, social and governance (“ESG”) considerations and climate related risks and opportunities.

We have delegated oversight of climate change risk management to the Investment Committee, a subset of the Trustee, where it relates to investment and funding matters. We are updated on material climate related developments on a regular basis (at least annually).

Role of the Investment Committee (“IC”)

The key activities undertaken by the IC, with the support of our advisers, are to:

- ensure investment strategy or implementation proposals consider the impact of climate risks and opportunities.
- seek investment opportunities which enhance the ESG and climate change focus.
- engage with the investment managers to understand how climate risks are considered in their investment approach.
- ensure that stewardship activities are being undertaken appropriately by the investment managers.
- ensure that funding advice adequately incorporates climate related risk factors where they are relevant and material.
- to work with the investment managers to disclose relevant climate related metrics as set out in the TCFD recommendations; and
- to align the Scheme to the new requirements to report on climate related risk.

The IC will monitor and review progress against our climate change risk management framework on a biannual basis. It will also monitor and review progress as part of the triennial valuation cycle, annual funding updates and monitoring of the covenant strength.

How we work with our advisers

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

We annually review the quality of our advisers’ provision of advice and support on climate-related issues. The IC will specifically work alongside our advisers to review, suggest and implement updates to the Scheme’s approach to ESG. Then the IC advises the Trustee to develop views on Responsible Investment by providing appropriate training and monitoring performance of investment managers. For our investment adviser this is part of the annual review of investment consultant objectives.

2024 Trustee update

The IC has undertaken numerous activities throughout the year to ensure there is understanding of how investment managers are incorporating climate risks and stewardship into their mandates.

This includes monitoring via a dashboard which focusses on ESG issues, including climate change, and annual reporting on stewardship activities (including voting and engagement).

TCFD-related items including climate-related risks and opportunities remained key discussion points for the IC and were considered as part of investment strategy and investment manager changes.

The IC kept us updated through regular updates.

2024 Trustee update

We have set clear expectations to our investment advisers around the need to bring important and relevant climate-related issues and developments to our attention in a timely manner.

Investment adviser - our investment adviser, Aon, provides investment related strategic and practical support to the IC 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.

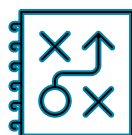
Scheme Actuary - the Scheme Actuary, at Government Actuary's Department, will help the IC assess the potential impact of climate related risks on funding.



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?

Each year, 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 number of asset classes 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 fund(s) is exposed to. At the time of writing one manager (Partners Group) has not been able to provide any information for the risk assessment, which is a relatively small portion of the portfolio (c.6%), and one manager has been unable to provide climate-related opportunities for the government bonds which form approximately 25% of the portfolio (albeit, due to the nature of the underlying assets in which they invest, government bonds and derivatives, the response is not unexpected). We are engaging with the managers, with support from our investment adviser Aon, to encourage it to better support our understanding of climate risks.

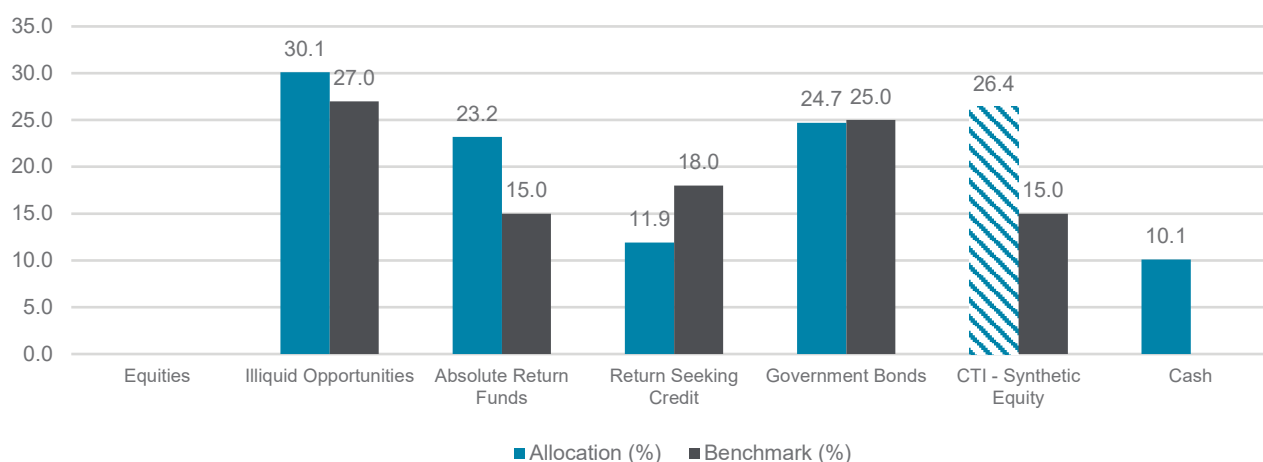
2024 Trustee update

Over the Scheme year, we asked our investment managers to assess their exposure to climate-related risks for the funds the Scheme is invested in. This year, we asked our managers to review their risk assessments and update them where there were material changes to report.

Our investments

The Scheme's investment portfolio is diversified across a range of different asset classes including equities, bonds, alternatives (property, infrastructure and absolute return funds) and LDI (Government Bonds).

The Scheme's asset allocation as at 31 March 2024 is as follows:



Asset allocations as at 31 March 2024

How the risk assessment works



Risk categories

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

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

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



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.

