

# *Credit Suisse Group (UK) Pension Fund*

## Climate change report

A report for members by the Trustee of the Credit Suisse Group (UK) Pension Fund

Fund year to 31 December 2022

# Why have we written this report?



The UK has become the first G20 country to make it mandatory for Britain's largest companies and financial organisations to disclose their climate-related risks and opportunities.

This is part of the government's commitment to making the UK financial system the greenest in the world.

This report provides members the opportunity to find out more about the work carried out by the Trustee in relation to climate change.

It is the first climate change report by the Trustee of the Fund. We hope you find it informative and would welcome any feedback.

Signed DocuSigned by:  
*Glenn Wellman*  
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# Overview

*This report describes how the Trustee has identified, assessed and managed climate-related risks and opportunities to the Fund during the Fund year to 31 December 2022.*

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# Executive Summary

## Report

New Department for Work and Pensions (“DWP”) Climate Change Regulations require trustees of large pension schemes (with assets over £1bn) to produce a TCFD report, which outlines how trustees identify, assess and manage climate-related risks and opportunities. These regulations align with the recommendations from the Task Force on Climate-related Financial Disclosures (“TCFD” - an industry-led group that helps companies and their investors understand their financial exposure to climate risk). The aim is to improve both the quality of governance and level of action by trustees in response to climate change.

This report covers the period from 1 January 2022 to 31 December 2022, which represents the first year for which the Climate Change Regulations applied to the Fund.

## Overview of DB Scheme

The DB section of the Pension Fund has assets of c£1.3bn (as at 31 December 2022). The Fund has a high funding level and has therefore adopted a simple, low-risk investment strategy with 88% allocated to liability driven investments (“LDI”) and 12% to corporate bonds. The Fund is expected to be broadly resilient to climate-related risks and has limited reliance on the sponsor covenant.

Conclusions specific to the TCFD’s thematic areas are summarised below:

**Governance:** The Trustee has delegated much of the consideration and discussion of climate matters to the Investment Committee, with the support of its advisors. Training has been received throughout the year and a framework for considering climate-related factors has been established.

**Strategy:** The actual and potential impacts of climate-related risks and opportunities on the DB investment strategy have been considered. Overall, the effect of the climate scenarios on the DB section were identified to be minimal due to the de-risked and resilient nature of the investment strategy and the strong funding position.

**Risk Management:** The Trustee has implemented a number of processes and tools for identifying, assessing and managing climate related risks and opportunities for the Fund. This includes integrating climate change into the Fund’s risk management processes, including the Risk Register, covenant monitoring and investment monitoring.

**Metrics and Targets:** Four key metrics have been identified to measure climate-related risks. For the DB section, the Trustee has set a target for 80% of corporate bond investments to have set science-based targets by 2030 (no equities held). These metrics and targets will be used to assess and manage relevant climate-related risks and opportunities over time.

# Executive Summary

## Overview of DC Scheme

The DC Section of the Pension Fund has assets of c£1.1bn (as at 31 December 2022), the majority of members and assets are invested in the default strategy which has been designed as a lifestyle strategy, with the asset allocation depending on the member's expected retirement date. While the Trustee has considered the range of funds available to members with climate-related risks in mind, the majority of the analysis conducted over the year has focused on outcomes arising from the Fund's "popular arrangements" - the Drawdown Lifestyle Strategy (default strategy) and the BlackRock Global 50:50 Index Fund.

Conclusions specific to the TCFD's thematic areas are summarised below:

**Governance:** The Trustee has delegated much of the consideration and discussion of climate matters to the Investment Committee, with the support of its advisors. Training has been received throughout the year and a framework for considering climate-related factors has been established.

**Strategy:** The actual and potential impacts of climate-related risks and opportunities have been considered in the context of the range of funds available to members and for the default strategy. Overall, the effect of the climate scenarios on the DC section could have material impacts on the outcomes for members and is therefore an important area of focus. In particular, older members within 5 years of retirement are most at exposed to transition risks in the event of a Paris disorderly pathway, market returns may be lower and more volatile in the medium term and physical risks are most prevalent in the failed transition pathway, impacting those members with 30 years or more to retirement.

