BANK OF AMERICA

# Task Force on Climate-Related Financial Disclosures Report for year ending 31 December 2022

## Bank of America UK Retirement Plan (the Plan)

Produced by the Trustee of the Bank of America UK Retirement Plan (the Trustee)

July 2023

# INTRODUCTION

Climate change is affecting the planet, causing extreme weather events, impacting crop production and threatening the Earth's ecosystems. Understanding the impact of climate change, specifically the vulnerability of the Plan's investments and funding strategy to climate-related risks, will help us, the Trustee, to mitigate these risks and take advantage of any opportunities for the ultimate benefit of Plan members.

The Task Force on Climate-Related Financial Disclosures (TCFD) is an initiative that has developed best practice guidance for climate-risk reporting.

The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations require trustees of certain pension schemes to publish an annual report in line with the TCFD's recommendations, to set out information on their pension scheme's climate-related risks. Disclosures must cover the following four core elements as set out by the TCFD:

- **Governance:** Processes in place around the management of climate-related risks and opportunities for the scheme.
- **Strategy:** The actual and potential impacts of climate-related risks and opportunities on the scheme's investments and funding strategy, and integration into investment decision-making.
- **Risk management:** The processes used to identify, assess, and manage climate-related risks and integration into overall risk management.
- **Metrics and targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

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 lead to more accountability and provide decision-useful information to investors and beneficiaries.

This document is the first annual TCFD report for the Bank of America UK Retirement Plan. The Trustee has prepared it for the year ending 31 December 2022 and it covers both the Defined Benefit (DB) and Defined Contribution (DC) Sections of the Plan.

## Bank of America's commitment to environmental sustainability

We, the Trustee, will consider the bank's views when making decisions regarding the Plan's strategy to the extent that these are consistent with our overall objectives and given the bank's role as the Plan's sponsoring employer.

Bank of America – the sponsoring employer of the Plan – has its own commitments regarding environmental sustainability.

## Contents

# 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 Plan.

We have worked closely with our advisers over the year to 31 December 2022 to identify the climate-related risks and opportunities faced by the Plan, as well as to understand ways we can manage and mitigate those risks. Given the majority of our analysis was carried out during the 2022 calendar year, the analysis throughout this report focuses on the Plan's position and investments as at 31 December 2021.

Carrying out this exercise annually will help ensure that these risks – which we believe are financially relevant to the Plan – are considered as part of ongoing good governance and risk management, and that they are explained and reported clearly.

This report is divided into four sections, which aligns with the four pillars of the TCFD recommendations.

## Governance

*See page 5 onwards for further detail, including our Climate Mission Statement*

- We, the Trustee, **take collective responsibility** for the oversight of all strategic matters relating to the Plan. This includes responsibility for the **oversight of climate-related risks and opportunities**.
- We have put in place a **governance and management framework** relating to Environmental, Social and Governance (ESG) considerations (which includes climate-related risks and opportunities). The framework includes assignment of roles and responsibilities to other sub-committees and advisers.
- The day-to-day implementation of our framework is **delegated to the Investment Sub-Committee** (the ISC), which is a sub-committee of the Trustee.

## Strategy

*See page 7 for further detail*

- We have carried out a **qualitative assessment on each asset class** the Plan invests in to help us understand how the Plan's DC investments and DB funding strategy may be exposed to and impacted by climate change risks and opportunities.
- We also carried out **quantitative climate change scenario analysis** where we considered a range of several possible climate change scenarios and their potential impact on the DB Section's funding position, and a selection of the DC Section investment options (see below).
- Our analysis showed that the **DB Section exhibits reasonable resilience** to possible climate change impacts, primarily due to the Section's strong funding position and low-risk investment strategy.
- For the **DC Section**, our analysis showed that a typical member could still be expected to achieve **positive investment returns** over the long term (30+ years), regardless of the climate outcome, although there was a **wide variation** and, in **some cases, the long-term return was low. Equity investments** in particular were highlighted as a **key risk area** for the DC Section, and **we have taken action** already to further incorporate consideration of ESG risks (including climate change) into the DC equity investments.

### The focus of our strategy analysis

For the DB Section, we have carried out analysis at the Section level, i.e., covering all the DB Section's investments.

For the DC Section, regulations require that we carry out strategy analysis for the Plan's popular arrangements. The regulations define popular arrangements as any DC investment option that holds more than 10% of the Plan's DC assets, or has more than £100m invested. For the Plan this includes the Principal Flexible Lifestyle strategy, Lower Risk Lifestyle strategy, Equity Lifestyle Fund, Diversified Lifestyle Fund, and Global Equity Fund – Active.

## Risk Management

*See page 15 for further detail*

- Ultimately, we believe that the risks associate with **climate change** can have a **materially detrimental impact on the Plan**, but also that climate-related factors may create investment opportunities.
- We have **established a process to identify, assess and manage** the climate-related risks and opportunities the Plan is exposed to. This is **integrated** into the Plan's wider risk management framework and is how we monitor the most significant risks to the Plan in our efforts to ensure that, for the DB Section, the benefits promised to Plan members are provided, and for the DC Section, members have an appropriate range of investment options suitable for meeting their investment objectives.

## Metrics and Targets

*See page 18 for further detail*

- We have disclosed information on **four climate-related metrics** for each of the DB and DC Sections of the Plan:
  - Total Greenhouse Gas (GHG) Emissions.
  - Carbon Footprint.
  - Data Quality.
  - Portfolio Alignment.
- We have also set the following targets for each Section of the Plan:

### DB Section:

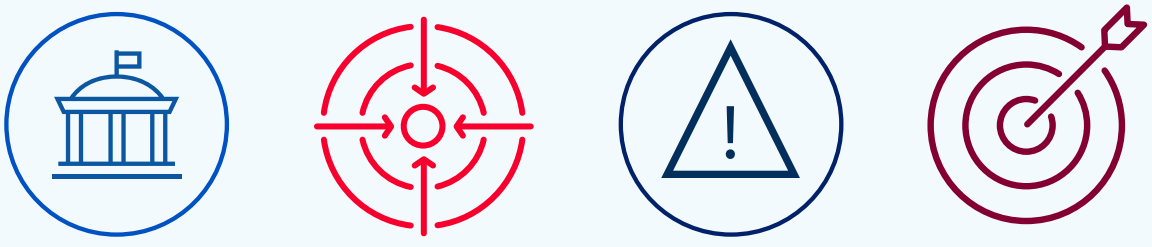
- **Improve Data Quality** to above 90% for fixed income assets, and above 50% for equity (unlisted) and property debt investments, by 2027.

### DC Section:

- **Improve Data Quality** (split across Scopes 1 and 2) to above 90% for the four component funds which make up the Plan's default Lifestyle strategy, the Principal Flexible Lifestyle strategy, by 2027.
- By 2030, **decrease the carbon footprint** of the Equity Lifestyle Fund by 75%.

We have an **action plan in place** to support us in meeting these targets and have already been in contact with all of our appointed investment managers to understand how they can support us in meeting these targets in future.

These targets will be reviewed annually to make sure they remain appropriate, and we are proactively working with our advisers and appointed managers to work towards achieving these targets. We look forward to providing our members with annual updates on our progress.



# 1. GOVERNANCE

## Trustee Climate Mission Statement

Climate change is an urgent and critical global challenge. Climate change poses systemic risks to financial markets due to both the physical impact of climate change and the effects of a transition to a more sustainable global economy. This in turn is likely to impact the value of the Plan's investments and members' benefits.

Sustainability risks have the potential for material adverse long-tail risks. Sustainability risks introduce uncertainty that can be under-appreciated by financial markets and may provide opportunities to generate long-term value for members. The Trustee will seek to proactively identify and capture such opportunities through the funds used and offered to members, including the DC Lifestyle strategy.

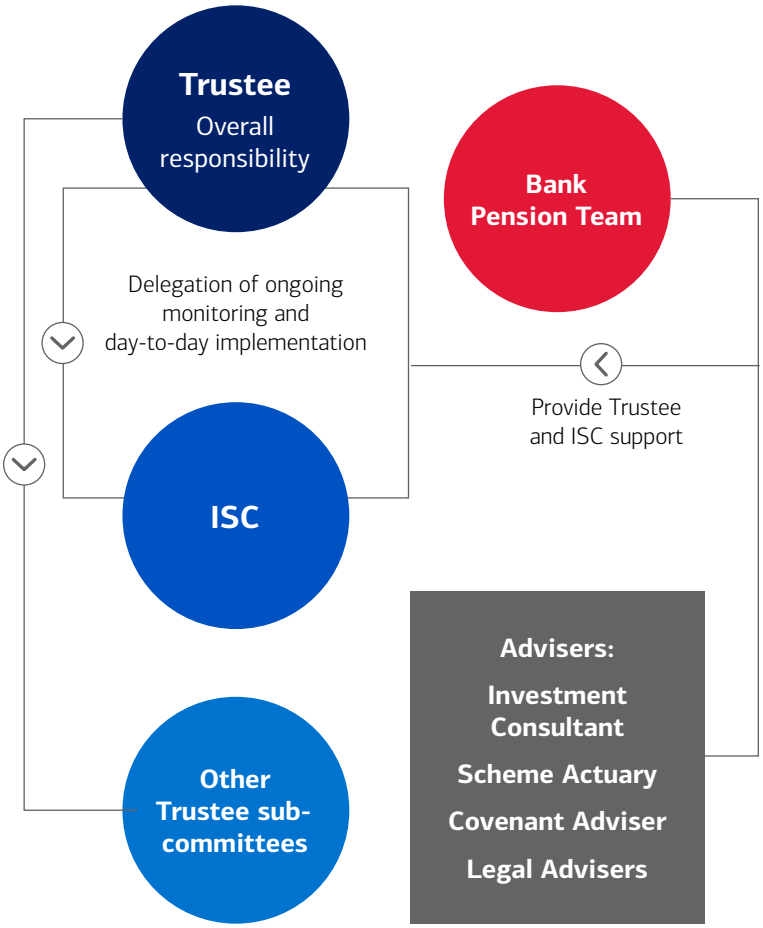
ESG factors (including climate change) impact long-term returns and risk management. Therefore, ESG factors are integrated into all strategy decisions to enhance long-term returns and to reduce risk for members.

## Role of the Trustee

The Trustee is ultimately responsible for oversight of all strategic matters related to the Plan. This includes approval of the governance and management framework relating to ESG considerations and climate-related risks and opportunities. Given its importance, the Trustee has not identified one individual to specifically be responsible for the Trustee's response to climate risks and opportunities. Rather, the Trustee Board has collective responsibility for setting the Plan's climate change risk management framework. Ongoing monitoring, and day-to-day implementation, of the Plan's climate change risk management framework is delegated to the ISC, which is a sub-committee of the Trustee. Both the Trustee and the ISC are supported by a range of other parties. In 2022, different elements of climate-related risk analysis (including the identification of risks and opportunities, scenario analysis and reviewing climate-related metrics) were discussed at every ISC meeting (six meetings in total) with updates and summaries then fed back at quarterly Trustee Board meetings.

The diagram to the right outlines the Trustee's governance structure for dealing with climate-related risks and opportunities, with further details on the responsibilities of each of these parties set out in the Appendices.

The Trustee has discussed and agreed its climate-related beliefs and overarching approach to managing climate change risk. Details are set out in the Statement of Investment Principles (SIP) and are reviewed and (re)approved annually by the Trustee.



## The Trustee's approach

In summary, the Trustee believes that:

- The risks associated with climate change can have a materially detrimental impact on the Plan's investment returns within the time horizons (see below) that the Trustee is concerned with and, as such, the Trustee seeks to integrate assessments of climate change risk into its investment decisions.
- 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.
- Climate-related risks and opportunities are assessed over relevant and appropriate time horizons (outlined below). Where appropriate, the Trustee considers transition and physical risks separately.
- Stewardship and engagement provide opportunities to preserve and enhance the value of assets.

The Trustee receives regular training, at least on an annual basis but more frequently if required, on climate-related issues to ensure that it has the appropriate degree of knowledge and understanding on these issues to support good decision-making. This training supports the Trustee in scrutinising the advice it receives from those who assist in its climate governance activities.

The Trustee last received training in September 2022 regarding the different tools available to measure how aligned the Plan's investments are to the Paris Agreement (i.e., limiting global temperature rises to no more than 2°C and achieving net zero carbon emissions by 2050).

Further detail on the Trustee's approach to analysing climate risk, including the different activities it carries out to understand the Plan's exposure to climate-related risks and opportunities, is detailed in the Risk Management Section of this report, and in Appendix F which details the Trustee's climate risk management plan.

The Trustee expects its advisers to bring important and relevant climate-related issues and developments to the Trustee's attention in a timely manner and expects its advisers to have the appropriate level of knowledge on climate-related matters. The Trustee reviews its advisers and how they support it with climate governance activities on an ongoing basis to ensure advisers are taking adequate steps to identify, assess and manage climate-related risks and opportunities. For example, the Trustee reviews its investment consultant against a set of specific objectives on annual basis. These include the objective of the consultant supporting the Trustee with its Responsible Investment approach, which includes consideration of environmental risks such as climate change.