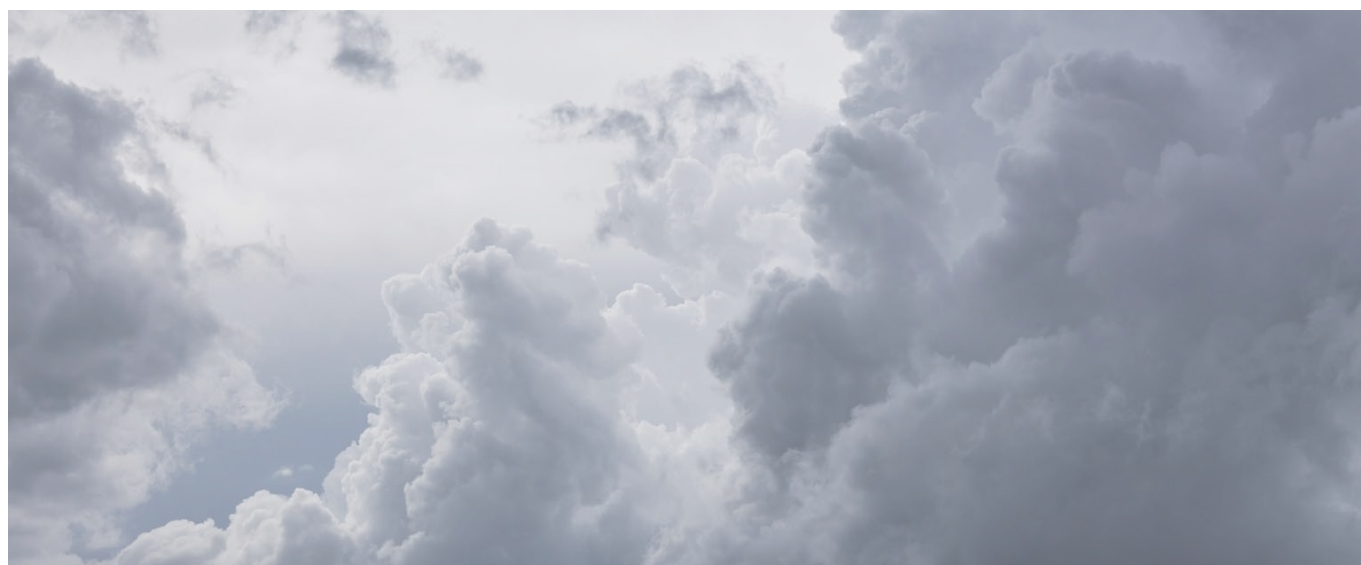


Time horizons

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

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



Climate-related risk assessment

Key conclusions

Diversification across asset classes, sectors and regions is important to manage climate-related physical and transition risks for the Scheme.

The **LDI assets** have been deemed to be a low-risk area across all three time horizons with the Scheme's manager stating that any adverse movements in gilt prices affects the assets and liabilities equally so would have minimal financial impact on the Scheme.

The Scheme's **Absolute Return assets** have been identified as a low-risk area with the Scheme's sole absolute return manager noting that its approach to constructing diversified, alpha-focused strategies generally mitigates these types of risks.

Multi-Asset Credit has been identified as a high-risk area in the long-term regarding physical risks and reputational risks (a type of transition risk). The managers believe that the physical risks are higher in the longer-term as a result of more extreme weather events and rising sea levels if climate change impacts are not addressed. Reputational risks have risen this year as climate pressure increases on corporates.

Alternative assets form a significant part of the Scheme's assets. Overall, they are deemed as relatively medium-risk, with the managers believing that there is a general increase in climate related risk over the medium and long term.

How are we mitigating these risks:

Proactive steps which the Trustee has taken over the year to mitigate climate-related risks, include:

- close monitoring of stewardship/climate-related activities carried out by our investment managers (to ensure they are appropriately engaging with investee companies on the management of climate risks).
 - utilising actively managed strategies where appropriate (allowing greater scope to select investments whilst accounting for climate-related risks and opportunities); and
 - engaging with our investment managers when we have identified inadequate management of climate-related risks. This is undertaken at least twice a year.
-

The following tables summarise the physical and transition risks for each asset class the Scheme is invested in. The analysis below excludes synthetic equity and cash given limited ability to measure climate-related risks for these asset classes.

LDI – 24.7% of portfolio

Physical Risks

	Acute	Chronic
Short	G	G
Medium	G	G
Long	G	G

The Scheme's LDI manager considers the physical risks to be green as any adverse movements in gilt prices affects the assets and liabilities equally and so there will be minimal financial impact on the Scheme. For UK Government Bonds, the cost of increased frequency of natural disaster and its impact to GDP is a risk.

Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	G	G	G	G
Long	G	G	G	G

The Scheme's LDI manager sees transition risks for the government as loss of revenue from taxes on fossil fuels and subsidies on green energy. If either of these risks resulted in costs to the UK government, there may be an increase in the issuance of debt and a potential increase in yields, reducing the value of UK Government Bonds. However, the manager sees this as a low risk as liabilities would be impacted in a similar way.

Absolute Return – 23.2% of portfolio

Physical Risks

	Acute	Chronic
Short	G	G
Medium	G	G
Long	G	G

The Scheme's absolute return manager notes that physical climate-related risks will be low across all three time horizons. The manager recognises that its portfolio is highly diversified across sectors and markets but as it is not investing meaningfully in physical property or private equity, much of the physical climate-related risk is mitigated.

Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	G	G	G	G
Long	G	G	G	G

The Scheme's absolute return manager notes that transitional climate-related risks will be low across all three time horizons. The manager notes that its investment offerings generally have low exposure to climate risks. The manager believes that these risks are applicable given their wide-ranging and existential implications, however its approach to constructing diversified, alpha-focused strategies mitigate these risks as it currently understands them.

Multi-Asset Credit – 11.9% of portfolio

Physical Risks

	Acute	Chronic
Short	G	G
Medium	G	G
Long	R	R

The Scheme's multi-asset credit manager does not see material physical risks in the short- and medium-term.

However, over the long-term, it believes that the tools to assess and analyse the physical risks will improve and incorporating the pricing of these risks within investment decisions will become important.