**Risk Management:** The Trustee has implemented a number of processes and tools for identifying, assessing and managing climate related risks and opportunities for the Fund. This includes integrating climate change into the Fund's risk management processes, including the Risk Register, covenant monitoring and investment monitoring. The time periods considered are cognisant of the wider dispersion in member retirement ages. Following its triennial strategy review which took place during 2021, the Trustee replaced 90% of the passive equity allocation within the default strategy with a low carbon equivalent equity allocation in March 2022. This marked a significant ongoing step to managing climate transition risks for members within the DC section. The Trustee has also recognised that engagement with investment managers to ensure they are exercising stewardship in support of net zero pathways is key to avoiding a failed transition

**Metrics and Targets:** Four key metrics have been identified to measure climate-related risks. For the DC section, the Trustee has set a target for 80% of listed equity and corporate bond investments to have set science-based targets by 2030. These metrics and targets will be used to assess and manage relevant climate-related risks and opportunities over time.

<sup>1</sup> Popular arrangements are those with more than £100m invested or which account for 10% or more of total scheme assets.

# Governance

The Fund's Trustee, advisers and investment managers all undertake climate-related governance activities on behalf of the Fund. These are outlined below:

## 1. The Trustee's role (largely delegated to Investment Committee)

It is the Trustee Chair's responsibility to ensure that sufficient time is allocated for consideration and discussion of climate matters by the Trustee and its advisers. In broad terms, the Trustee is responsible for:

1. ensuring the Trustee has sufficient knowledge and understanding of climate change to fulfil its statutory and fiduciary obligations, and is keeping this knowledge and understanding up to date. This will include knowledge and understanding of the principles relating to the identification, assessment and management of climate-related risks and opportunities for the Fund;
2. putting in place effective climate governance arrangements;
3. determining short-, medium- and long-term time periods to be used when identifying climate-related risks and opportunities to the Fund;
4. identifying and assessing the main climate-related risks and opportunities for the Fund and documenting the management of these;
5. incorporating climate-related considerations into strategic decisions relating to the Fund's investments and funding arrangements;
6. incorporating climate-related considerations into the Fund's investment beliefs, investment policies, risk register and contingency planning and monitoring framework;
7. allowing for climate-related considerations when assessing and monitoring the strength of the sponsoring employer's covenant;
8. selecting and regularly reviewing metrics to inform its assessment and management of climate-related risks and opportunities, and setting and monitoring targets to improve these metrics over time where appropriate;
9. ensuring that the Fund's actuarial, investment, covenant and legal advisers have clearly defined responsibilities in respect of climate change, that they have adequate expertise and resources, including time and staff, to carry these out, that they are taking adequate steps to identify and assess any climate-related risks and opportunities which are relevant to the matters on which they are advising, and that they are adequately prioritising climate-related risk;
10. considering and documenting the extent to which the advisers' responsibilities are included in any agreements, such as investment consultants' strategic objectives and service agreements;
11. ensuring that the Fund's investment managers are managing climate-related risks and opportunities in relation to the Fund's investments, and have appropriate processes, expertise and resources to do this effectively;
12. communicating with Fund members and other stakeholders on climate change where appropriate, including public reporting in accordance with The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021, the Occupational and Personal Pension Schemes (Disclosure of Information) Regulations 2013 (together "TCFD reporting") when required.

The Trustee has delegated consideration of some of these matters to its Investment Committee.

## Training for Trustee

*The Trustee has received training on the following items over the year to 31 December 2022 to ensure the Fund was compliant with TCFD requirements:*

- *Climate Regulations and Statutory Guidance*
- *Climate scenario analysis*
- *Metrics and targets*

## Climate beliefs and Statement of Investment Principles

- *The Trustee considers it is necessary to act in the best financial interests of Fund members and therefore it expects its investment managers to take account of financially material considerations (including climate change and other ESG considerations), taking into account the nature and time horizon of the investments.*

# Governance

## 2. Other parties' and advisers' roles

In broad terms, the Fund's **actuarial adviser** is responsible, as requested by the Trustee, for:

1. providing training and other updates to the Trustee on relevant climate-related matters as required by the Trustee;
2. advising how climate-related risks and opportunities might affect the Fund's funding position;
3. assisting with the preparation of the Trustee's TCFD reporting, working with the Trustee and its other advisers as appropriate;

In broad terms, the Fund's **investment adviser** is responsible, in respect of investment matters for both the defined benefit and defined contribution sections of the Fund, as requested by the Trustee, for:

1. helping the Trustee to formulate its investment beliefs in relation to climate change and reflecting these in the Fund's investment policies and strategy;
2. advising how climate-related risks and opportunities might affect the different asset classes in which the Fund might invest over the short-, medium- and long-term, and the implications for the Fund's investment strategy;
3. advising the Trustee on the appropriateness and effectiveness of the Fund's investment managers' processes, expertise and resources for managing climate-related risks and opportunities, given the Trustee's investment objectives and beliefs;
4. assisting the Trustee in identifying and monitoring suitable climate-related metrics and targets in relation to the Fund's investments, including liaising with the Fund's investment managers regarding provision of the metrics;

5. working with the Trustee's other advisers to assist the Trustee in incorporating climate change in its governance arrangements, risk register, contingency planning and monitoring framework and communication with stakeholders (including, but not limited to, its TCFD reporting) as appropriate.

In broad terms, the Fund's **covenant adviser** is responsible, as requested by the Trustee, for:

1. advising how climate-related risks and opportunities might affect the Fund's sponsoring employer over the short-, medium- and long-term;
2. leading on the inclusion of climate change in the Fund's covenant monitoring, working with the Trustee and its other advisers as appropriate;
3. working with the Trustee's other advisers to assist the Trustee in incorporating climate change in its governance arrangements, risk register, contingency planning and monitoring framework and communication with stakeholders (including, but not limited to, its TCFD reporting) as appropriate.

Due to ongoing changes with the covenant / sponsor, the covenant advisers role will be kept under review.

# Governance

## 2. Other parties' and advisers' roles

In broad terms, the Fund's **legal adviser** is responsible, as requested by the Trustee, for:

1. providing training and other updates to the Trustee on relevant climate-related legal matters;
2. ensuring the Trustee is aware of its statutory and fiduciary obligations in relation to climate change and working with the Trustee's other advisers to ensure alignment between these obligations and:
  - any Trustee formulation of its investment beliefs in relation to climate change; and
  - the identification and monitoring of climate-related metrics and targets in relation to the Fund's investments.
3. working with the Trustee's other advisers to assist the Trustee in incorporating climate change in its governance arrangements, risk register, contingency planning and monitoring framework and communication with stakeholders (including, but not limited to, its TCFD reporting) as appropriate;

4. where requested, assisting in the documentation of any contractual requirements to be included in the arrangements with the Fund's investment managers with respect to the governance, management and reporting of climate-related matters.

In broad terms, the Fund's **investment managers** are responsible for:

1. identifying, assessing and managing climate-related risks and opportunities in relation to the Fund's investments, in line with the investment management arrangements agreed with the Trustee;
2. exercising rights (including voting rights) attached to the Fund's investments, and undertaking engagement activities in respect of those investments, in relation to climate-related risks and opportunities in a way that seeks to improve long-term financial outcomes for Fund members;
3. providing information to the Fund's investment adviser on climate-related metrics in relation to the Fund's investments, as agreed from time to time, and using its influence with investee companies and other parties to improve the quality and availability of these metrics over time.

### **Information provided to Trustee**

*The Trustee has received the following advice papers from its Investment Adviser over the year in relation to climate risks and opportunities:*

- *Climate scenario analysis – helping you understand climate related risks*
- *High level review of managers' climate approaches*
- *Climate metrics and target*
- *Incorporating climate-related risks into your risk management framework*

### **Objectives set for advisers**

The Trustee has set the following objective for its investment adviser to ensure that climate is being considered adequately.

- *Help the Trustee implement an investment strategy that integrates its policy on ESG (including climate change) and stewardship.*



# Strategy

## 1. Identification and assessment of climate-related risks and opportunities relevant to the Fund

- The Trustee has considered climate-related risks and opportunities over various time periods which it believes are most relevant to the Fund.
- The Trustee has selected short-term, medium-term and long-term time horizons over which to formally consider the impact of climate related risks and opportunities for both the DB and DC sections. The Trustee agreed to different time horizons for both DB and DC sections reflecting differences in membership profile and investment strategy. These are outlined in the tables below and on the next page, along with the Trustee's rationale for each.
- The key climate-related risks and opportunities relevant to the Fund that the Trustee has identified are also outlined in the table below.
- The Fund faces risks and opportunities from both the physical effects of climate change – for example rising temperatures and more extreme weather events – and from the effect of transitioning to a lower carbon economy to help mitigate the impacts of climate change – for example, government policies to reduce the use of fossil fuels, technological advantages in renewable energy, and shifts in consumer demand for 'greener' products.
- Many of these climate-related risks and opportunities could impact the value of the Fund's assets. The strong DB funding level means that the Fund is not expected to require support from the sponsoring employer (under normal circumstances), but the Trustee acknowledges that climate-risk could limit its ability to do so in a worst case scenario.