## Time horizons

As part of the Trustee's ongoing oversight of the Plan, relevant time horizons have been identified for each section of the Plan as follows:

| | DC Section | DB Section |
|---|---|---|
| **Short term** | **3 years**, reflecting members planning to access their savings in the next few years. These members are typically invested in a mix of assets to provide above-inflation growth and manage short-term market volatility. | **Up to 3 years**, representing a triennial actuarial valuation cycle for the Plan. |
| **Medium term** | **10 years**, reflecting members in the mid-late career stage. These members typically have larger fund values, de-risking into a broader mix of assets as they approach retirement. | **5 years**, representing a period over which there is still likely to remain a significant proportion of deferred members. |
| **Long term** | **30+ years**, reflecting younger members with a long investment horizon. These members are typically invested solely in growth assets to provide long-term above inflation growth. Projections and investment needs for members beyond 30 years will need to be regularly revaluated as the world evolves. | **10 years**, representing a period over which most deferred members are expected to access their benefits. |

# 2. STRATEGY

Assessing the climate-related risks and opportunities the Plan's DB and DC Sections are exposed to is key to understanding the impact climate change could have on the Plan in the future.

The Trustee has established processes to identify, assess and manage the relevant climate-related risks. These include:

## A. Qualitative assessment

A qualitative assessment of climate-related risks and opportunities identified for each asset class over the relevant time horizons for each Section of the Plan.

## B. Quantitative analysis

A quantitative assessment by means of climate change scenario analysis, to consider the potential impact of various climate outcomes on the Plan's assets and liabilities.

This section contains the results of these assessments, and how they impact Trustee decision-making about the Plan's investments.

# 2.A. Qualitative assessment

Over the year, the Trustee, supported by its investment consultant, carried out a qualitative assessment of each asset class the Plan invests in to identify which climate-related risks and opportunities could have a material impact on the Plan. The Trustee also surveyed its investment managers on the specific climate-related risks and opportunities in the managers' funds to complement the more general asset class level assessment.

## How the qualitative assessment works

### Risk categories

The climate-related risks are categorised into transition and physical risks.

**Transition risks** are associated with the transition towards a low-carbon economy. For example, shifts in policy, technology or supply and demand in certain sectors.

**Physical risks** are associated with the physical impacts of climate change on companies' operations. For example, extreme temperatures, floods, storms or wildfires.

### Ratings

The assessment 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

The risks and opportunities are assessed over multiple time horizons for the DB and DC Sections of the Plan.

As set out on page 6, the most relevant time horizons for the DB Section are:

- Short term: up to 3 years
- Medium term: 5 years
- Long term: 10 years

And for the DC Section:

- Short term: 3 years
- Medium term: 10 years
- Long term: 30+ years

### Opportunities

As well as risks, climate change and the transition to a greener economy is expected to create investment opportunities. The Trustee has also considered these opportunities at an asset class level based on the aggregation of responses received from its underlying fund managers.

# Summary of the climate-related risk and opportunities assessment

The tables which follow set out a summary of the climate-related risk assessment, broken down by risk type (transition vs physical risks), asset class and time horizon.

The Plan's investments include the following asset classes:

| Asset Class | | DB Section | DC Section | DC Popular Arrangements[1] |
|---|---|---|---|---|
| Global Equities | Public Equity | – | ✓ | ✓ |
| | Private Equity | ✓ | – | – |
| Property | | ✓ | ✓ | ✓ |
| Corporate Bonds | | ✓ | ✓ | ✓ |
| Government Bonds (including LDI*) | | ✓ | ✓ | ✓ |
| Property Debt | | ✓ | – | – |

*Note: cash has been excluded based on materiality grounds.*
**Liability Driven Investment strategies, designed to reduce risks associated with changes in interest rates and inflation expectations.*

A more detailed breakdown of the risk exposure for different types of transition and physical risks, as well as climate-related opportunities for each asset class, is included in the Appendices.

## Assessment results

### Transition risks

| | Time horizon | | | |
|---|---|---|---|---|
| **Asset Class** | **Short DC & DB (3y)** | **Medium DB (5y)** | **Medium DC/Long DB (10y)** | **Long DC (30y)** |
| Global Equities | | | | |
| Property | | | | |
| Corporate Bonds | | | | |
| Government Bonds (including LDI) | | | | |
| Property Debt | | | | |

### Physical risks

| | Time horizon | | | |
|---|---|---|---|---|
| **Asset Class** | **Short DC & DB (3y)** | **Medium DB (5y)** | **Medium DC/Long DB (10y)** | **Long DC (30y)** |
| Global Equities | | | | |
| Property | | | | |
| Corporate Bonds | | | | |
| Government Bonds (including LDI) | | | | |
| Property Debt | | | | |

[1] A 'popular arrangement' is defined as one in which £100m or more is invested, or which accounts for 10% or more of the assets used to provide money purchase benefits. For the Plan, as at 31 December 2021, these consisted of the Principal Flexible Lifestyle strategy, Lower Risk Flexible Lifestyle strategy, Equity Lifestyle Fund, Diversified Lifestyle Fund and Global Equity – Active Fund.

## Key takeaways

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

Global equities, which are a significant part of the DC Section's assets, are deemed a high-risk area in terms of exposure to climate-related risks (particularly transition risks), indicated by the amber and red ratings over all time horizons. Transition risks are more prevalent in the short term whereas physical risks are more likely to be material over the longer-term time horizons. The Trustee has taken proactive steps over the year to mitigate this risk, including:

- Close monitoring of stewardship activities carried out by its investment managers (to ensure they are appropriately engaging with investee companies on the management of climate risks).
- Integrating climate considerations into all fund reviews and selections, including the appointment of managers with specific sustainability and climate objectives.
- Utilising actively managed strategies where appropriate (allowing greater scope to select investments whilst accounting for climate-related risks and opportunities).
- Ensuring that where index-tracking strategies are utilised, the choice of index and/or manager integrates consideration of ESG factors, including climate risks, into the selection and weighting of individual securities and ongoing stewardship activities. In 2022, this led to the Trustee deciding to revise the asset allocation of the Plan's DC Equity Lifestyle Fund (the central equity fund used within the DC Section) and introduce an ESG-aligned multi-factor equity index fund. This decision was made, in part, to better manage the exposure to ESG risks, including climate-related risks.

Property is also a high-risk area, particularly in relation to physical climate risks. The static nature of property investments presents a risk to the Plan, particularly if they are in regions that are vulnerable to climate change. For the DC Section, the Trustee has chosen a globally diversified property strategy which will help mitigate these risks. All of the Plan's property managers have provided assurance to the Trustee that they are accounting for these physical risks by not investing in properties in high-risk regions, as well as ensuring there is full insurance against potential damage.

The DB Section's funding strategy reflects the Plan's high funding level (as at 31 December 2021, the DB Section was in surplus on a gilts +0% basis). As part of the funding strategy, there are high levels of hedging in place and the majority of the DB Section's investable assets are invested in corporate bonds and government bonds, with a low allocation to riskier assets such as equity and property. The surplus position on a gilts +0% basis combined with high levels of hedging mean that the Trustee expects the funding strategy to be resilient to most climate-related risks, as climate related-risks and opportunities will have a limited impact on the Plan's ability to meet future expected payments due. Additionally, climate risks are expected to have a smaller impact on corporate and government bond investments, although the Trustee utilises active corporate bond strategies where appropriate, which allows managers to integrate climate change risks and opportunities into their investment decisions.

The Trustee has worked with its investment consultant and appointed asset managers to identify climate-related opportunities for each asset class. Further details on these can be found in the Appendices.

### Notes on data collection

The Trustee and its investment consultant engaged with all of the Plan's underlying investment managers in order to gather the relevant information to complete the above assessment. At the time of writing, the Plan's private equity managers were unable to provide strategy-specific information on how they view climate-related risks and opportunities.

The Trustee and its investment consultant are engaging with all managers to set expectations on the availability of this information in the future to assist with the management of climate-related risks and opportunities for the Plan. The Trustee and its investment consultant are monitoring this closely, and feedback has been provided to the managers in question relating to the Trustee's expectations in this area by way of a formal letter of engagement to all of the Plan's managers.

Positively however, one private equity manager was able to confirm that climate risk analysis is embedded in its practices and that ESG concerns are closely monitored with engagements carried out on a case-by-case basis. The manager is currently working on producing a physical and climate transition risk analysis for its infrastructure assets, with private equity holdings to follow soon after.

# 2.B. Quantitative analysis: Portfolio resilience and scenario analysis

## Climate change scenario analysis helps the Trustee to better understand the impact climate change could have on the Plan's DB assets and liabilities, and DC assets in the future.

The Trustee, with support from its investment consultant, has looked at six climate change scenarios, which it believes provide a reasonable range of plausible climate change pathways. The scenarios chosen were designed by the Trustee's investment consultant in conjunction with the Cambridge Institute for Sustainability Leadership, a well-respected industry think tank. Each scenario considers what might happen when transitioning to a low carbon economy under different conditions. These scenarios are based on detailed assumptions; they are illustrative and are subject to uncertainty.

The scenarios include a 'base case' which indicates the expected investment outcome based on the consensus long-term view which is currently priced into markets. The base case can be considered to be a broader expected outcome, whilst the other scenarios look at more specific climate outcomes.

| | Scenario Summary | Temperature rise by 2100* | Reach net zero by | Introduction of environmental regulation |
|---|---|---|---|---|
| **Base case** | 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. | **+1.5°C – 2.4°C** | 2050 | Uncoordinated |
| **No transition** | No further action is taken to reduce GHG emissions, leading to significant global warming. | **+3°C** | After 2050 | None |
| **Disorderly transition** | Limited action is taken and insufficient consideration is given to sustainable long-term policies to manage global warming effectively. | **<3°C** | After 2050 | Late and aggressive |
| **Abrupt transition** | Action on climate change is delayed for five years, at which point we experience more frequent extreme weather events and governments have to address GHG emissions. | **+1.5°C – 2°C** | 2050 | Aggressive |
| **Orderly transition** | Immediate and coordinated action to tackle climate change is taken using carbon taxes and environmental regulation. | **+1.3°C – 2°C** | 2050 | Coordinated |
| **Smooth transition** | Rapid advancement of green technology and government action on climate change, which achieves a smooth transition to a low carbon economy. | **<1.5°C** | 2045 | High coordination |

*Temperature rise relative to pre-industrial levels.

# DB Section – the impact on funding level and strategy

## Scenario analysis results

The DB Section runs a low-risk investment strategy, with a very high allocation to liability matching assets. As a result, the scenario analysis shows that the Plan is generally well insulated to climate change risk. This is largely due to the high allocation to bonds (which are expected to be less impacted by climate risks compared to higher risk/higher growth assets such as equities) and diversification amongst the rest of the assets when looking at the total portfolio level. The portfolio's resilience is also supported by high levels of hedging against changes in interest rates and inflation expectations.

### Key takeaways

The Plan's DB investment portfolio exhibits resilience over the long-term time horizon (10 years) across all scenarios.

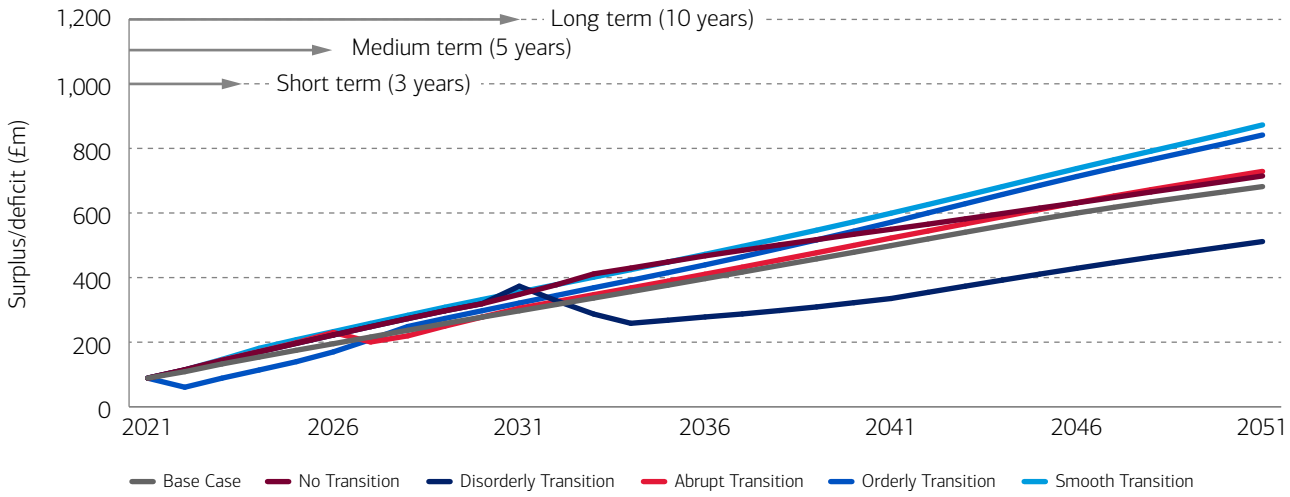
The Trustee is comfortable that no immediate actions or investment strategy changes are required for the DB Section as a result of the climate change scenario analysis.