It also believes that, in the long-term, the risk of more extreme weather events and rising sea levels will be high if climate change impacts are not addressed.

Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	G	A	G	G
Medium	G	A	A	R
Long	G	A	A	R

The Scheme's multi-asset credit manager notes an improvement from last year regarding regulatory risk. This is because although pressure from investors and governments to reduce emissions is likely to increase and potentially materially affect issuers, the overall impact at a portfolio is expected to be limited.

However, reputational risks have worsened in both the medium- and long-term as corporates are expected to transition brands and business models to maintain customer demand levels as climate pressure increases.

Technological risks have slightly improved in the long-term, this is because although requirements to invest in transition technology is expected to increase over the medium- to long-term, this is expected to be a relatively manageable impact at a portfolio level given the sector mixes.

Alternatives – 30.1% of portfolio

Physical Risks

	Acute	Chronic
Short	A	G
Medium	A	G
Long	A	A

All managers continue to agree that, over time, physical risks, and in particular chronic risks, will increase.

Some managers agree that acute risks, in the short-term, have increased as severity of extreme weather events increases leading to higher maintenance costs and capital expenditure required to improve asset resilience.

All managers agree that all assets are affected by climate risk to some degree, with some assets being more affected than others, with the extent of financial damage caused determined more by geography than sector.

Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	A	G	A	G
Medium	A	A	A	G
Long	A	A	A	G

Most managers foresee increased risks in the regulatory environment over all time horizons. It is believed that policy will pose a substantial threat to companies' financial strength in the long-term due to public pressure on certain industries.

The reputational risks have been identified as decreasing in the long-term versus the previous year's assessment, as these managers begin to materially incorporate ESG concerns into their due diligence and decision-making processes.

One manager anticipates market risks to be high in both the medium- and long-term. It believes there are more businesses committing to becoming Net Zero and so, occupiers will demand Net Zero buildings. However, none of the buildings in its fund are aligned to Net Zero yet.

In the medium-term, all managers see technological risks as a medium risk.

One manager believes that if it fails to leverage technology that enables emissions and energy use reductions in its properties, it may hinder its ability to provide leading services to clients.

Another manager believes that the transportation and automobile sectors (which makes up 2.42% of its fund) have a high likelihood of financial stress due to upcoming legislation to ban production of new petrol and diesel cars in 2030 in the UK resulting in manufacturers having a relatively short amount of time to develop suitable battery technology.

Climate-related opportunities

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

Absolute-Return	The Scheme's manager has noted opportunities which could present themselves in the medium-term in various holdings across the portfolio. For example, the manager could capitalise on Energy Transition Finance and Sustainable Infrastructure (wind farms and greenhouses).
Multi-Asset Credit	<p>The Scheme's manager recognises numerous climate-related investment opportunities, with the following areas identified:</p> <ul style="list-style-type: none"> ▪ Within the high-yield bond and leverage loan asset classes, there is an increasing amount of issuance of green bond and sustainability-linked bonds and loans with sustainability-linked margin ratchets. ▪ The manager's commingled strategies within the Global High Yield Investment Group are designated Article 8 under EU's SFDR that requires that its fund invests at least 50% of its total assets in fixed income instruments of issuers that exhibit positive or improving ESG characteristics.
Alternatives	<p>Following assessment of the physical and transitional risks, the Scheme's managers outlined the following areas for potential investment opportunities:</p> <p>Short-term</p> <ul style="list-style-type: none"> ▪ Companies can benefit from an early-move advantage when looking to integrate climate-related features into their operations and transition plans. ▪ Higher rental premiums from assets with Energy Performance Certificates. <p>Medium-term</p> <ul style="list-style-type: none"> ▪ Renewable energy production, infrastructure and 'Green transport' with non-combustion propulsion ▪ Sustainable food and agriculture, alongside alternative packaging production due to sustainable/biodegradable alternatives. <p>Long-term</p> <ul style="list-style-type: none"> ▪ Possibility to enhance returns through use of renewable energy e.g., adding rooftop solar to industrial assets

Source: Managers



How resilient is the Scheme to climate change?

Last year we 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 five 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, 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.

2024 Trustee update

Under the Regulations, climate scenario analysis must be carried out at least every 3 years, with an annual review in interim years. Circumstances which may require the climate scenario analysis to be re-done may 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.

Although the Scheme has undergone some investment strategy changes since December 2022, (the date at which the climate scenario analysis was last run), we do not believe these are significant enough to materially impact the results, and therefore previous analysis remains appropriate.

We will reconsider this position in 2025 prior to the production of the Scheme's third TCFD report, along with any further guidance received from tPR.

Details of the climate scenarios we chose to analyse are set out in the table below.

Scenario	Reach net zero by	Degree warming vs pre-industrial levels by 2100	Introduction of environmental regulation	Scenario description
Base Case	2050	+1.5°C – 2.4°C	Fragmented Policy Coordination	Emission reductions start now and continue in a measured way in line with the objectives of the Paris Agreement and the UK government's legally binding commitment to reduce emissions in the UK to net zero by 2050.
No Transition	After 2050	+4°C	None	No further action is taken to reduce greenhouse gas ("GHG") emissions leading to significant global warming.
Disorderly Transition	After 2050	<3°C	Late and Aggressive	The world economy remains oriented towards improving near-term economic prospects, with companies and governments taking a "business as usual" approach. Eventually, market participants begin to fully grasp the implications of climate change and there is a growing realisation that current levels of action are inadequate. Market values price in high levels of economic damage and the irreversible loss.
Orderly Transition	2050	1.3 °C - 2°C	Coordinated	Increased public awareness of climate change risks galvanises opinion and leads to governments undertaking widespread action globally to aggressively mitigate and adapt to climate change. A high global greenhouse gas tax and carbon cap is introduced.
Abrupt Transition	2050	1.5 °C - 2°C	Aggressive	The effects from increasingly extreme weather events in the next five years lead to widespread public concern over climate change. This leads to governments introducing policies to drive a rapid reduction in greenhouse gas. Delayed action on reducing emissions means that the costs of tackling the problem are higher.
Disinflationary Transition	2045	<1.5°C	High Coordination	Private sector innovation and a green technology revolution, combined with government coordination, help drive progress towards tackling climate change.