DB section

Time period	Rationale for time period	Key risks	Key opportunities
<b>Short term (next 3 years)</b>	3 years – Aligned with funding discussions	Limited due to de-risked nature of the investment strategy, although some exposure to transition risks in the short term in the event of a Paris disorderly pathway	Engagement with investment managers on their climate approach
<b>Medium term (next 8 years)</b>	8 years – The period over which we expect the most impact on markets if the transition to low carbon is implemented as expected to meet the Paris goals. Also aligns with the Fund's credit allocation maturing	Transition to low carbon economy could have unpredictable outcomes	Continue to monitor position and consider if any further actions are required
<b>Long term (next 15 years)</b>	15 years – Assuming the Fund is run on for some time	Cost of buy-out may increase as insurers allow for climate-related risks in their pricing and reserving bases	Buy-out is expected to provide greater protection from climate risks for members' benefits

# Strategy

## 1. Identification and assessment of climate-related risks and opportunities relevant to the Fund (continued)

	Time period	Rationale for time period	Key risks	Key opportunities
DC section	<b>Short term (next 5 years)</b>	5 years - Major improvements in climate data quality are expected over this period	Older members within 5 years of retirement will be most at exposed to transition risks in the short term in the event of a Paris disorderly pathway	Low carbon investments can mitigate the impact of market shocks due to a market repricing event
	<b>Medium term (next 10 years)</b>	10 years – Key period over which policy action will determine if Paris Agreement goals met	Transition risks may still be heightened over the medium term creating volatility. Market returns may be lower if disorderly transition harms economic performance	Impact investments can take advantage of the shift to a low carbon economy and may provide an enhanced source of return over this period
	<b>Long term (next 30 years)</b>	30 years – Many economies are targeting to be net zero by this point	Physical risks are most prevalent in the failed transition pathway, impacting those members 30 years or more from retirement	Engagement with investment managers to ensure they are exercising stewardship in support of net zero pathways is key to avoiding a failed transition

The potential impact of climate-related risks and opportunities on the DB and DC Sections of the Fund was explored by the Trustee using a range of tools as set out on page 14 of this report. One such tool, the results of which are set out in the section that follows, was undertaking climate scenario analysis which shows how the DB and DC Sections of the Fund might be affected under a range of climate scenarios.

# Strategy

## 2. Climate scenario analysis

Scenario analysis is a tool for examining and evaluating different ways in which the future may unfold. At its 7 March 2022 meeting, the Trustee used a scenario analysis to consider how climate change might affect the Fund's investment and funding strategies. With the support of its investment adviser, the Trustee carried out a scenario analysis based on macro-economic data at 30 June 2021, calibrated to market conditions at 30 September 2021 (for DC) and 31 December 2021 (for DB).

The three climate scenarios considered by the Trustee were as follows:

### 1. Failed Transition

- Under this scenario it is assumed that the Paris Agreement Goals are not met; only existing climate policies are implemented, and global temperatures rise significantly.
- The Trustee chose to consider this scenario to explore what might happen to the Fund's finances if carbon emissions continue at current levels, resulting in significant physical risks from changes in the global climate that disrupt economic activity.

### 2. Paris Orderly Transition

- Under this scenario it is assumed that the Paris Agreement Goals are met through rapid and effective climate action, with a smooth market reaction to the changes implemented.
- The Trustee chose to consider this scenario to see how the Fund's finances could play out if carbon emission reduction targets are met in line with the Paris Agreement, meaning that the economy makes a material shift towards a low carbon economy by 2030.

### 3. Paris Disorderly Transition

- Under this scenario the same policy, climate and emissions outcomes are assumed as the Paris Orderly Transition, but financial markets are initially slow to react and then overreact.
- The Trustee chose to consider this scenario to look at the potential impact on the Fund if carbon emission reduction targets are met in line with the Paris Agreement, but financial markets are volatile as they adjust to a low carbon economy.

The Trustee acknowledges that many alternative plausible scenarios exist, but found that these were a helpful set of scenarios to explore how climate change might affect the Fund in the future.

To provide further insight, the Trustee also compared the outputs under each scenario to a 'climate uninformed base case', that makes no allowance for either changing physical or transition risks in the future.