In the short term (up to 3 years), there is a relatively poor outcome vs the base case under the orderly transition climate change scenario, which results in a funding level that is £40m lower due to the immediate introduction of climate policies and action.

Under the disorderly transition climate change scenario, after 10 years the funding level deteriorates sharply and does not recover to base case levels even within a 30-year time horizon, leaving the Plan materially worse off vs the base case in the long term.
However, this is considered a small risk given the much shorter expected time horizons for the DB Section.

The funding level projections under all the scenarios (except the disorderly transition scenario beyond a 10-year time horizon) are quite close together and follow a smooth path meaning that the volatility of the funding level is low and that the Plan, and the current funding strategy in place, is reasonably resilient to climate change risks.

**DB Section – funding level projections under each climate scenario**




### What does the chart show?

The chart shows what could happen to the Plan's DB funding level under each climate scenario up to 30 years into the future.

The funding level is a measure of the value of surplus assets (or deficit) the Plan has above the projected cost of the Plan's DB pension liabilities. The starting point is a surplus of £88m as at 31 December 2021.

Depending on the scenario, the projected path of the funding level over time will vary. Under some scenarios the funding level experiences sudden falls.

# DB Section – the impact on the employer covenant

In future years, the Trustee's covenant adviser will undertake a detailed climate scenario analysis of the covenant under at least two scenarios. The analysis will consider both risks and opportunities, together with the time horizon over which risks and opportunities will arise. This analysis will be performed on consistent scenarios with those considered by the Plan's other advisers, to ensure the Trustee is able to form a joined-up and consistent response.

# DC Section – the impact on member savings

For the DC Section, the Trustee has carried out climate change scenario analysis for each of the Plan's popular arrangements:

- Principal Flexible Lifestyle strategy
- Lower Risk Flexible Lifestyle strategy
- Equity Lifestyle Fund
- Diversified Lifestyle Fund
- Global Equity Fund – Active

For the two Lifestyle strategies, the Trustee also considered the different the impacts of the various scenarios for two typical members: one aged 22 (referred to as Member A), and the other aged 39 (referred to as Member B).

## DC Section scenario analysis results – key takeaways

Across all scenarios and time horizons, **investment returns are still expected to be positive overall**. However, there is some variation in the projected outcomes under each scenario and over the different time horizons, as illustrated in the summary below which highlights the outcomes of each scenario relative to the base case.


*Note: the above illustration reflects the general trends across the different arrangements analysed. Information on the outcomes for each individual popular arrangement can be found in the Appendices.*

## DC Section scenario analysis results – key takeaways

In general, the analysis shows that climate-related impacts (e.g., policy shocks and physical costs of climate change) are expected to have a larger negative impact (in the form of reduced expected returns) on riskier assets, like equities, versus lower risk assets, like bonds.

Given that equities make up the majority of the DC Section's assets and that equities reflect a high-risk investment with respect to considering and managing climate change risks, the Trustee recognises that the DC equity portfolio should remain a key area of focus in strategy and risk management decisions. To better address these risks, the Trustee took action over 2022 which involved changing the underlying investments of the Equity Lifestyle Fund (which forms a key component of the Lifestyle strategies) to include funds with explicit sustainability objectives. More detail on this change can be found in the Risk Management section.

Broadly, the pattern of results across asset classes is consistent across all time horizons. This points to the importance of diversification across asset classes as a means of managing the possible impacts of climate risk, particularly for members closer to retirement who have a stronger focus on capital preservation than growth. The Trustee has already reflected this within the Lifestyle strategies which are designed to gradually diversify across asset classes, and switch more of a members' savings away from equities and into fixed income and alternative assets, as they approach their Target Retirement Age.

In terms of the potential impacts on members, the trends from the climate change scenario analysis also indicate that **members further from retirement** (like Member A) may face **significant risks** of a poorer retirement outcome (relative to the base case) under the **disorderly transition or no transition scenarios**. The Trustee must consider both transition and physical risks – across asset classes, but particularly equities where there is a larger impact – to protect members from these potential risks. As above, the Trustee has proactively addressed this risk over 2022, with more detail included in the Risk Management section of this report.

**Members closer to retirement** (like Member B) face the risk of a **poorer outcome** (relative to the base case) under the **abrupt** and **orderly transition** scenarios, with **transition risks** being the primary driver of the poor outcomes. For these members, when policy shocks occur, there is limited time left to retirement to make back any losses. Both diversification across asset classes (which the Trustee has already accounted for in the design of the Lifestyle strategies) and consideration of climate-related risks within investments are important in appropriately managing these risks for members.

Overall, the Trustee is comfortable that sufficient action has been taken to increase the resilience of the DC investment strategy to the climate-related risks which may arise under each scenario. This has been done as part of the overall objective of helping members achieve a good retirement outcome. The Trustee will continue to monitor the DC investment strategy, including the potential impact of climate-related risks and opportunities, as part of its regular review and monitoring processes

# 3. RISK MANAGEMENT

## Identifying and assessing climate-related risks

As discussed in the Strategy section of this report, the Trustee has established a process to identify, assess and manage the climate-related risks that are relevant to the Plan. This is part of the Plan's wider risk management framework and is how the Trustee monitors and mitigates the most significant risks to the Plan, in its efforts to act in the best interest of the Plan's members.


### Qualitative assessment

*The first element is a qualitative assessment of climate-related risks and opportunities, which reflects an aggregate view across survey responses from all of the underlying fund managers.*


### Quantitative analysis

*The second element is quantitative in nature and is delivered by means of climate change scenario analysis to consider projected future outcomes under different economic conditions.*

The qualitative assessment and quantitative analysis are carried out for the DB and DC Sections separately. Both are prepared by the Trustee's investment consultant and reviewed by the Trustee.

From this work, the Trustee gets a clear understanding of the climate-related risks that each Plan Section is exposed to. Where appropriate, the Trustee distinguishes between transition and physical risks. The risks and opportunities are assessed with reference to the time horizons that the Trustee has identified as relevant to each Plan Section.

When prioritising the management of risks, the Trustee assesses the impact and likelihood of climate-related risks relative to other risks impacting the Plan. This helps the Trustee focus time and resource on the risks that pose the most significant threat.

# Managing climate-related risks

The Trustee recognises the long-term risks posed by climate change and has already carried out a lot of work to better integrate climate-related risks into the Plan's risk management framework.

The Trustee has developed a detailed Climate Risk Management Plan to help with its ongoing management of climate-related risks and opportunities. The Trustee has delegated some tasks to improve efficiency but retains ultimate responsibility for the Climate Risk Management Plan.

The Plan's risk management processes cover both the DB and DC Sections. The Trustee developed these processes by carefully considering the objectives of each Section and taking professional advice in relation to each. The risk management activities carried out by the Trustee are summarised in the table below. The full Climate Risk Management Plan can be found in the Appendices.

## Training

The Trustee receives training on responsible investment topics at least annually (but often more frequently) to understand how ESG factors, including climate change, could impact the Plan.

These training sessions also cover best practice and industry developments regarding wider responsible investment issues.

## Monitoring

As part of the quarterly monitoring of the Plan's DB and DC investments, the Trustee receives ESG ratings on its investment managers from its investment consultant, Aon. The ESG ratings assess (amongst other aspects) the investment managers' awareness and reporting of climate-related risks.

## Annual ESG assessment

On an annual basis, the Trustee carries out a responsible investment review of its managers. In particular, the review considers the managers' responsible investment and stewardship policies, and how ESG is integrated into their decision-making and stewardship processes.

## Investment strategy

The Trustee's investment consultant explicitly considers the impact of climate-related risks in investment advice and seeks investment opportunities that could contribute to the Trustee's ESG aims and TCFD-related targets.

### Action taken in 2022:

**DC Section**

The Trustee reviews the Equity Lifestyle Fund (the most material holding within the DC Section by asset value) annually given its strategic importance within the Plan. The 2022 review focussed on ESG risks and opportunities, including those related to climate change. Following the review, the Trustee decided to change the fund's strategic asset allocation to better manage the exposure to ESG risks. In selecting a new underlying fund, the Trustee reviewed and engaged with the fund manager extensively to make sure the strategy had a clear focus on ESG issues, including climate change. The new fund structure is projected to reduce the carbon emissions intensity of the fund by c.50% and supports the Trustee's current target to reduce the GHG intensity of the Equity Lifestyle Fund by 75% by 2030 (see the Metrics and Targets section of this report).

**DB Section**

As part of the recent appointment of the BlackRock Buy and Maintain Credit fund, the Trustee considered advice from its investment consultant about the opportunity to create a bespoke portfolio tailored to meet the Trustee's specific ESG needs. As a result, BlackRock were appointed with a view to providing a bespoke portfolio for the Trustee.

## Integrated into risk framework

Climate-related risks are included in the Plan's risk register which is overseen by the Administration and Governance Sub-Committee (a sub-committee of the Trustee) and formally reviewed on an annual basis.

ESG monitoring and risk assessment is considered at quarterly Trustee/ISC meetings alongside regular risk/return reporting, with additional climate-related items also discussed at meetings in line with the agreed Climate Risk Management Plan (see the Appendices).

## Manager engagement

The Trustee has a schedule in place to facilitate regular meetings and engagement with its investment managers, which typically includes meeting with two managers each quarter. The Trustee prioritises managers with the greatest potential impact on funding strategy and member outcomes (based on factors such as asset size and mandate type). Meetings with managers may be brought forward if regular monitoring processes (e.g., quarterly ESG monitoring, analysis as part of completing the annual implementation statement, TCFD processes) highlight that a manager is not aligned with the Trustee's expectations on ESG and climate-related risks. Engagement may also be carried out via email or through the Trustee's investment consultants as appropriate.

### 2022 engagement activity

The Trustee met directly with five managers in 2022, with meetings covering items including both performance and ESG-related issues (such as climate change and stewardship). No major concerns were flagged as part of these meetings.

The Trustee's investment consultant also engaged with one manager identified as providing an unsatisfactory response (compared to peers) to the climate risk and opportunities questionnaire issued as part of the 2022 TCFD reporting process. A conference call was held to better understand and challenge the manager's response to this information request and to clearly set out the Trustee's expectations for future TCFD reporting. The investment consultant was comfortable that the investment manager took actions away to improve their processes going forward, although this remains a monitoring point for the Trustee.

Following on from this, the Trustee chose to engage further with all of its appointed managers by writing each a letter to reiterate the Trustee's expectations regarding support with TCFD reporting and the monitoring of climate-related risks and opportunities.

The Trustee believes this type of engagement will be crucial in improving climate-related data and transparency across the investment market. Progress of managers will be monitored as part of future TCFD reporting.

## Climate initiatives

The Trustee recognises that collaboration and support of initiatives is a powerful tool to influence behaviour. Some members of the Trustee are members of Aon's Responsible Investment Network[2].

The Trustee is open to supporting relevant industry initiatives in the future.

The Trustee expects the Plan's DB and DC investment managers to consider collaboration with others, as permitted by relevant legal and regulatory codes.

## Actuarial and sponsor covenant

The Trustee's advisers consider climate-related risk factors in actuarial and covenant advice where they are relevant and material. Climate-related scenario analysis of the covenant will be carried out in future years which will consider both risks and opportunities, together with the time horizons over which these will arise.

[2] A network set up by the Plan's investment consultant which provides access to regular updates on responsible investment market innovations and developments, topical events and research/focus groups for discussion of key issues concerning sustainable finance and broader responsible investment issues.

# 4. METRICS AND TARGETS

## Our climate-related metrics

The Trustee uses selected quantitative measures to better understand and monitor the Plan's exposure to climate-related risks.

To facilitate relevant analysis, the Trustee's investment consultant has collected information from the Plan's managers on their GHG emissions. The Trustee has chosen to report on the following metrics:

### Total Greenhouse Gas emissions

Total GHG emissions associated with the portfolio is an absolute measure of carbon output from the Plan's investments and is measured in tonnes of carbon dioxide equivalent ($tCO_2e$).

### 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 ($tCO_2e/£m$).

### Carbon data quality

A measure of the proportion of the portfolio for which emissions data is available. The Trustee selected this metric to provide a consistent and comparable measure of the level of confidence in the data and results for other chosen metrics.

### Portfolio alignment

A metric which indicates the alignment of the Plan's assets with the climate change goal of limiting the increase in the global average temperature to 1.5˚C above pre-industrial levels. The Trustee has chosen to report a different metric for each of the DB and DC Sections to reflect the types of data available for each Section.

#### DB Section – Science Based Targets initiative (SBTi) alignment

This is measured as the percentage of underlying portfolio investments with declared net zero or Paris-aligned targets that have been verified by the SBTi.

#### DC Section – Implied Temperature Rise (ITR)

A metric which translates an assessment of alignment/misalignment with a benchmark into a measure of the consequences of that alignment/misalignment in the form of a temperature score.

## GHG emission Scopes

GHGs are categorised into three types or 'Scopes' by the Greenhouse Gas Protocol, the world's most used GHG accounting standard. Carbon metrics assessed for the Plan include Scopes 1 and 2 emissions only. Scope 3 emissions will be reported on next year in line with the TCFD requirements. See the Appendices for more details.