Source: Aon.

Impact Assessment

Key conclusions

We observed that for some of the scenarios considered, the investment portfolio exhibited some resilience. However, there were also some scenarios in which it is recognised that the Scheme is potentially exposed to the risks of climate change, in particular under the Disorderly and Abrupt transitions where the analysis concluded that there was the possibility of a substantial drop in the funding level of the Scheme.

This is due to:

- High allocation to equities and alternative assets, with these assets being more sensitive to negative climate shocks over the medium and long term time horizons.
- Low levels of liability hedging assets, which lead to the assets not matching the changes in the liabilities under scenarios where there is a climate shock. In certain scenarios, this can lead to an increasing funding gap.
- The increasing maturity of the Scheme within the timeframes considered, which leads to increasing amounts of assets being sold to meet the cashflow requirements.

We are discussing ways which these risks may be mitigated against with our investment adviser, Aon, as part of the Scheme's ongoing strategy review.

The table below describes the impact of each scenario on the Scheme over the short-, medium- and long-term time horizons. The effective date of the impact assessment is 31 December 2022.

No Transition Scenario

Temperature rise
+4°C

Reach net-zero
After 2050

Environmental
regulation
None

Summary of the Scenario

In the short term:

No action is taken to combat climate change.

In the medium term:

No action is taken to combat climate change. Impacts from physical risks gradually become more severe over time leading to a drag on economic growth and risk asset returns.

In the long term:

Climate change headwinds grow and act as a drag on economic growth and risk asset returns. Impacts from physical risks become more severe and irreversible by 2100.

Summary of the impact to the Scheme

In the short term:

The Scheme suffers a deterioration in its funding level, as the performance of the assets lags the liabilities.

In the medium term:

The Scheme's funding level deteriorates as a result of the drag on risky assets and the deficit continues to increase. The Scheme's sponsor may be required to make up any funding shortfall.

In the long term:

Within the time period considered, the funding level begins to stabilise despite the drag on economic growth and risk asset returns.

Disorderly Scenario

Temperature rise
<3°C

Reach net-zero
After 2050

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.

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.

Environmental
regulation
Late and
Aggressive

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.

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 and an increasing maturity of the Scheme's liabilities. This may lead to the Scheme's sponsor 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 driven by increasing value of the liabilities, low levels of hedging, and increasing maturity of the Scheme.

This is the worst-case scenario for the Scheme and under the period of analysis, the Scheme's deficit has materially increased which may lead to the Scheme's sponsor make up any funding shortfall.

**Orderly
Scenario**

Temperature rise
1.3°C - 2°C

Reach net-zero
2050

Environmental
regulation
Coordinated

Summary of the Scenario

In the short term:

Immediate coordinated global action is taken to tackle climate change. Risky assets perform poorly.

In the medium term:

The rapid transition to clean technologies and green regulation begins to boost economic growth.

In the long term:

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.

Summary of the impact to the Scheme

In the short term:

The Scheme experiences an initial fall in the funding level as a result of the performance of risky assets. This may lead to the Scheme's sponsor to make up any funding shortfall via contributions.

In the medium term:

The funding position begins to recover as risky assets perform well, benefiting from the economic growth. However, the Scheme is expected to remain in deficit.

In the long term:

The funding position recovers long term and continues to follow a similar path the base case, albeit lower as a result of the initial action taken to tackle climate change. The Scheme may reach full funding towards the end of the period.

**Abrupt
Scenario**

Temperature rise
1.5°C - 2°C

Reach net-zero
2050

Environmental
regulation
Aggressive

Summary of the Scenario

In the short term:

Despite growing public awareness, material action is not undertaken to combat climate change.

In the medium term:

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.

In the long term:

Summary of the impact to the Scheme

In the short term:

The Scheme experiences a more sustained fall in funding level compared to the Base Case.

In the medium term:

The Scheme experiences a material drop in its funding level as a result of the higher cost to implement steps to tackle climate change which leads to risky assets performing poorly. However, the driver is the impact on the liabilities which is as a result of increasing value of the liabilities, low levels of hedging, and increasing maturity of the Scheme.

However, funding does begin to recover within the medium term as the economy begins to recover, which boosts growth, but the Scheme remains in a deficit.

In the long term:

Following rapid action in the medium term, the longer-term benefits from tackling climate change lead to higher growth.

The funding position begins to recover, before a further deterioration which begins to put the funding level on a downward path leading the Scheme's sponsor making up any funding shortfall. This is driven by the increasing value of the liabilities, low levels of hedging, and increasing maturity of the Scheme.

Disinflationary Transition

Temperature rise
<1.5°C
Reach net-zero
2045
Environmental
regulation
High coordination

Summary of the Scenario

In the short term:

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.

In the medium term:

The rapid technological advancement combined with government actions drives a smooth transition to a low carbon economy and enjoys growth.

In the long term:

The rapid technological advancement combined with government actions drives a smooth transition to a low carbon economy. Risk assets perform well.

Summary of the impact to the Scheme

In the short term:

The Scheme is expected to benefit, relative to the base case and the deficit reduces.

In the medium term:

The Scheme's funding level improves driven by strong performance of its assets due to high levels of economic growth.

In the long term:

Economic growth continues to boost asset performance thereby improving the Scheme's funding. This is the best outcome for the Scheme.