The results of the analysis are presented on the next pages.

For further details on the climate scenarios and the modelling, see Appendix 2.

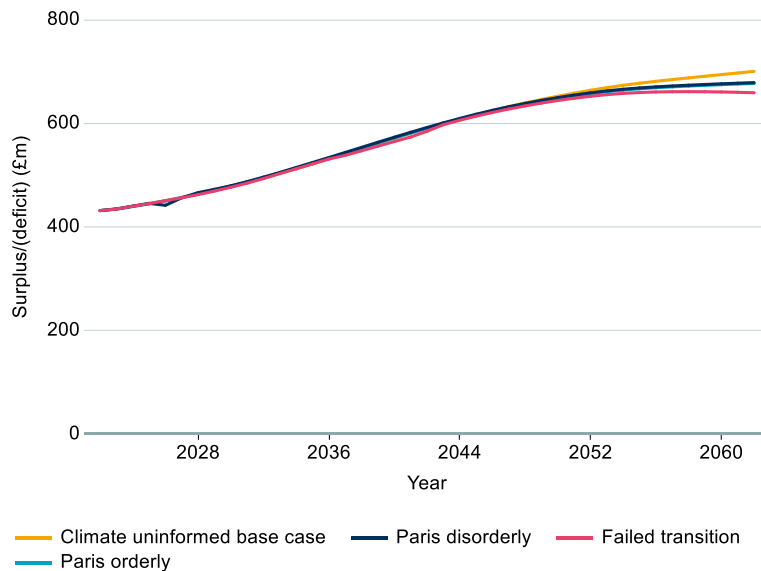
# Strategy

## 2. Climate scenario analysis (continued)

The results of the analysis were as follows:

### DB section

- With the investment strategy built to closely match the liabilities, any impacts from climate change on the assets are, on average, expected to be mirrored by changes in the measure of the liability.
- To the extent that market impacts do impact the funding position, these impacts would not be expected to be sufficiently significant to push the Fund off its long term journey.
- Overall, the effect of the climate scenarios on the DB section was identified to be minimal due to the de-risked and resilient nature of the investment strategy.



Note: This chart is showing the projected funding level on a Technical Provisions basis, and assumes the Fund's investment strategy will remain constant (ie 88% to LDI, 12% to corporate bonds).

The Trustee also considered the impacts of climate change on life expectancy, and how this could affect the DB section. The Trustee noted the uncertainty in this area – see page 33 for further details.

### DC section

- The scenario analysis looked at the retirement outcomes (in terms of size of their projected retirement pot) for individual members of different ages who are invested in the default strategy, the Drawdown Lifestyle Strategy and the BlackRock Global 50:50 Index Fund. The default strategy and the BlackRock Global 50:50 Index Fund have been assessed to be the only “popular arrangements”<sup>1</sup> within the DC Section.
- The analysis highlighted that DC section members will be subject to climate risk of varying degrees dependent on both the scenario and the age of the member. Analysis was conducted for the default strategy for members at four different ages to reflect the different time to target retirement age (and therefore level of climate risk) at different points in the lifestyle.
- Climate risks are expected to have a greater impact on return-seeking assets, such as equities. The default strategy has been designed in a way that reduces exposure to these types of assets as members approach retirement. As such, climate risks are also expected to reduce the closer a member is to retiring.
- The next page includes details of the impact under each scenario for the DC section and the percentage change in the value of members' pots at retirement, relative to a climate uninformed base case scenario.

<sup>1</sup> Popular arrangements are those with more than £100m invested or which account for 10% or more of total scheme assets.