# DB Section

The table below shows the climate-related metrics for the Plan's DB assets. The metrics are shown separately for the LDI, the annuity buy-in and the Plan's other investable assets because the methodologies currently used for each of these are different.

| | Assets invested as at 31 December 2021 (£m) | Total GHG emissions (Scopes 1 and 2) ($tCO_2e$) | Carbon footprint (Scopes 1 and 2) ($tCO_2e$/£m) | Carbon data quality | Portfolio Alignment – SBTi alignment |
|---|---|---|---|---|---|
| LDI | 697 (40%) | 201,700 | 168 | 100% | Not available |
| Annuity buy-in | | | | | |
| Private exposure (private equity and loans) | 374 (22%) | 19,600 | 126 | 37% | Not available |
| Public exposure (listed equity and corporate bonds) | | 6,900 | 63 | 26% | |
| | | | | | |
| Remainder of Plan's assets (see detailed breakdown of individual asset classes below) | 658 (38%) | 41,900 | 40 | 40% | 4.5%* |
| **Total assets** | **1,729 (100%)** | | | | |

*Source: Aon, MSCI and underlying fund managers.*
**Reflects portfolio alignment of assets where data was provided: 4.5% of 19% of total Section assets.*

## Detailed breakdown of the Plan's investable assets (excluding Buy-In)

| | Assets invested as at 31 December 2021 (£m) | % of assets | Total GHG emissions (Scopes 1 and 2) ($tCO_2e$) | Carbon footprint (Scopes 1 and 2) ($tCO_2e$/£m) | Carbon data quality | Portfolio Alignment – SBTi alignment |
|---|---|---|---|---|---|---|
| **Equity (private)** | 6 | 0.3% | Currently unavailable | | | |
| **Fixed Income** | 558 | 32.3% | 41,700 | 43 | 38% | 4.5%* |
| **Property Debt** | 47 | 2.7% | Currently unavailable | | | |
| **Property** | 47 | 2.7% | 200 | 5 | 100% | Currently unavailable |
| **LDI portfolio** | 697 | 40.3% | 201,700 | 168 | 100% | Currently unavailable |

*All data is at 31 December 2021. Source: Aon and managers. Totals may not sum due to rounding. Data does not include the Escrow account or the abrdn Eurozone Fund of Funds, given there are few assets held in this fund and recognising that these assets are currently invested in cash awaiting final distribution. Source: Aon, MSCI and underlying fund managers.*
**Reflects portfolio alignment of assets where data was provided 4.5% of 19% of total Section assets.*

# Observations

## Carbon emissions and footprint

- The majority of the Plan's carbon emissions are coming from its LDI portfolio, which is not surprising given this forms the largest part of the Plan's DB assets.
- However, it is currently difficult to draw meaningful conclusions from the Plan's carbon data given significantly different calculation approaches for the different type of assets (particularly public and private assets) and limited data quality for some asset classes.

## Carbon data quality

- The quality of data available varies significantly across asset classes, with managers of less liquid assets (private equity and property debt) in particular struggling to provide carbon-related data.
- Gaps in data are not uncommon across the industry, and we expect to see improvements in data over time as TCFD reporting becomes more regular and regulations and expectations around transparency continue to increase.

## SBTi Alignment

- Only two of the Plan's DB managers provided SBTi alignment information, both within the fixed income asset class. These managers represent c.19% of the DB assets.
- With the bulk of the data for the Plan's assets missing, the 4.5% figure is not representative of the DB portfolio as a whole and it is difficult to draw meaningful conclusions regarding the current degree of portfolio alignment.

While the metrics gathered are useful in assisting the Trustee in understanding the Plan's exposure to climate-related risks, there are some significant issues regarding the availability of data and consistency and comparability of calculation approaches (as noted above). The Trustee understands that these issues are prevalent across the industry and are not specific to the Plan. However, the Trustee believes it has a responsibility to engage appropriately to drive improvements in the availability and quality of the data available.

Following the data collection exercise for this TCFD report, the Trustee has sent a letter of expectation to all its investment managers for the DB Section that any missing information will be provided for the Plan's next TCFD report. The Trustee plans to continue to engage with its appointed managers to ensure an improvement in data transparency and ultimately support the Trustee in its assessment of climate-related risks and opportunities.

# DC Section

As per the climate change scenario analysis, the Trustee must disclose metrics for each popular arrangement available to members. As a reminder this includes the:

- Principal Flexible Lifestyle strategy.
- Lower Risk Flexible Lifestyle strategy.
- Equity Lifestyle Fund.
- Diversified Lifestyle Fund.
- Global Equity Fund – Active Fund.

The Trustee has also chosen to disclose metrics for the Plan's ESG Global Equity Fund given this fund has an objective to deliver a positive impact on ESG issues including climate change.

Given the Lifestyle strategies are made up of a number of different underlying funds, the Trustee has also chosen to assess and disclose the carbon emissions associated with each underlying fund used within the Lifestyle strategies.

| | Assets invested as at 31 December 2021 (£m) | % of total DC assets | Total GHG emissions (Scopes 1 and 2) ($tCO_2e$) | Carbon footprint (Scopes 1 and 2) ($tCO_2e$/£m) | Carbon data quality | Portfolio Alignment – ITR |
|---|---|---|---|---|---|---|
| **Equity Lifestyle Fund** | 1,363 | 58.5% | 188,300 | 145 | 96% | 2.4°C |
| **Diversified Lifestyle Fund** | 289 | 12.4% | 12,300 | 85 | 41% | 3.3°C |
| **Corporate Bond Lifestyle Fund** | 22 | 0.9% | 750 | 120 | 29% | 2.0°C |
| **ILG Lifestyle Fund** | 14 | 0.6% | 50 | 5 | 100% | Not applicable |
| **Global Equity Fund – Active** | 109 | 4.7% | 5,200 | 50 | 97% | 2.2°C |
| **ESG Global Equity Fund** | 17 | 0.7% | 1,400 | 85 | 97% | 2.5°C |

*As at 31 December 2021. Source: Investment managers/Aon/MSCI.*
*Totals may not sum due to rounding. Carbon data covers Scopes 1 & 2 emissions only and does not cover Scope 3 emissions. Scope 3 emissions are to be reported on from 2023, in line with the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations.*

## Observations

### GHG emissions and carbon footprint

- The majority of the Plan's carbon emissions are coming from the Equity Lifestyle Fund. As well as having the highest overall emissions, this fund also has the highest carbon footprint of the popular arrangements disclosed in the table above, including the two other equity funds (the Global Equity Fund – Active and the ESG Global Equity Fund).
- Emissions are lower for the other funds, although data quality is also lower for the Diversified Lifestyle and Corporate Bond Lifestyle Fund, and the ILG Lifestyle Fund uses a different calculation method given the sovereign bond nature of the fund's assets. This makes drawing meaningful comparisons difficult, especially in comparison to the equity-based funds where data quality is substantially higher.

### Carbon data quality

- The quality of data available varies significantly across asset classes, with very good data quality available for equity and gilt funds, but much lower levels of data available for multi-asset and corporate bond investments.
- Gaps in data are not uncommon across the industry, and we expect to see improvements in data over time as TCFD reporting becomes more regular and regulations and expectations around transparency continue to increase.

### Implied Temperature Rise

- All of the funds currently have implied temperature rises of above 2°C, (i.e., not in line with the Paris Agreement target of keeping the rise in global temperatures well below 2°C).
- The ITR figure for the Diversified Lifestyle Fund is particularly high at 3.3°C, however, it is worth noting that this figure may not be truly representative as data was only received for 37% of the underlying holdings of the fund.
- No data was provided for the ILG Lifestyle Fund, as there is currently no industry standard on calculating the implied temperature rise of UK Government bond investments, as this would involve forecasting the projected temperature rise associated with the activities of the entire UK economy.
- The Trustee is engaging with its investment managers to understand what steps are being taken to improve the portfolio alignment of the DC investments, including manager engagement with underlying investee companies.

As per the DB Section, there are issues regarding the availability and quality of the metrics data that has been gathered, again reflecting an industry-wide problem. The Trustee has sent a letter to all its investment managers for the DC Section to reiterate expectations in relation to reporting requirements, including that any missing information will be provided for the Plan's next annual TCFD report. The Trustee will continue to engage with its appointed managers to push for an improvement in data availability and ultimately support the Trustee in its assessment of climate-related risks and opportunities.

# Data Limitations

As noted above, not all of the Plan's managers were able to provide all the requested data. This means that the reported emissions metrics may not reflect all the Plan's GHG emissions and that the metrics may show the Plan's GHG emissions to be lower than they really are. The Trustee also notes that there is not yet an industry-wide standard on calculating some of these metrics, and that different managers may use different methods and assumptions when providing data to the Trustee.

These issues are commonplace across the industry at the current time and highlight the importance of TCFD-aligned reporting to improve transparency on carbon-related data. The Trustee expects that in the future, better information will be available from managers as the industry aligns to expectations and best practice standards. The Trustee and its investment consultant are engaging with managers to ensure that this improvement will be reflected in the coming years' reporting.

# Looking to the future: Our climate-related targets

Climate-related targets help the Trustee track the progress of its efforts to manage the Plan's climate-change risk exposure.

Given appropriate and significant differences between the investment objectives and asset allocations for the Plan's DB and DC arrangements, the Trustee has opted to set separate targets for each Section.

## DB Section

The Trustee has set a target for improving the carbon data quality metric. Without meaningful data from the investment managers, it is very hard for the Trustee to measure its climate-risk exposure, so it is important to set a target to improve the quality of GHG emissions data from the managers.

### 2027 Data Quality target:

Improve Data Quality (split across Scopes 1 and 2) to **above 90% for fixed income assets** and **above 50% for equity (unlisted) and property debt** investments.

*Note: The target does not cover the DB Section's LDI or the buy-in assets.*

Based on the data gathered for this TCFD report (which is dated as at 31 December 2021), the current data quality for fixed income assets is 38%, and 0% for equity (unlisted) and property debt investments.

The Plan's performance against the target will be measured and reported on every year to highlight progress.

To help reach this target, the Trustee and its investment consultant are engaging with the Plan's managers to increase data availability as well as comparing data from a variety of sources (e.g., directly from managers and third parties like MSCI) to improve the consistency of reported figures.

# DC Section

The Trustee has set two complementary targets for the DC Section of the Plan.

## Target 1 – Data Quality

Similar to the DB Section, data quality is poor across non-equity asset classes and so it is hard to draw meaningful conclusions regarding the Plan's climate-risk exposure for these asset classes at the current time.

This has led the Trustee to set the following target:

### 2027 Data Quality target:

Improve Data Quality (split across Scopes 1 and 2) to above **90%*** on average for the four component funds which make up the Plan's default Lifestyle strategy (namely the Equity, Diversified, Corporate Bond and Index-Linked Gilt Lifestyle funds).

**unweighted average of four funds*

Data quality for the four component funds of the default Lifestyle strategy, based on information received as at 31 December 2021, is 67% (on average across the four funds).

## Target 2 – Carbon Footprint Reduction

Data quality for the Plan's DC equity assets is very good (over 90%). The Equity Lifestyle Fund makes up close to 60% of the Plan's total DC investments and contributes the most to the Plan's DC carbon emissions. More generally, equity investments have been identified as a key source of climate-related risks as part of the Trustee's TCFD strategy work.

In order to help manage this risk, as well as support the achievement of global climate goals (e.g., net zero carbon emissions by 2050), the Trustee has set the following target:

### Carbon Footprint Reduction Target:

By 2030, reduce the carbon footprint of the Equity Lifestyle Fund by **75%**.

The carbon footprint of the Equity Lifestyle Fund based on data received as at 31 December 2021 is 145 $tCO_2e$/£m.

The target will therefore be to achieve a carbon footprint for the Equity Lifestyle Fund of 36 $tCO_2e$/£m or less, by 2030.

To reach these targets, the Trustee and its investment consultant are:

- Engaging with the Plan's managers to increase data availability and coverage and better understand how the underlying managers plan to manage the carbon intensity of their strategies over the next 5-7 years.
- Comparing data from a variety of sources (e.g., directly from managers and third parties like MSCI) to improve consistency of reported figures.
- Reviewing alternative structures and investments for the Equity Lifestyle Fund that would help reduce the carbon intensity of the Fund's assets.

Performance against these targets will be measured and reported on every year.

# Appendices

# Appendix – Governance

## A) Roles and Responsibilities

### Role of the Investment Sub-Committee (the ISC)

As above, the Trustee has delegated the ongoing monitoring, and day-to-day implementation, of the Plan's climate change risk management framework to the ISC.

The ISC seeks to ensure that any investment decisions appropriately consider climate-related risks and opportunities within the context of the Plan's wider risk and return requirements and are consistent with the climate change policy as set out in the Statement of Investment Principles (SIP).

The ISC incorporates this into manager selection exercises, and as part of the ongoing monitoring of fund managers. The ISC is also responsible for the ongoing monitoring and implementation of the Trustee's climate risk management framework.

The ISC monitors and reviews progress against the Plan's climate change risk management approach on a quarterly basis. The ISC keeps the Trustee apprised of any material climate-related developments through regular (typically quarterly) updates.