Source: Aon. Effective date of the impact assessment is 31 12 2022

Modelling limitations

The purpose of climate scenario modelling is to consider the exposure of the Scheme to the climate related risks and the pattern of the asset returns over different time horizons. Thus, the model is subject to limitations:

- The model intends to illustrate the climate-related risks that 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 also be considered when making changes to the investment strategy.
- The model only considers investment risk, measured in the form of deviance from the Base Case. The Scheme will also face covenant risk, longevity risk, basis risks and operational risks which are not captured in the model.
- The projections are considered appropriate for the analysis however, they are approximate, and a full actuarial valuation carried out on the same day 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.

Please refer to the [Appendix](#) for further details in relation to the assumptions used for the scenario analysis and its limitations.

Covenant – summary from the Trustee

The Scheme has been granted a Crown guarantee by the UK government which secures the fulfilment of the Scheme's pension obligations, therefore we believe this mitigates the impact of any material deterioration in the covenant of the sponsoring employer. As such, we have taken a more proportionate response regarding the potential risks posed to the covenant from climate related risks.

Whilst a key risk identified from the climate change scenario analysis performed on the Scheme's funding strategy (i.e. the assets and liabilities) is the volatility of the funding level, which may require additional contributions from the sponsor should the deficit increase, the Crown guarantee provides assurance to the Trustee that steps are in place to mitigate this volatility risk.

We note that under the legally binding Climate Change Act 2008, the UK Government must manage all UK emissions to reach net zero by 2050. Therefore, should the Crown guarantee come into effect, we are comfortable that the UK Government will continue to consider climate-related risks within its operations. The UK Government also aims to reduce all direct emissions from public sector buildings by 50% and 75% by 2032 and 2037 respectively, against a 2017 baseline.

We will monitor progress and updates on commitments on a regular basis.

Source:

<https://assets.publishing.service.gov.uk/media/6569cb331104cf000dfa7352/net-zero-government-emissions-roadmap.pdf>



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 part of the Scheme's wider risk management framework and 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.

Together these elements 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 we have identified as 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.

2024 Trustee update

The 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.

Additional activities carried out over the Scheme year

Within the SIP, we have highlighted that our key priorities for stewardship activity (i.e. engagement and voting) are in relation to climate change and corporate governance. We expect our investment managers to provide transparency on engagement and voting actions with respect to the mitigation of these risks.

Over the year, we monitored the stewardship activities of the Scheme's investment managers through the production of the Scheme's annual Engagement Policy and Implementation Statement ("EPIS").

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 framework.

We have developed a risk management framework to manage climate-related risk and opportunities. The risk management framework clearly sets out who is involved, what is done and how often. We have delegated a number of key tasks to different committees but retain the final responsibility. The processes for managing climate-related risks and opportunities are summarised in the tables below.

Governance

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Climate change governance framework (this document)	IC	Investment Adviser	Ad-hoc
Publish a TCFD report and implementation statement	IC	Investment Adviser	Annual
Add / review climate risks and activity on key Scheme documentation (e.g., risk register)	IC	Investment Adviser	Ongoing
Review climate change beliefs	Trustee	IC, Investment Adviser	Triennial
Receive training on climate-related issues	Trustee / IC	Advisers	Annual
Review adviser objectives to ensure advisers have appropriate climate capability, and bring important, relevant, and timely climate-related issues to our attention	Trustee	Advisers	Annual
Ensure investment proposals explicitly consider the impact of climate risks and opportunities and seek investment opportunities.	IC	Investment Adviser	Ad-hoc
Ensure that actuarial and covenant advice adequately incorporate 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	Fund managers, Investment Adviser	Annual

2024 Trustee update

We monitor the above activities as part of our management of climate related risks and opportunities. We have delegated responsibilities of several activities to the IC. We, and the IC, have received training sessions throughout the year on climate-related issues, including training on the requirements for the second year of TCFD reporting. We also reviewed what lessons could be learnt from our first year of TCFD reporting, and recent guidance and observations from the Pensions Regulator regarding best practice.

We continue to monitor 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. We are aided with the IC's ongoing monitoring through the ESG dashboard.

Strategy

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify the climate-related risks and opportunities for investment & funding strategy and assess their likelihood and impact	IC	Fund managers /Investment Adviser	Annual
Climate scenario analysis - annual review for the continuing suitability of the results	IC	Investment Adviser	Annual
Climate scenario analysis - refresh modelling	IC	Investment Adviser	Triennial
Actuarial valuation	Trustee	Scheme Actuary	Triennial

2024 Trustee update

The IC, supported by the Investment Adviser, has refreshed the climate risk and opportunities analysis, asking each manager for details on how they incorporate climate-related risks and opportunities into their respective portfolios.

Alongside this, we have reviewed the appropriateness of the climate change scenario analysis carried out within the Scheme's initial TCFD disclosures and we are comfortable that the analysis remains relevant for the current reporting year.

The conclusions of all these elements have been included in the Strategy Section of this report.

Risk management

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify, assess, and manage key climate-related risks.	IC	Investment Adviser	Ongoing
Consider the prioritisation of those climate-related risks, and the management of the most significant in terms of potential loss and likelihood.	IC	Advisers	To consider with strategy review/actuarial valuation

2024 Trustee update

We have processes in place for identifying and assessing climate-related risks as part of the producing this annual TCFD report. This is integrated into the ongoing activities of the Scheme and reviewed at least annually.

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. This is monitored through our ESG Dashboard and within this report. The purpose of the ESG Dashboard is to help us prioritise engagements with our managers, and to understand the outcomes of these engagements.

Metrics and Targets

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Agree/review approach for metrics	IC	Fund managers/Investment Adviser	Annual
Obtain data for agreed metrics	IC	Fund managers/Investment Adviser	Annual
Review continued appropriateness of target	IC	Investment Adviser	Annual

Trustee update

Supported by our Investment Adviser, we collect metrics data on an annual basis to understand the emissions associated with the Scheme's assets.