# Strategy

## 2. Climate scenario analysis (continued)

- The tables to the right show the percentage change in the value of members' pots at retirement, relative to the climate uninformed scenario, across the three different scenarios and different starting ages. This climate uninformed scenario assumes no increase of physical risks due to climate change and does not make any explicit assumptions about the transition to a low carbon economy. A target retirement age of 60 has been assumed which is in line with the most popular selected retirement age in the Fund.
- The main potential impacts are as follows, noting that the best outcome still reflects a reduction in pot size versus the climate uninformed base case scenario:
  - The Paris Orderly Transition led to the best outcome for those members within 20 or 30 years from retirement, as in this scenario physical climate risks are moderate, and transitional climate risks are well managed.
  - The Paris Disorderly Transition includes a market shock in the short term which impacts return seeking assets the most. For younger members, whilst in a worse off position than under the Paris Orderly Transition scenario, there is still time for return seeking assets to recover through future investment returns. As c95% of the Fund's DC Section's members are deferred, it was assumed that sample members were deferred and hence their pot sizes will grow with investment returns only ie not with new contributions. Whilst members within 10 years of retirement have less time for return seeking assets to recover following a potential market shock, they hold a low and decreasing allocation to return-seeking assets so they are less impacted (in terms of percentage change in pot size at retirement) than younger members under this scenario.
  - Members face limited short term impacts of climate change as a result of a failed transition, but larger long-term effects, as it assumes increasingly severe physical impacts emerge over time. This scenario therefore has a larger impact on younger members, who remain invested in the Plan for longer. It is assumed that expected losses as a result of a failed transition don't manifest themselves to a great degree for those members within 10 years of retirement.

### Default investment strategy (Change in projected at-retirement pot size relative to the climate uninformed scenario)

Scenario	Member aged 30	Member aged 40	Member aged 50
<b>Years to target retirement age</b>	30	20	10
<b>Paris Orderly Transition outcome</b>	-9.2%	-6.2%	-4.6%
<b>Paris Disorderly Transition outcome</b>	-19.8%	-16.3%	-11.8%
<b>Failed Transition outcome</b>	-32.2%	-21.0%	-3.2%

### BlackRock Global 50:50 Index Fund (Change in projected at-retirement pot size relative to the climate uninformed scenario)

Scenario	Member aged 30	Member aged 40	Member aged 50
<b>Years to target retirement age</b>	30	20	10
<b>Paris Orderly Transition outcome</b>	-10.2%	-6.9%	-5.2%
<b>Paris Disorderly Transition outcome</b>	-20.6%	-17.4%	-14.0%
<b>Failed Transition outcome</b>	-33.4%	-28.6%	-4.8%

# Risk Management

## 1. Processes for identifying and assessing climate-related risks

- The Trustee has implemented a number of processes and tools for identifying, assessing and managing climate related risks and opportunities for the Fund, including:
  - attending climate related training to understand how climate-related risks might affect pension schemes and their investments in general terms;
  - undertaking climate scenario analysis which shows how the Fund's assets and liabilities might be affected under a range of climate scenarios;
  - receiving advice on how the sponsoring Employer might be impacted by climate-related factors and the implications for its ability to provide financial support to the Fund;
  - reviewing its investment adviser's assessments of the Fund's current and prospective investment managers' climate practices, including how they incorporate climate-related factors into their investment processes and how effectively they manage climate related risks;
  - ensuring good stewardship practices are in place; and
  - monitoring a range of climate-related metrics in relation to the Fund's assets.

In addition, the Trustee expects its investment managers to identify, assess and manager climate-related risks to the Fund's assets on a day-to-day basis. The Trustee invites managers to periodically attend meetings to provide updates on their approaches to identifying and assessing climate-related risks.

## 2. Investment manager assessments

### 2a. Review of managers' approaches to climate risks and opportunities

- LCP presented its high level reviews of the Fund's investment managers' climate credentials at the March 2022 and the May 2022 IC meetings.
- The March 2022 review covered the DB section's credit managers. The May 2022 review covered the managers within the DC section's default lifestyle.
- These assessments used a "traffic light" system to show the managers' climate capabilities against a range of different criteria based on climate specific responses to LCP's 2022 Responsible Investment ("RI") Survey.
- These included factors such as:
  - use of climate tools to assess climate risks and opportunities (eg scenario modelling, metrics);
  - commitment to climate goals (eg TCFD reporting, Net Zero targets);
  - quality and coverage of climate data; and
  - stewardship and engagement on climate change.

Whilst these were not Fund specific, they provided key information on the actions taken by the managers to integrate good climate practices into the running of their firms.

Overall, the Trustee was satisfied that their managers had embedded climate considerations into their philosophy and management processes and that all the managers were taking steps to improve their climate capabilities. However, the Trustee did note that all managers had areas for improvement and agreed to engage with managers on these areas.