The key activities undertaken by the ISC, with the support of the Trustee's advisers, are:

- Ensuring investment proposals consider the impact of climate risks and opportunities.
- Seeking investment opportunities which enhance the ESG and climate change focus of the Plan's portfolio.
- Engaging with the Plan's investment managers to understand how climate 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 that stewardship activities are being undertaken appropriately on the Plan's behalf.
- Ensuring that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material.

### Oversight of others

#### Role of the bank's Pensions Team

The bank's Pensions Team supports the ISC and the Trustee with the day-to-day aspects of the implementation of the climate-risk management framework, as required.

#### Role of advisers

**Investment consultant:** the Trustee's investment consultant, Aon, provides strategic and practical support to the Trustee in respect of the management of climate-related risks and opportunities and ensuring compliance with the recommendations set out by the climate change governance reporting regulations. This includes provision of regular training and updates on climate-related issues. The investment consultant also provides climate change scenario modelling to enable the Trustee to assess the Plan's exposure to climate-related risks.

The Trustee reviews its investment consultant on an annual basis and has objectives in place regarding its expectations for its investment consultant to support the Trustee with its wider ESG (including climate change) approach.

**Scheme Actuary:** the Scheme Actuary, Jonathan Wicks of Aon, helps the Trustee assess the potential impact of climate change risk on the Plan's funding assumptions where appropriate.

The Scheme Actuary provides advice on a quarterly basis on the funding position of the Plan. On at least a triennial basis, this will also include an understanding of the potential funding impact resulting from changes to financial or demographic assumptions driven by climate.

**Covenant adviser:** the Trustee's covenant adviser, Cardano, helps the Trustee understand the potential impacts of climate change risk on the sponsor covenant.

The Trustee undertakes due diligence on the capabilities of all of its advisers. Cardano has a dedicated sustainability team that plays an integral part in assessing the resilience of covenant to climate-related risks.

**Legal adviser:** the Trustee's legal adviser, Linklaters, helps the Trustee understand its legal obligations regarding climate change risk.

# Appendix – Strategy

## B) Climate-related risk and opportunities assessment

### Global Equities – DC Section

#### Climate risks

| | Physical risks | | Transition risks | | | |
|---|---|---|---|---|---|---|
| **Time horizon** | **Acute** | **Chronic** | **Regulatory** | **Technology** | **Market** | **Reputation** |
| **Short DC 3y** | | | | | | |
| **Medium DC 10y** | | | | | | |
| **Long DC 30y** | | | | | | |

The Plan's equity exposure includes allocations to developed market equities (including the UK) and emerging markets. Both index-tracking and actively managed strategies are used in order to gain this exposure, including index strategies that employ an alternative weighting approach known as factor-based investing.

The Trustee believes that transition risks present the highest potential risk to global equities over all time horizons. It is expected that the movement towards a lower carbon economy will increase regulation on firms (e.g., carbon taxes, compliance activities) which will increase costs. Companies will also need to switch to new technologies and cope with changing consumer demands. There is also the potential for increased litigation costs from not complying with regulations, and reputational risks from failing to keep up with a green transition. These risks could significantly impact the Plan's DC global equity investments.

Physical risks present a smaller risk over the short term (as the effects from climate change are not expected to be as severe over this time horizon) but do become more significant over the long term as companies will have to bear the cost of managing these effects (e.g., through insurance).

#### Actively managed vs index-tracking funds: what's the difference?

An index-tracking fund invests in all the companies in a particular market index, such as the FTSE 100, whereas in an actively managed fund, the investment manager chooses what to invest in.

So, by their nature, index-tracking funds are limited in how much climate-related risks can be incorporated into investment decisions because the investments are dictated by the market index being tracked.

#### Opportunities

Opportunities identified by the Plan's equity managers include companies operating in the following areas:

- Clean technologies such as alternative energy and energy efficiency.
- Wider resource efficiency, e.g., companies that are able to reduce operating costs as a result of efficiency driven by climate regulation.
- Pollution and waste management.
- New automobile technology.
- Clean and efficient transport.

#### What does this mean for the Plan?

- **Index-tracking strategies: The importance of stewardship**
  A significant number of the Plan's equity assets are invested in index-tracking strategies. Index-tracking funds are limited in how much climate-related risks can be accounted for in investment decisions because the investments are dictated by the market index. The Trustee regularly reviews the stewardship activities undertaken by these investment managers to ensure they are engaging with the investee companies to manage climate risks.
- **Index-tracking strategies: Choice of index**
  The choice of index-tracking fund to invest in constrains the types of companies the Plan has in its portfolio. In 2022, the Trustee decided to revise the asset allocation of the Plan's DC Equity Lifestyle Fund (the central equity fund used within the DC Section of the Plan) to replace the existing index fund with an ESG-aligned multi-factor equity index fund to better manage the exposure to ESG risks, including climate-related risks.
- **Active managers**
  Some of the Plan's equity investments are actively managed. Active managers can choose which companies they invest in. The Trustee regularly reviews the level of ESG-integration within each fund to ensure climate-related risks and opportunities are being properly accounted for in the managers' investment decision-making processes.

  The Trustee has also made available a DC ESG Global Equity Fund which aims to deliver environmental impacts as well as financial returns directly through climate-related investment opportunities.

# Property – DB and DC Sections

## Climate risks

| | Physical risks | | Transition risks | | | |
|---|---|---|---|---|---|---|
| **Time horizon** | **Acute** | **Chronic** | **Regulatory** | **Technology** | **Market** | **Reputation** |
| **Short DC & DB 3y** | | | | | | |
| **Medium DB 5y** | | | | | | |
| **Medium DC/ Long DB 10y** | | | | | | |
| **Long DC 30y** | | | | | | |

The Plan's property exposure includes direct and indirect (i.e., through listed property-related investments) exposure. Climate-related risks for indirect property (relevant for the DC Section only) is assumed to be like the global equity assessment above.

The Trustee believes that direct property investments have high financial exposure to physical risks, as climate change could lead to property damage and material financial impacts, particularly in geographically vulnerable areas. Longer term (chronic) issues such as rising sea levels could have an impact on certain assets depending on their location.

Transition risks relevant to property investments, such as tenants preferring eco-friendly buildings and therefore making some buildings difficult to rent, are expected to be significant over time horizons longer than 10 years. Other transition risks expected to impact property include energy efficiency regulations, increases in energy costs, carbon taxes, and valuation considerations.

## Opportunities

Opportunities identified by the Plan's property managers include:

- Resource efficiency.
- Energy sources and efficiency.
- Developing/expanding low emission buildings.
- Public sector initiatives to improve sustainability.

## What does this mean for the Plan?

The static nature of property portfolios presents a risk to the Plan particularly if the properties are in regions that are vulnerable to the effects of climate change. Some of the DC property investments are held across globally diversified regions helping to reduce these risks, and very few holdings are in emerging market regions which are expected to be harder hit by the physical impacts of climate change.

The survey responses from the Plan's property managers show that they are taking physical risks into account by not investing in properties in high-risk areas, but where they do the properties are fully insured against potential damage. This does carry the risk that insurance premiums increase over time.

# Corporate Bonds – DB and DC

## Climate risks

| | Physical risks | | Transition risks | | | |
|---|---|---|---|---|---|---|
| **Time horizon** | **Acute** | **Chronic** | **Regulatory** | **Technology** | **Market** | **Reputation** |
| **Short DC & DB 3y** | | | | | | |
| **Medium DB 5y** | | | | | | |
| **Medium DC/ Long DB 10y** | | | | | | |
| **Long DC 30y** | | | | | | |

The risks to corporate bonds follow a similar pattern to global equities (i.e., lower risk in the short term and increasing over the long term) but they are expected to have a lower overall impact. The key risk for corporate bonds is interest rate risk. As governments around the world have to issue debt to adapt and mitigate the effects of climate change, central banks may be forced to keep interest rates low in order to manage the levels of government debt interest payments. Inflation is likely to rise, which may erode the value of fixed income investments.

## Opportunities

The main opportunities identified by the Plan's corporate bond managers are green bonds, which are debt securities issued to finance environmentally friendly projects.
Other opportunities include:

- Electricity grid companies and energy storage solutions.
- Water companies.
- The railway sector and broader electrification of transport.

## What does this mean for the Plan?

The Plan's corporate bond funds are mostly actively managed and so the investment managers can integrate climate change risks and opportunities into their investment decisions. The Trustee expects active corporate bond managers to engage with issuers of securities on climate-related risks and opportunities to help improve exposure and management to these risks over both the short and long term.

Emerging market debt and high yield corporate bonds are more likely to be sensitive to climate-related risks, but there is relatively low exposure across both the DB and DC Sections of the Plan to these types of assets.

It is recognised that with shorter-dated instruments this may be harder but based on questionnaire responses received and wider reviews of stewardship policies, that the Plan's corporate bond managers are managing these risks appropriately.

# Property Debt – DB

## Climate risks

| | Physical risks | | Transition risks | | | |
|---|---|---|---|---|---|---|
| **Time horizon** | **Acute** | **Chronic** | **Regulatory** | **Technology** | **Market** | **Reputation** |
| **Short DB 3y** | | | | | | |
| **Medium DB 5y** | | | | | | |
| **Long DB 10y** | | | | | | |

The Trustee believes that property debt has a similar climate risk profile to corporate bonds (as both invest in debt-related securities) but with higher levels of exposure to physical risks over the long term, similar to the long-term risks for property.

The longer-term physical risks include extreme weather events, increasing costs due to adaptation and mitigation, heat stress and water stress both of which will increase operating costs.

Transition risks are generally low over the short term but medium over the medium and long term, reflecting the potential changes in tenant preferences, rising cost of materials and the cost of transitioning to new technology.

## Opportunities

For property debt, sustainability-linked loans are a potential investment opportunity, where the loan incentivises borrowers to achieve meaningful, predetermined sustainability objectives. Similar to green bonds, these instruments allow lenders to work with clients to help achieve a wide range of sustainability goals, including those related to climate change.

# UK Government Bonds – DC and DB

## Climate risks

| | Physical risks | | Transition risks | | | |
|---|---|---|---|---|---|---|
| **Time horizon** | **Acute** | **Chronic** | **Regulatory** | **Technology** | **Market** | **Reputation** |
| **Short DC & DB 3y** | | | | | | |
| **Medium DB 5y** | | | | | | |
| **Medium DC/ Long DB 10y** | | | | | | |
| **Long DC 30y** | | | | | | |

The Trustee believes that physical risks are more material in the long term for UK Government bond investments. Flood risk remains acute in the UK with increasing frequency of floods and higher rainfall levels observed across the country. Chronic events such as heat waves, coastal erosion and damage to infrastructure are expected to increase in the coming years.

The increased financial burden on the UK Government of green tax breaks is a transition risk. The uptake of new low carbon technologies by households and organisations (e.g., smart meters, upgrading insulation, etc.) often requires other government incentives which could pose a financial burden for the UK Government.

## Opportunities

Opportunities identified include clean transportation, renewable energy, energy efficiency, pollution prevention, living and natural resources and green gilts.

# Appendix – Strategy

## C) Climate Scenario Modelling Assumptions

The purpose of the climate scenario modelling is to consider the impact of climate-related risks on the Plan's assets and liabilities over the long term.

### DB Section

The scenario modelling assumes a deterministic projection of assets and liabilities for the DB Section, using standard actuarial techniques to discount and project the Plan's expected future cashflows.

I. It models the full yield curve as this allows for a more accurate treatment of the DB liabilities and more realistic modelling of the future distribution of interest rates and inflation.

II. The modelling parameters vary deterministically for each scenario.

III. For the DB Section, there is only one outcome for benefit cashflows, irrespective of which scenario is being considered. In reality, benefit payments will vary depending on realised inflation under each scenario, but this assumption has been adopted for simplicity.

IV. Insured assets and liabilities are excluded from the projection.

V. Projection period is 30 years.

The DB liability projections are approximate, but they are appropriate for this analysis. However, a full actuarial valuation carried out at the same date may produce a materially different result.

The scenario modelling focuses on the impact of climate change on the Plan's assets and DB liabilities. It does not consider the impact climate change could have on the covenant risk or mortality risk.

The scenario modelling reflects recent market conditions and current market views. The model may produce different results for the same strategy under different market conditions.

This report, and the work relating to it, complies with 'Technical Actuarial Standard 100: Principles for Technical Actuarial Work' (TAS 100). The model complies with TAS 100.

## Data used

### DB Section

The model uses the following inputs, as provided by the investment consultant and the Plan Actuary:

- Discount rate: Gilts+0% p.a.
- Liabilities as at 31 December 2021: £1,284m
- Assets as at 31 December 2021: £1,372m

### DC Section

- We assumed that no withdrawals are made from the DC funds during the projection period.
- We did not consider the impact of the Lifetime Allowance on the fund values.
- For the individual investment funds (the Equity Lifestyle Fund, the Diversified Lifestyle Fund and the Global Equity Fund – Active), a single investment of £1,000 in each fund has been considered.
- For the two Lifestyle funds, we modelled two example members (see below).
- The modelling of the Lifestyle strategies allows for the asset allocation to change over time.