Carbon emissions metrics have been collected in line with industry practice. As this is the Scheme's second year of reporting, we have also reported on Scope 3 carbon metrics in addition to Scopes 1 & 2.

We reviewed the appropriateness of the target set within the Scheme's initial TCFD report and noted that the previous target we set had been met. With that in mind, we decided to revise our initial target to make it more ambitious.

More details can be found in the Metrics and Targets Section of this report.

Assessing our managers

To assess our managers' abilities to manage climate-related risks, we asked them 10 questions designed by the Pensions Climate Risk Industry Group¹ to help trustees do just that. The questions cover a range of topics including the manager's 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.

Key conclusions

We have, through our Investment Adviser, engaged with each of our managers. We asked the Scheme's ten investment managers for these details (as opposed to 13 last year) and there has been an improvement across the responses we received to these questions from the managers which we have retained. Please note that the comparison below does not refer to any of the managers whom we have disinvested from since last year, as these managers have been excluded. In summary:

- Six managers have produced TCFD aligned reports as opposed to four last year, with one manager currently working on its TCFD report.
- Four managers now conduct climate-related risks scenario analysis compared to two managers last year.
- Three managers have committed to a long-term temperature alignment target for the portfolios they manage, in comparison with one last year.

Overall, the managers have adequate frameworks and processes in place to ensure they consider climate related risks and opportunities within their mandates. In addition, the majority of the managers are participating in industry initiatives.

In summary, we are comfortable with the managers' ability to act in the best interests of the Scheme and to account for climate-related risks and opportunities in the portfolios that they manage. The Trustees viewed the improvements from the managers as a positive step to identify, manage and assess climate related risks and opportunities.

¹ Aligning your pension scheme with the Taskforce on Climate-Related Financial Disclosures recommendations - GOV.UK (www.gov.uk)



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

Last year, we reported on Scopes 1 and 2 emissions only. This year we are required to report Scope 3 emissions as well. Scope 3 emissions 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 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).



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).



Data coverage

A measure of the proportion of the portfolio that has 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 focused on the coverage of data (which includes reported and estimated data from the managers). The Trustee did not need to make any estimations as the data was directly provided by the managers. Please note some managers used estimates of their data, details of which are not shared as part of this document.



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.

The carbon metrics

The tables below show the climate-related metrics for the Scheme's assets.

The emissions associated with liability driven investment ("LDI") have been split out from the other assets. This because of different emissions calculation methodologies used for the underlying assets. LDI is mainly composed of UK sovereign bonds. The carbon emissions for UK sovereigns are based on the total GHG emissions for the whole of the UK, which are extremely high. By contrast, carbon emissions for equities, for example, are based on the emissions associated with the underlying companies invested in, which are smaller. Hence, the carbon emissions for sovereigns are higher than other assets.

Metrics have not been aggregated across the whole portfolio because the methodologies used for some asset classes are significantly different and therefore it is not appropriate to combine them.

Asset class	Year	%	Scopes 1 & 2			Scope 3			% of the portfolio with Net Zero / Paris aligned targets (%)
			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)	
Equity	2023	29%	89%	5,498	109	89%	12,294	243	58
	2022	26%	92%	29,748	177	-	-	-	68
Alternatives	2023	46%	56%	31,867	113	29%	92,608	640	4
	2022	32%	3%	4,547	227	-	-	-	-
Property	2023	7%	62%	480	8	41%	451	12	16
	2022	7%	56%	153	2	-	-	-	14
Multi-Asset Credit	2023	12%	29%	7,842	194	29	30,610	759	10
	2022	10%	30%	11,626	204	-	-	-	10
Emerging Market Debt	2023	2%	100%	5,576	215	-	-	-	-
	2022	4%	0%	-	-	-	-	-	6
Total (excl LDI)	2023	96%	56%	51,262	112	33%	135,962	497	10
	2022	80%	26%	46,076	141	-	-	-	14

Source: Investment managers / Aon. 2023 data as at 31/12/2023 unless specified otherwise. 2022 data as at 31/03/2022 unless specified otherwise.

Please note figures may not sum directly due to rounding.

Scope 3 emissions are not available for 2022 because this is the first year of reporting Scope 3 emissions.

One of the Scheme's alternatives managers provided data as at 31/03/2024.

Some of the 2022 data has been restated to reflect latest methodologies and best practice.

Observations

- Carbon metrics relating to derivative investments have been excluded. The Department for Work and Pensions (“DWP”) notes that methodologies for calculating metrics in relation to certain asset classes, particularly derivatives (such as repos² and interest rate and inflation swaps), are not yet established. At this time, trustees are not expected to be able to readily calculate emissions associated with derivatives. Emissions associated with the Scheme’s synthetic equity (c. 26% of the Scheme’s assets) have also been excluded.
- Our asset allocation is changing as we move towards a long term investment strategy. Therefore, we expect that there may be differences in reporting next year.

Equity

- Since 31 December 2023, the Scheme has disinvested from two of its equity managers.
- The coverage of data is high and in line with expectations for this asset class. Whilst it has fallen slightly over the year, it remains broadly consistent.
- The total scopes 1 & 2 emissions have fallen over the year, this is due to a significant decrease in the amount invested in equities.
- The portion of the portfolio with net zero or Paris aligned targets has fallen over the year, as a result of one of the equity managers using a stricter measure and reporting only on net zero or Paris aligned targets which have been approved by the Science Based Targets initiative (“SBTi”).

Alternatives

- Since last year, alternatives have seen a significant rise in data coverage, which in turn has resulted in higher total carbon emissions. This is as a result of four of the alternative managers now being able to provide carbon emissions data.
- The total scopes 1 & 2 carbon emissions have increased significantly over the year, largely as a result of the increased availability of data. The Trustee will continue to monitor and engage with its managers in relation to the reporting of carbon emissions data.
- The Trustee notes the improvement of some data now being available for the portion of the portfolio with net zero or Paris aligned targets, albeit this is minimal at present.