# Risk Management

- In addition, the report provided fund specific ratings, based on the specialist asset class and climate knowledge of LCP's manager research teams, including:
  - Fund specific RI scores which are formulated during LCP's regular due diligence meetings with the Fund's managers. Each fund is rated on a 1 (weak) to 4 (strong) scale; and
  - Fund specific climate scores based on how well climate factors are integrated into the funds' investment processes. Funds are given either a green (strong), amber (moderate) or red (weak) rating.
  - The majority of the Fund's managers received high fund specific RI scores and moderate fund specific climate scores. The Trustee noted that they expected their managers' climate scores to improve over time as climate practices and industry standards develop.
  - The Trustee used the output of the review to drive climate related conversations with its investment managers over the year. After the year end in February 2023, BlackRock presented to the Investment Committee on their stewardship process, including their engagements on climate. In addition, the Fund's investment adviser, as part of their manager research process, conducts engagement with the managers, encouraging them to improve their practices further, reporting back to the Trustee periodically.

## 2b. Changes to investment mandates

If the Trustee identifies any concerns with the way one of the Fund's managers addresses climate related risks and opportunities, it will initially engage with the manager to raise concerns and seek improvements. If the manager does not sufficiently improve (or provide a clear improvement plan), the Trustee may switch to a different manager. Over the year under review no manager changes were made due to concerns over their climate approaches, although discussions were held with managers regarding planned improvements to their processes.

## 2c. Engagement and other stewardship activities

The Trustee expects the Fund's investment managers to engage with investee companies on climate-related (and other) matters. The Trustee generally believes that engaging with companies is more effective at encouraging change than selling the Fund's investments in those companies.

The review of managers' climate approaches showed that all of the Fund's managers frequently engaged with portfolio companies on climate change.

In November 2022, the Trustee reviewed its stewardship priorities for the Fund, and agreed on human rights, corporate transparency, business ethics and climate change as priorities.

In February 2023, following the reporting period, the Trustee followed up with its DB credit managers on engagement matters related to enhancing data coverage, climate change revenues, and understanding the extent of climate modelling at the holding level. The Trustee was satisfied with most of the managers' responses, noting one manager has more scope to demonstrate its commitment to the Net Zero transition. This was communicated to the manager in question to encourage improvement.

Also in February 2023, based on the results of the high level reviews of the Fund's investment managers' climate credentials, the Trustee followed up with the equity and corporate bond managers (L&G and BlackRock) used within the DC Section on engagement matters related to climate-related risks. This included, climate scenario analysis, alignment metrics, climate change revenue and coverage of reporting total emissions. The Trustee was satisfied with the managers' responses, noting the limitations as a result of the passive nature of these funds.

More information on the Trustee's stewardship activities can be found in its Implementation Statement: <https://retirement.fidelity.co.uk/costs-and-charges/csgp>

# Risk Management

## 3. Monitoring climate-related risks to the Fund

The Trustee has integrated climate change into the Fund's risk management processes, including the Risk Register, covenant monitoring and investment monitoring.

### 3a. Risk Register

The Trustee maintains a Risk Register which covers all aspects of the Fund's activities. It is reviewed in detail by the Trustee, and at a high level by other Committees.

Each risk is rated in terms of its impact and likelihood, both on a scale of 1-5, and these figures are multiplied together to give an overall risk score out of 25. For the avoidance of doubt the lower the number, the lower the risk.

At the beginning of the year, the Risk Register included an explicit reference to "ESG related risks", which incorporated climate-related risk.

Over 2022, the Trustee added new climate-related risks and references to the Risk Register following the identification and assessment of climate risks facing the Fund, including (score):

- TCFD regulatory risks (6);
- relevant financial factors, including ESG and climate change risks (9);
- manager understanding and capability (6); and
- insufficient or ineffective manager stewardship (6).

The Fund's Risk Register is reviewed regularly to consider if any further risks need adding or amending, to assess any significant priority risks to manager and to ensure regular action is maintained in monitoring and mitigating these risks.

The Trustee's current assessment, based on consideration of their impact and likelihood, is that climate-related risks are not immaterial and therefore should continue to be monitored in accordance with the current monitoring processes.

### 3b. Investment monitoring

The Trustee regularly invites the Fund's investment managers to present at Trustee meetings. During these meetings, the Trustee discusses climate change with the managers, to increase its understanding of the Fund's climate related risks and challenge the adequacy of the steps being taken to manage them.

Over the year the Trustee received advice from its investment adviser providing a high level overview of its DB credit managers climate approaches. This included consideration of how climate factors are incorporated as part of the managers' portfolio construction and stock selection process. It also received similar advice in relation to the DC Sections popular arrangements<sup>1</sup>. This included consideration of the climate risks the Fund was exposed to through investment in each Fund, and steps that could be taken to mitigate these risks.