### Example members

For the two DC Lifestyle strategies, we modelled two example members. These example members were chosen to broadly reflect different member cohorts and to allow the Trustee to better understand the impact of climate-related risks on different members.

The parameters for the example members are set out in the table below:

| | Employment Status | Age | Salary | Salary Increases | Contributions | Starting Fund Value | Retirement Age |
|---|---|---|---|---|---|---|---|
| **Member A** | Active | 22 | £22,000 | Real salary growth of 1.5% p.a. | 8% of pensionable pay for the first 10 years of service and 12% thereafter | £0 | 62 |
| **Member B** | Active | 39 | £94,000 | Real salary growth of 1.5% p.a. | 12% | £95,000 | 62 |

# Appendix – Strategy

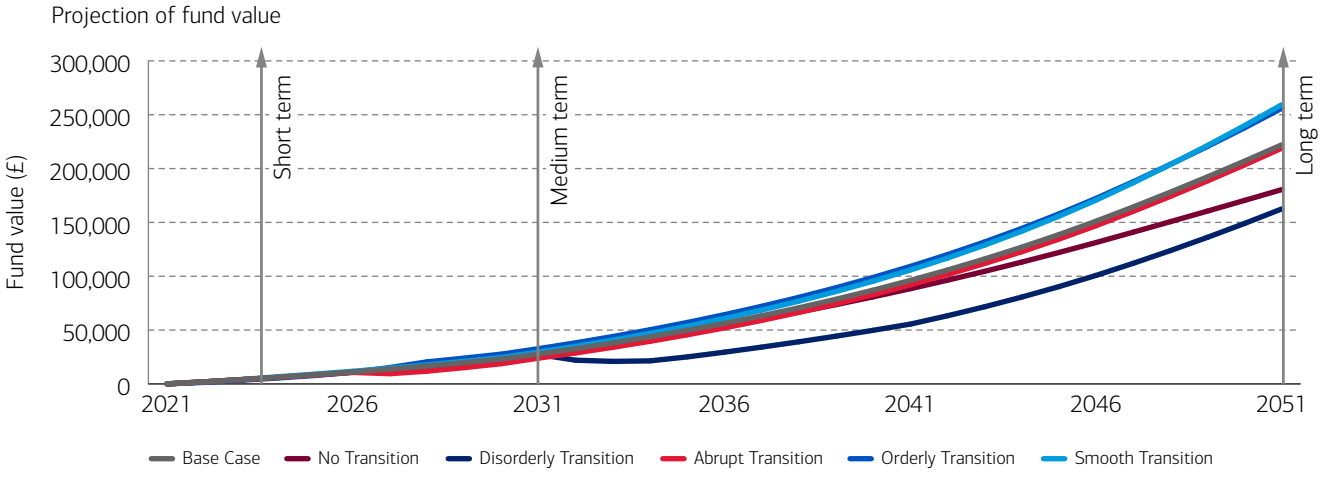
## D) Climate scenario analysis for the DC popular arrangements

The Trustee carried out scenario analysis for the Plan's popular DC arrangements which are the:

- Principal Flexible Lifestyle strategy.
- Lower Risk Flexible Lifestyle strategy.
- Equity Lifestyle Fund.
- Diversified Lifestyle Fund.
- Global Equity Fund – Active.

### Principal Flexible Lifestyle strategy

#### Member A



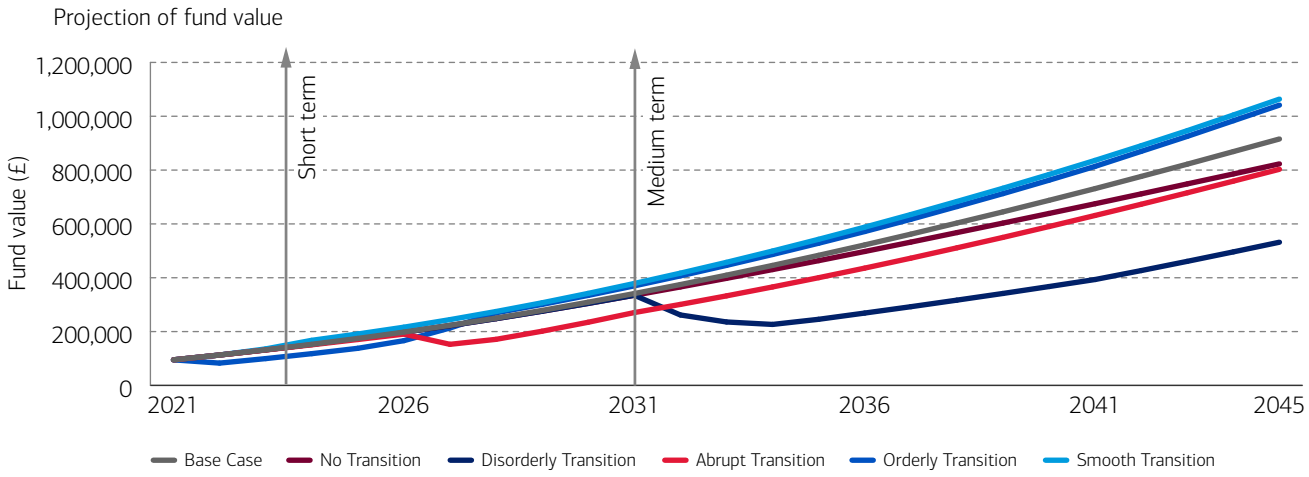

Short-term and medium-term outcomes are relatively similar across all scenarios given the small amount of assets the member has accumulated over this period.

The smooth transition is increasingly better than the base case over all time horizons. Over the long term this outcome is broadly similar than under an orderly transition, with the member benefitting from early action taken on climate change and so reduced impact of physical impacts on assets and higher long-term asset returns.

Under the no transition scenario, performance is initially on par with the base case, but over the second half of the projection period the fund value starts to lag behind as the impact of climate change on asset returns begins to bite.

Performance is worse still under the disorderly transition scenario over the long term. The fund value initially keeps pace with the base case, but the delayed onset of climate change mitigation means it is more costly to implement and less effective; returns turn negative for a period before the positive effects of the transition are felt. Even then, the fund value fails to surpass that of the no transition scenario after 30 years.

## Member B




*Note: projections are shown only up to the members selected retirement age (62); a 23 year time horizon.*

More divergence in outcomes over the short term compared to Member A, given Member B already has significant assets built up: short-term outcomes are worst under the orderly transition due to transition costs of adapting to new climate regulation and policy negatively impacting asset returns, in particular equity returns.

The divergence between the scenarios increases over the medium term, with the abrupt scenario now resulting in the worst outcomes, again a result of transition costs negatively impacting asset returns and ultimately fund value.

Over the long term (to retirement age), the strategy performs best under the smooth and orderly transition scenarios. Following the transition to a greener economy, asset returns are higher and able to offset the initial short-term loss under the orderly scenario.

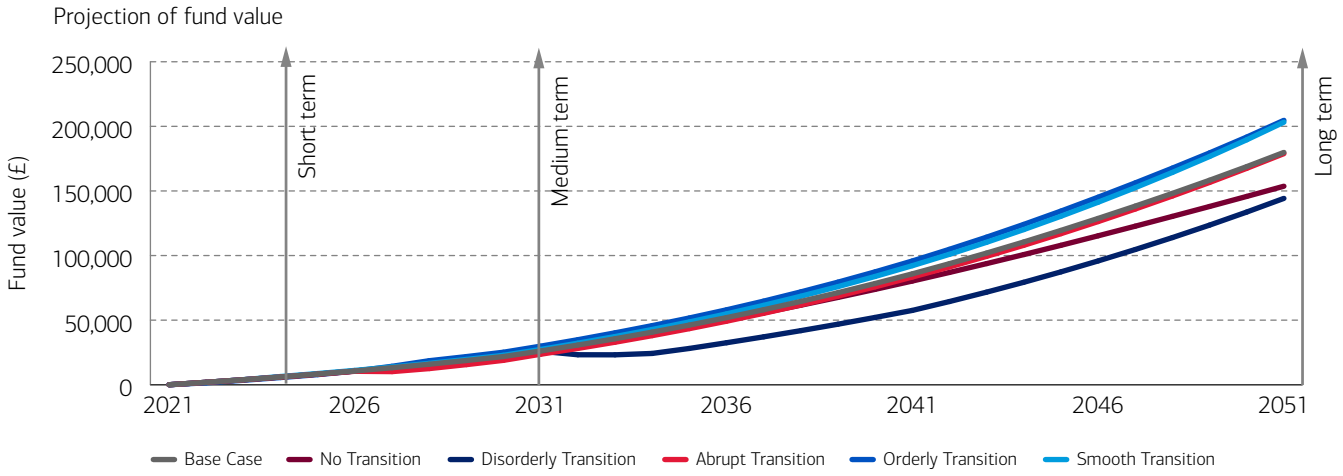
Interestingly, the strategy actually performs better under the no transition scenario than the abrupt transition scenario. Delayed action in the latter case leads to economic disruption which temporarily reduces Member B's fund value. The timeframe for Member B (23 years versus 30 years for Member A) is not long enough for the benefits from the transition to a greener economy (e.g., higher long-term asset returns, lower physical impacts and costs) to come through and close the gap versus the no transition fund value. This is compounded by Member B investing in lower-risk assets that benefit less (i.e., see less of a relative increase) from the transition to a greener economy.

Again, performance is poorest under the disorderly transition scenario.

While the pattern overall is similar between the two members (best outcomes under the orderly and smooth transitions, worst under the disorderly transition), the outcomes under various scenarios have a wider range for Member B. This is attributable to the shorter time horizon Member B has to make back losses from any shocks but also given that Member B is older and moves fully through the de-risking period, they have less exposure to risky assets overall which would be more effective in making back losses.

## Lower Risk Flexible Lifestyle strategy

### Member A

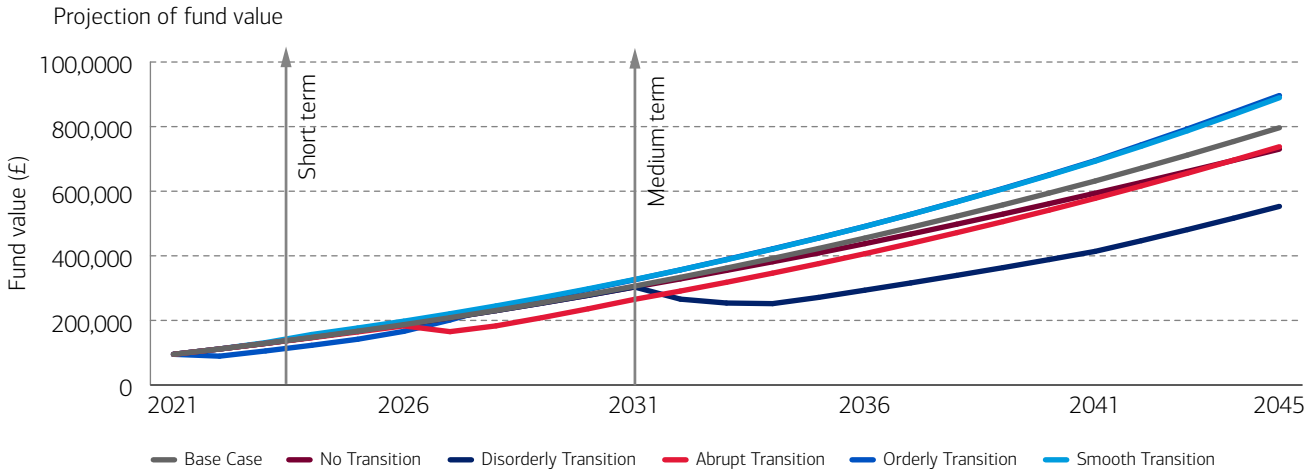



The projections under the Lower Risk Flexible Lifestyle strategy for the 22-year-old have a similar shape to those under the Principal Flexible Lifestyle strategy, though naturally the funds accrue at a lower rate across all climate scenarios, due to the reduced equity exposure.

The relationships between the projections are also similar, but with the projections forming a tighter pattern due to the reduced exposure to riskier assets (risk-on assets are more heavily impacted by the severe physical risks that would manifest under the disorderly transition and no transition scenarios).

However, we note that under each scenario, the absolute outcome (in terms of the size of change in value and absolute return) is lower than under the Principal Flexible Lifestyle strategy over the 30-year period, again attributable to the lower-risk/lower expected return nature of the strategy.