Property

- One of the Scheme’s property managers has been able to provide data across all three scopes, but due to the way in which the data has been collected the manager has been unable to split the metrics into scopes 1&2, and scope 3 separately. In this instance, the data has been collated under scopes 1&2.
- The Trustee notes that the total carbon emissions have increased over the year but due to the manager providing scope 3 data for this year’s report being unable to split the data between scopes 1&2 and

² Repos refer to sovereign bond repurchase agreements and form part of the LDI portfolio.

scope 3, this has resulted in the data from 2022 and 2023 not being directly comparable.

- The portion of the portfolio with net zero or Paris aligned targets has remained fairly consistent over the year.

Multi asset credit

- The coverage of data and scopes 1 & 2 carbon footprint have remained fairly consistent over the year.
- The total scopes 1 & 2 carbon emissions have however seen a decrease over the year, which is attributed to a decrease in the amount invested in this asset class.
- The portion of the portfolio with net zero or Paris aligned target has remained consistent.

EMD

- Since 31 December 2023, the Scheme has disinvested from its emerging market debt manager.
- Therefore, we do not expect to be reporting on this asset class in our next report.

LDI				Scopes 1 & 2	
Asset class	Year	%	Data Coverage (%)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m)
LDI Physical	2023	90%	100%	47,802	170.2
LDI Synthetic		10%	100%	5,234	170.2
<i>LDI</i>	<i>2022</i>	<i>20%</i>	<i>100%</i>	<i>89,558</i>	<i>165</i>

Source: Investment managers / Aon. Scope 3 emissions are not applicable to LDI.

2023 emissions associated with LDI has been calculated from the following sources:

- Physical-synthetic split as at 31/12/2023 from the manager.
- UK national emissions as at 31 December 2022 from the Emissions Database for Global Atmospheric Research. The 2023 figure is currently unavailable.
- PPP-adjusted GDP as at 31 December 2022 from the Organization for Economic Cooperation and Development. The 2023 figure is currently unavailable.

2022 data as at 31 March 2022

For the LDI assets, carbon metrics are shown solely in relation to the Scheme's physical and repurchase (repo) gilt holdings. Please find further information overleaf to see how LDI has been calculated.

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

- Out of the 13 managers data was requested from, 12 managers were able to disclose at least one carbon metric, as opposed to 7 last year.

8 managers provided scopes 1,2 and 3 emissions where this was applicable. One manager was unable to split out scopes 1, 2 and 3 emissions.

- Some of the managers for the alternative assets stated that they are not yet able to calculate the requested portfolio alignment data. Aon does not make any estimates for missing data.

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

The Trustee notes that there were some differences arising in the data coverage across the asset classes in which it invests, particularly when comparing between alternatives and multi-asset credit versus global equity. The Trustee is comfortable with the differences that exist due to the different asset classes:

- The global equity funds invest predominantly in companies listed on a public exchange. As a result, these companies may be required to report carbon emissions as part of legislative requirements. Even if not required to report, companies and their management may deem that there are benefits from reporting carbon emissions amongst wider environmental and social impact reporting to help meet the expectations of their investors.
- Investment in alternatives and multi-asset credit is different to global equities and not all underlying companies may be listed on a public exchange. As such, the disclosure requirements of carbon emissions may differ, and as such result in a lower coverage of data. Alongside this, the percentage of ownership is not always as clear for credit (bond) holders versus equities, as borrowing changes over time (such as new bonds issued by a company, or bonds bought back). This can lead to complications with the emissions methodology for bond holders.

We expect that in the future better information will be available from managers and this improvement will be reflected in the coming years of reporting. We plan to engage with our managers that were unable to supply emissions data to communicate our expectations for future reporting.

Notes on the metrics calculations

We use the industry standard methodology for calculating metrics where available. There currently is no industry-wide standard for calculating the metrics for some assets 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.

LDI

Aon collected the physical and synthetic split from the Scheme’s LDI manager. The carbon footprint was calculated by Aon using UK GHG Emissions and PPP adjusted GDP and assumes data coverage to be 100%. There is currently no industry agreed standard for calculating LDI emissions. Aon therefore calculates this figure to ensure consistency across managers and reporting.

Portion of the portfolio with Net Zero, or Paris Aligned targets

Aon requested the portion of the portfolio with Net Zero, or Paris Aligned targets for each fund from our investment managers and aggregated the results based on the portion of assets invested in each fund. Aon does not make any estimates for missing data. The Scheme’s measurement only represents the portion of the portfolio for which we have data.

Currently, there is no standard approach for calculating this metric for government bonds. Hence there is no metric for the LDI assets.

The Carbon Emissions Template

Our investment adviser, Aon, collected the carbon emissions data from our managers on our behalf using the industry standard Carbon Emissions Template (“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 climate-change risk exposure.

In our first year of reporting, we set a target to improve data coverage. Without meaningful data from the investment managers, it is very hard for us to measure our climate-risk exposure. So, it is important to set a target to improve the data coverage of the GHG emissions data from the managers.

We recognise that positive outcomes for some of the assets invested in may be outside of its control. As a result, the target has been set where we expect to be able to have the greatest influence.

Trustee update

Each year we review the suitability of the target we have set. This year, the Scheme has met its initial Scopes 1 & 2 data coverage target. As such, we have decided to revise our initial target to make it more ambitious.



Target data coverage

30%

By 2027 (Scopes 1 & 2, excl LDI)



Current data coverage

56%

2023 (Scopes 1 & 2, excl LDI)

Since last year, data coverage for scopes 1 and 2 emissions has increased by c.30% driven by an increase in the amount of data reported by our alternatives managers. As a result, the previous target has now been met, we have introduced revised targets below.