### Member B



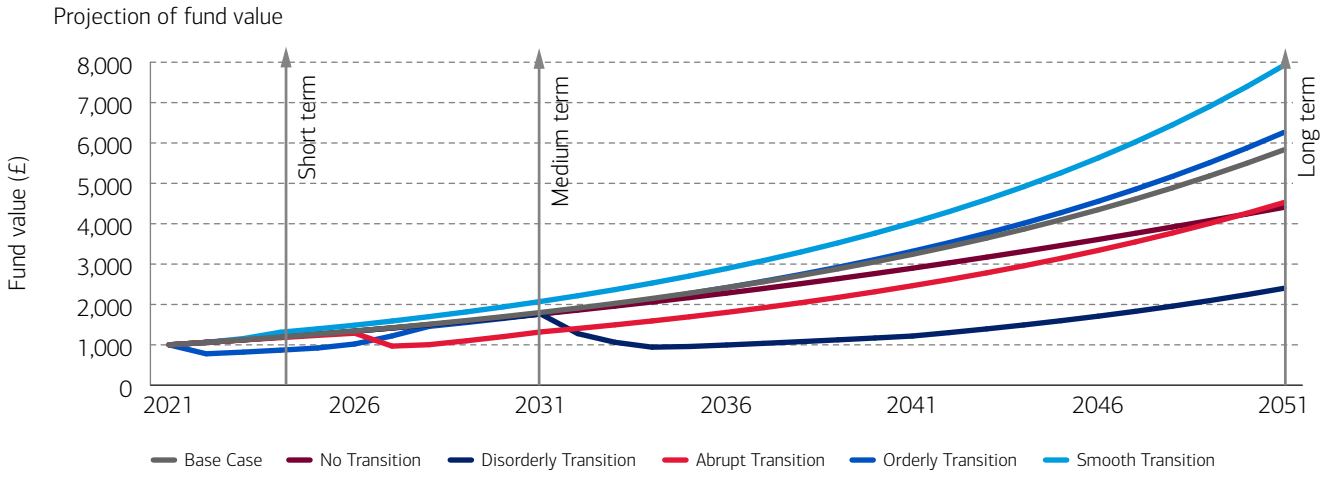

*Note: projections are shown only up to the members selected retirement age (62); a 23-year time horizon.*

The projections under the Lower Risk Flexible Lifestyle strategy for Member B again have a similar shape to those under the Principal Flexible Lifestyle strategy, though similar to Member A, the funds accrue at a lower rate across all climate scenarios, due to the reduced equity exposure (and reduced DGF and property exposure in later years).

The relationships between the projections are also similar, but with the projections forming a tighter pattern due to the reduced exposure to riskier assets.

In most scenarios, the results are worse than under the Principal Flexible Lifestyle strategy, however, given the shorter period to make up any losses and limited exposure to risk-assets, the disorderly transition scenario performs marginally better with this strategy vs the Principal Flexible Lifestyle strategy.

## Equity Lifestyle Fund and Global Equity Fund – Active




*Note: when carrying out the analysis, the Trustee decided not to make an allowance for alpha (i.e., active manager outperformance) so the outcomes for the Equity Lifestyle Fund and Global Equity Fund – Active are very similar across all scenarios and time horizons. As such no separate analysis has been included in this report on the Global Equity Fund – Active. The chart above and commentary below applies to both funds.*

Overall outcomes are very similar to those for Member A under the Principal Flexible Lifestyle strategy, although there is a wider range in long-term outcomes as there are no ongoing contributions in this case.

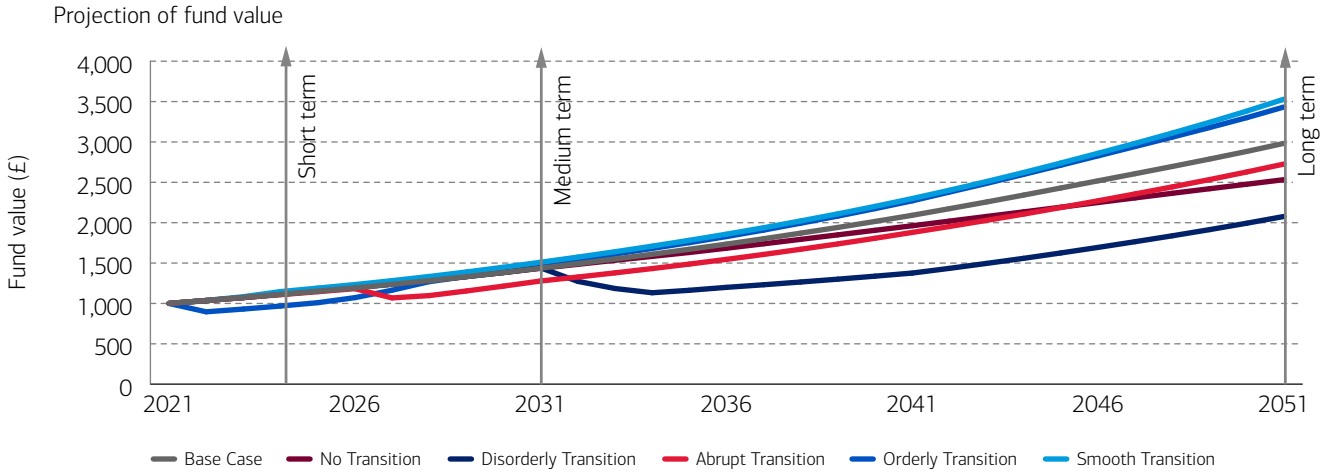
Over the short term, the abrupt, disorderly and no transition scenarios almost mirror the base case but there is underperformance under the orderly transition scenario (as the climate change mitigation policies kicks in immediately) and slight outperformance under the smooth transition scenario.

Over the medium term, the outcomes diverge further. The portfolio performs better than the base case under the smooth transition scenario but underperforms under the abrupt transition scenario. The disorderly, no transition and the orderly transition scenarios continue to almost mirror the base case.

Long-term performance is strongest under the smooth transition scenario. The fund also performs slightly better under the orderly transition scenario relative to under the base case. No transition outcomes are significantly worse over the long term as the impact of climate change on asset returns begins to bite. The abrupt transition scenario lags just behind the base case, as without ongoing contributions, the fund value cannot fully recover following the initial downward shock in 2026.

Performance is worse still under the disorderly transition scenario with asset returns significantly negatively impacted by the physical effects of climate change.

## Diversified Lifestyle Fund




Expected returns are lower across the board when compared to the equity funds given the more diversified asset base of the Diversified Lifestyle Fund. However, the overall patterns of the outcomes across the scenarios are similar.

However, long-term returns for the Diversified Lifestyle Fund are extremely similar at an absolute level to those for the equity funds under a disorderly transition (2.5% for Diversified Lifestyle Fund vs c.3% for the Equity Lifestyle Fund), indicating that under this scenario there is an extreme risk of loss for members invested in equities and that a diversified portfolio will offer members better protection.

# Appendix – Risk Management

## E) Climate Risk Assessment manager survey results

To assess climate-related risks, the Trustee (with the support of its investment consultant) surveyed its investment managers on various topics including their approach to climate risk management, TCFD reporting, climate scenario analysis, engagement and escalation policies, provision of emissions related data and whether their strategies align to a Net Zero commitment.

The table below summarises the survey responses from the Plan's investment managers. A tick indicates that the manager is able to provide this information in order to support the Trustee in its TCFD disclosures whereas 'In Progress' indicates that the manager is currently unable to disclose this information but has confirmed that processes are in place to facilitate disclosure in the near future. Where a dash is shown, this indicates that the manager is currently unable to provide this information.

| Manager | Plan Section | Asset Class | Publishes a TCFD Report | Carries out climate-related risks analysis | Participates in Industry Initiatives | Offers Carbon Reporting | Net Zero Commitment |
|---|---|---|---|---|---|---|---|
| **BlackRock** | DB/DC | Various[3] | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Schroders** | DC | Equity/Multi-Asset/Property | ✓ | ✓ | ✓ | In Progress | ✓ |
| **Veritas** | DC | Equity | In Progress | In Progress | ✓ | ✓ | ✓ |
| **Sands Capital** | DC | | - | ✓ | ✓ | ✓ | - |
| **Lindsell Train** | DC | | ✓ | - | ✓ | ✓ | ✓ |
| **RWC** | DC | | In Progress | ✓ | ✓ | ✓ | - |
| **William Blair** | DC | | In Progress | ✓ | ✓ | ✓ | - |
| **Invesco** | DC | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Impax** | DC | | - | ✓ | ✓ | ✓ | ✓ |
| **Dodge & Cox** | DC | | - | - | ✓ | ✓ | - |
| **Jupiter** | DC | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **HSBC** | DC | | ✓ | - | ✓ | ✓ | ✓ |
| **Invesco** | DC | Multi-Asset/ Property | ✓ | ✓ | ✓ | ✓ | ✓ |
| **M&G** | DB | Fixed Income | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Barings** | DB | | In Progress | - | ✓ | ✓ | - |
| **T.Rowe** | DB | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Insight** | DB | | In Progress | In Progress | ✓ | ✓ | ✓ |
| **PIMCO** | DB | | - | ✓ | ✓ | ✓ | - |
| **LGIM** | DC | | ✓ | ✓ | ✓ | ✓ | - |
| **abrdn** | DC/DB | Fixed Income/ Alternatives | ✓ | In Progress | ✓ | ✓ | ✓ |
| **ICG Longbow** | DB | Alternatives – Real Estate Debt | ✓ | ✓ | ✓ | In Progress | ✓ |
| **Bentall GreenOak** | DB | Alternatives | In Progress | ✓ | ✓ | ✓ | ✓ |
| **Threadneedle** | DC | Property | In Progress | ✓ | - | ✓ | - |
| **HarbourVest** | DB | Private Equity | In Progress | - | ✓ | In Progress | - |
| **Pantheon Ventures UK** | DB | | In Progress | - | ✓ | In Progress | In Progress |

[3]BlackRock manage multiple mandates including Equity/Multi-Asset/Fixed Income/LDI/Property/Cash

# Appendix – Risk Management

## F) Climate Risk Management Plan

The Trustee developed a Climate Risk Management Plan to help with its ongoing management of climate-related risks and opportunities. The Trustee has delegated some tasks for efficiency but retains ultimate responsibility for the Climate Risk Management Plan.

**Climate Risk Management Plan**

| | |
|---|---|
| **Governance** | |
| Approve and ensure adherence to the climate risk management framework | Annual |
| Receive training on climate-related issues | Annual or as required |
| Review adviser objectives to ensure advisers have appropriate climate capability, and bring important, relevant and timely climate-related issues to the Trustee's attention | Annual |
| Ensure investment proposals explicitly consider the impact of climate risks and opportunities and seek investment opportunities | Ongoing |
| Ensure that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material | Triennial |
| Engage with the investment managers to understand how climate risks are considered in their investment approach, and stewardship activities are being undertaken appropriately | Annual |
| **Strategy** | |
| Undertake quantitative scenario analysis to understand the impact of climate-related risks | In the first TCFD reporting year, then triennially thereafter or after any significant change in strategy |
| Identify the climate-related risks and opportunities for investment & funding strategy and assess their likelihood and impact | Annual |
| **Risk Management** | |
| Consider the prioritisation of those climate-related risks, and the management of the most significant in terms of potential loss and likelihood | Annual |
| Include consideration of climate-related risks in the Plan's other risk processes and documents, such as the risk register and the SIP, and regularly review these | One-off, ongoing thereafter |
| Seek to understand the climate-related risks to the employer over the short, medium and long-term | Annual |
| **Metrics and Targets** | |
| Select and review continued appropriateness of GHG emissions metrics | Annual |
| Obtain data for GHG emissions metrics | Annual |
| Agree and review target | Annual |

# Appendix – Metrics and Targets

## G) Greenhouse gas emissions in more detail

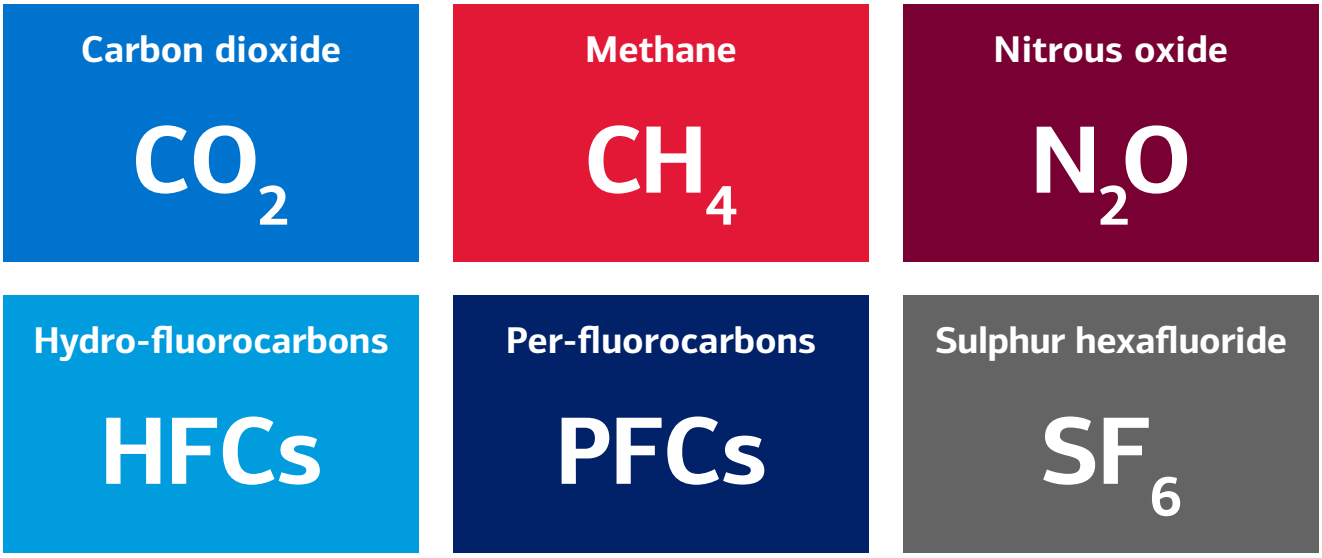
Greenhouse gases (GHGs) in the atmosphere, including water vapour, carbon dioxide, methane, and nitrous oxide, keep the Earth's surface and atmosphere warm because they absorb sunlight and re-emit it as heat in all directions (including back down to Earth). Adding more GHGs to the atmosphere makes it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

GHGs 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 GHGs.

The amount of GHGs in the atmosphere has significantly increased since the Industrial Revolution. The Kyoto Protocol[4] identifies six GHGs which human activity is largely responsible for emitting. Of these six gases, human-made carbon dioxide is the biggest contributor to global warming.

Each GHG 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 ($CO_2e$). This enables the different gases to be compared on a like-for-like bases, relative to one unit of carbon dioxide.

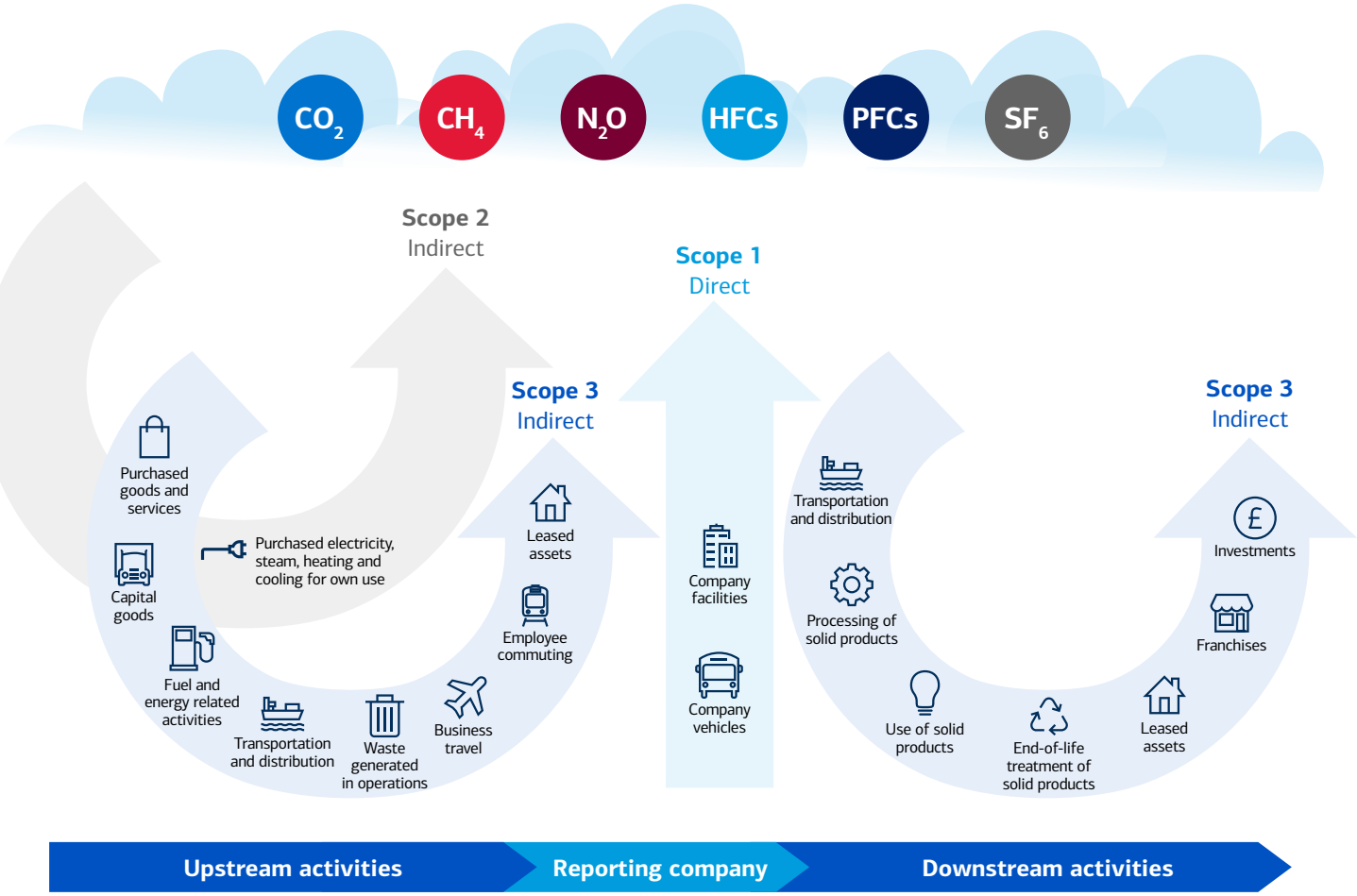
### Six main greenhouse gases identified by the Kyoto Protocol




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

[4] https://unfccc.int/kyoto_protocol

## 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*

# Appendix – Metrics and Targets

## H) Supporting notes and observations: DB and DC

The Trustee noted that overall, the availability of data for public equity was very high, whereas this was much lower for other asset classes. As above, the Trustee expects to see much improvement in carbon data reporting over the next five years.

When collecting the data, the Trustee noted the following:

- Where data was provided in USD, Aon has converted it to GBP using the dollar-pound exchange rate as at 31 December 2021.
- All data gathered through Aon and MSCI covers Scope 1 and 2 emissions. This includes all DC equity holdings and all of the Plan's DC credit holdings. The only DC fixed income holding where data was provided directly by the manager was the BlackRock Systematic Multi Asset Credit Fund. However, BlackRock have stated that for the metrics provided for the Systematic Multi Asset Credit Fund, MSCI have been used as a third-party data provider and (consistent with the MSCI data gathered directly by Aon) this information covers Scope 1 and 2 emissions.

Within its **property holdings**, one of the managers was only able to provide information to 30 September 2021. The information was based on data that was c.90% estimated, with c.10% of the portfolio covered by reported data. Data provided was limited to assets held in the fund for the entire period (i.e., assets purchased and disposed of were excluded). Emissions data provided was limited to operation energy consumptions only (i.e., electricity and natural gas) and was calculated for Scopes 1, 2 and 3 sources.

A second manager was able to provide separate Scope 1 and 2 emissions, but covering only landlord-related emissions and only for the calendar year to 31 December 2020.

For the Plan's blended property fund (of both direct and indirect property investments), the manager provided information for each of the listed and unlisted sections of the portfolio separately, of which a weighted average has been taken for the overall portfolio. The data provided for the unlisted section of the portfolio does not separate Scope 3 emissions from Scopes 1 and 2. All data provided is dated as at 30 December 2020.

For the DB Section's **fixed income** holdings, total GHG and carbon footprint was also provided for Scopes 1 and 2 emissions. Its underlying managers were not able to provide Scope 3 data at this time, but the Trustee notes that these are not required for the first year of reporting.

One manager was only able to provide carbon data for corporate and government bond holdings on a look-through basis and based on enterprise value including cash (EVIC), which includes both equity and debt investments in a company as opposed to market capitalisation, which looks solely at the equity value.

A second manager provided data, but noted that coverage was low (17.5%, 11% estimated and 6.5% reported).

Some managers were unable to provide data for the current TCFD report. One of these anticipates being able to provide data for the next TCFD report, whilst one says this is currently not provided for the fund in question given it has a high allocation to gilts and derivatives rather than corporate bond securities.

Within the Plan's **multi-asset holdings**, data was provided directly by managers. One manager has noted that data could only be provided for the equity and corporate bond holdings within the portfolios on a look-through basis based on enterprise value, including cash (EVIC) which includes both equity and debt investments in a company, as opposed to market capitalisation which looks solely at equity value.

No data was available for equity (unlisted) or property debt holdings held in the DB Section of the Plan. The Trustee and Aon have engaged with the managers of these holdings and most of the managers have confirmed that this is something they hope to report on in the future, with one manager noting that this is not available given the fund in question is in liquidation mode.

For the BlackRock LDI portfolio, instead of carbon footprint, BlackRock provided the equivalent for government bonds which is tonnes $CO_2e$ emissions per £m UK public debt. Aon estimated the total GHG emissions by multiplying this by the total exposure to government bonds from the LDI portfolio (which was £1,198m as at 31 December 2021).

The Trustee estimated data for its gilt assets using government data which is consistent with the Partnership for Carbon Accounting Financials (PCAF) guidance. Further detail can be found in the following section.

# Appendix – Metrics and Targets

## I) Absolute GHG emissions and carbon footprint approach summary

| Asset Class | Approach |
|---|---|
| **Listed Equity** | MSCI data was used to gather Scope 1 and 2 carbon footprint and total emissions for the listed equity portfolios. |
| **Unlisted Equity** | Carbon metrics data was requested from the Plan's managers. At the current time, the unlisted equity managers were unable to provide carbon metrics data. |
| **Property** | Carbon metrics data was provided by the managers.<br><br>For the Plan's blended property fund (of both direct and indirect property investments) the manager provided information for each of the listed and unlisted sections of the portfolio separately, of which a weighted average has been taken for the overall portfolio.<br><br>Some managers were not able to provide Scope 3 data separately, hence total GHG and carbon footprint was provided for Scopes 1, 2 and 3. |
| **Property Debt** | Carbon metrics data was requested from the Plan's managers. At the current time, the managers of the Plan's alternative assets (real estate debt) were unable to provide carbon metrics data. |
| **Multi-Asset** | Carbon metrics data was provided by the managers. Some managers were not able to provide Scope 3 data separately, hence total GHG and carbon footprint was provided for Scopes 1, 2 and 3.<br><br>Some managers noted that they were only able to provide carbon data for the equity and corporate bond holdings within these funds on a look-through basis based on enterprise value including cash (EVIC), resulting in lower levels of coverage for the individual portfolios. |
| **Fixed income (excluding Property Debt, LDI and gilt funds)** | DC Section<br><br>MSCI data was used to gather Scope 1 and 2 carbon footprint and total emissions for the DC Section's credit portfolios. Where managers were unable to provide holdings (BlackRock Systematic Multi Asset Credit) data was collected directly from the manager.<br><br>DB Section<br><br>Carbon metrics data was provided by the managers. Underlying managers were not able to provide Scope 3 data at this time. One manager was only able to provide carbon data for corporate and government bond holdings on a look-through basis. A second manager provided data but noted that coverage was low (17.5%, 11% estimated and 6.5% reported). Some managers were unable to provide data for the current TCFD report. One of these anticipates being able to provide data for the next TCFD report, whilst one says this is currently not provided for the fund in question given it has a high allocation to gilts and derivatives rather than corporate bond securities. |
| **Gilts** | Carbon footprint for gilts has been estimated based on the 2019 UK public sector emissions and 2021 total government debt. 2019 public emissions were used to avoid data skew in light of the Covid-19 pandemic. Emissions associated with public services were used. Excluding private sector emissions allows for avoidance of double counting emissions with the rest of the private holdings in the portfolio. The calculated carbon footprint was then applied to the £ amount invested (as at 31 December 2021 valuation date) in the gilt assets within each fund.<br><br>This approach is consistent with Partnership for Carbon Accounting Financials (PCAF) 'Government Approach' to calculating GHG emissions for government securities. |
| **LDI portfolio** | For the LDI portfolio, instead of carbon footprint, the manager provided the equivalent for government bonds which is tonnes $CO_2e$ emissions per £m UK public debt. Aon estimated the total GHG emissions by multiplying this by the total exposure to government bonds from the LDI portfolio (which was £1,198m as at 31 December 2021). |

Other notes:
1. Where carbon data was supplied in USD terms, Aon converted it to GBP terms as at 31 December 2021 exchange rate.
2. Cash was excluded from carbon data analysis on the materiality basis.

# Appendix – General

## J) Glossary

| | |
|---|---|
| **Governance** | refers to the system by which an organisation is directed and controlled in the interests of shareholders and other stakeholders[5]. 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.[6] |
| **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.[7] |
| **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.[8] |
| **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.[9] |
| **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 utilisation 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.[10] |
| **GHG emissions Scope levels[11]** | GHGs are categorised into three types or 'Scopes' by the Greenhouse Gas Protocol, the world's most used GHG accounting standard.<br><br>Scope 1 refers to all direct GHG emissions.<br><br>Scope 2 refers to indirect GHG emissions from consumption of purchased electricity, heat, or steam.<br><br>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.[12] |
| **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).[13] |
| **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.[14] |
| **Net zero** | means achieving a balance between the GHGs emitted into the atmosphere, and those removed from it. This balance – or net zero – will happen when the amount of GHGs add to the atmosphere is no more than the amount removed.[15] |

[5] A. Cadbury, Report of the Committee on the Financial Aspects of Corporate Governance, London, 1992.

[6] OECD, G20/OECD Principles of Corporate Governance, OECD Publishing, Paris, 2015.

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

[8] Ibid

[9] Ibid

[10] Ibid

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

[12] IPCC, Climate Change 2014 Mitigation of Climate Change, Cambridge University Press, 2014.

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