Updated target



Target data coverage

70%

By 2027
(Scopes 1 & 2, excl LDI)



2023 data coverage

56%

2023 (Scopes 1 & 2, excl LDI)

2022 data coverage



26%

2023 (Scopes 1 & 2, excl LDI)

The Scheme's performance against the updated target is reported each year. Over time, this will show the Scheme's progress against the target.

Steps we are taking to reach the target

We are taking the following steps to reach the target. We will continue to track interim progress of our engagement through the ESG dashboard, which is produced by our investment adviser bi-annually.

<p style="text-align: center;">Increasing data availability</p> <div style="text-align: center;"></div>	<p style="text-align: center;">Making the reporting consistent</p> <div style="text-align: center;"></div>
<p style="text-align: center;">Observation</p> <p>Coverage of data is an area for improvement across all our mandates.</p> <p>We acknowledge that for some fixed income assets, such as Muti Asset Credit, data coverage and therefore quality may be lower.</p>	<p style="text-align: center;">Observation</p> <p>There were inconsistencies with the data provided by our managers. We will continue to follow guidance for collecting carbon data in line with the industry standard CET.</p>
<p style="text-align: center;">Solution</p> <p>We will engage with the relevant investment managers directly, or through our investment adviser.</p> <p>Through engagement, we are expecting that this will identify opportunities to improve data availability or investigate alternative sources of data, particularly where there are significant gaps in the data.</p> <p>Engagement may also identify areas to improve the portion of assets with Net Zero or Paris-Aligned targets.</p>	<p style="text-align: center;">Solution</p> <p>We will engage with the managers directly, or through our investment adviser to understand challenges with providing consistent data and find an appropriate solution.</p> <p>Where methodologies for certain assets are not yet developed, we will encourage our managers to participate in industry initiatives and consultations to develop these.</p>

2024 Trustee update

Over the year, we engaged with two managers regarding their provision of carbon emissions. We engaged with one manager to understand the steps it was taking to improve its data coverage and we engaged with another manager to understand whether it was participating in any industry-wide consultations on methodologies to calculate carbon emissions for real estate.

Overall, we are comfortable with both of the managers' responses following our engagements and will continue monitor their improvements in providing carbon emissions data.

Appendices

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
- 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

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

⁹ TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

Greenhouse gas emissions scope levels¹⁰ 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

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 add to the atmosphere is no more than the amount removed.¹⁴

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

¹⁴ Energy Saving Trust, [What is net zero and how can we get there? - Energy Saving Trust](#), October 2021

Appendix 2 – Climate scenario

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.

- i. In particular, the model considers different climate change scenarios and the approximate impact on asset/liability values over the long-term.

Our model assumes a deterministic projection of assets and Technical Provisions liabilities, 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 us 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 with the different scenarios.

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 you need 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.

- i. 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; the model may propose different solutions for the same strategy under different market conditions.

Appendix 3 – An explanation of climate risk categories

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

Transition risks

Transition risks are those related 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 referring to extreme climate events such as flooding and wildfires, and chronic referring to 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 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.

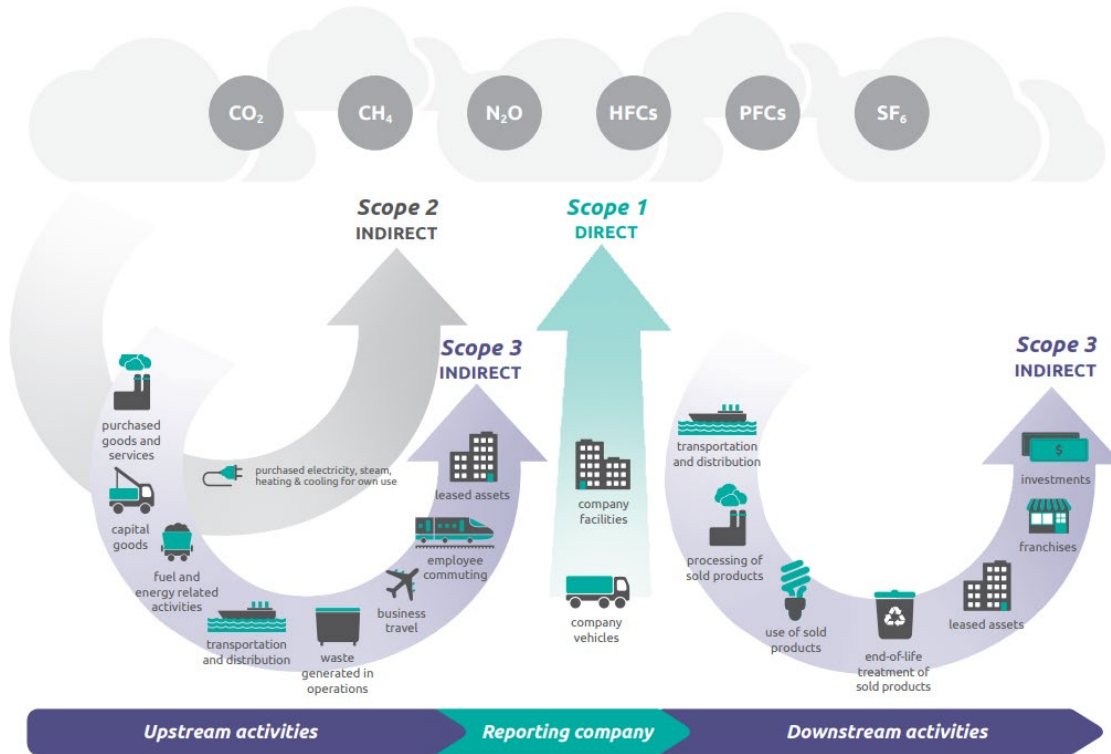
Six main greenhouse gases identified by the Kyoto Protocol

					
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