Additionally, the Trustee has chosen four climate-related metrics to help it monitor climate-related risks to the Fund. Please see next section of report for further details.

The Trustee took the decision as part of the triennial review of the DC section investment strategy during 2021 to replace 90% of the passive equity allocation within the default strategy in the DC section with a low carbon equivalent equity allocation. The BlackRock Low Carbon Equities Fund makes up 57% of the DC section's assets, as at 31 December 2022. The Fund reduces the carbon exposure of investors (as measured by carbon emissions and reserves of fossil fuels) by re-weighting the index to "tilt" away from companies with the highest carbon exposure whilst limiting tracking error relative to market cap. This change was implemented during the year in March 2022 and marks a significant ongoing step the Trustee has taken to manage climate transition risks for members within the DC section.

The Trustee has set climate change as one of its stewardship priorities. After the year end in February 2023, BlackRock presented to the Investment Committee on its stewardship process, including its engagements on climate. As the majority of the DC Section's assets are invested passively, stewardship is the main tool the underlying managers can use to address climate related risks and opportunities.

<sup>1</sup> Popular arrangements are those with more than £100m invested or which account for 10% or more of total scheme assets.



# Metrics and Targets

## 1. Metrics

The Trustee has chosen four climate-related metrics to help it monitor climate-related risks and opportunities to the Fund. These are listed below and reported in this section of the report for the DB and DC sections (as far as the Trustee was able to obtain the data).

Metric	High-level methodology
<b>Absolute emissions: Total greenhouse gas emissions</b>	The sum of each company's most recent reported or estimated greenhouse gas emissions attributable to the Fund's investment in the company, where data is available. Emissions are attributed evenly across equity and debt investors. Reported in tonnes of CO <sub>2</sub> equivalent. This methodology was chosen because it is in line with the statutory guidance.
<b>Emissions intensity: Carbon footprint</b>	The total greenhouse gas emissions described above, divided by the value of the invested portfolio in £m, adjusted for data availability. Emissions are attributed evenly across equity and debt investors. Reported in tonnes of CO <sub>2</sub> equivalent per £1m invested. This methodology was chosen because it is in line with the statutory guidance.
<b>Portfolio alignment: Science-based targets (SBT)</b>	The proportion of the portfolio by weight of holdings with science-based targets to reduce their greenhouse gas emissions, demonstrated by a target validated by the Science Based Targets initiative (SBTi) or equivalent. This measures the extent to which the Fund's investments are aligned to the Paris Agreement goal of limiting global average temperature rises to 1.5°C. Reported in percentage terms. The Trustee chose this "binary target" measure because it is the simplest and most robust of the various portfolio alignment metrics available.
<b>Data quality</b>	The proportion of the portfolio for which greenhouse gas emissions data is reported, estimated or unavailable. This approach was chosen because it is in line with the statutory guidance.

Following review of the metrics data outlined on the following slides, the Trustee engaged with the Fund's managers on areas where it felt there was room for improvement. The Trustee was comfortable with the responses received, and noted that data coverage for climate metrics was expected to improve over time.

# Metrics and Targets

## 1. Metrics – DB Section

The data has been calculated using portfolio holdings as at 31 March 2022, using the most recent data available in April 2022, from the investment adviser's appointed climate metrics provider, MSCI.

Portfolio holdings		Allocation at 31 March 2022	
		£m	%
Global Buy & Maintain Credit	Mandate 1	85.9	4.5%
Global Buy & Maintain Credit	Mandate 2	79.2	4.1%
Global Buy & Maintain Credit	Mandate 3	76.8	4.0%
<b>Bonds (unhedged)</b>		<b>242.0</b>	<b>12.6%</b>
<i>Currency Hedge</i>		-2.5	-0.1%
<i>Global bond hedge</i>		-11.0	-0.6%
<b>Bonds (inc impact of hedges)</b>		<b>228.6</b>	<b>11.9%</b>
<b>Cash</b>		<b>4.7</b>	<b>0.2%</b>
<b>Liability driven investment</b>		<b>1,691.7</b>	<b>87.9%</b>
<b>Total DB Section</b>		<b>1,925.0</b>	<b>100.0%</b>

### Notes:

Asset valuations provided by investment managers  
Cash held in Trustee bank account not included  
Figures may not sum due to rounding

Asset class (% DB assets)	Details of missing data and steps being taken to address it
<b>LDI</b>	Full coverage
<b>Bonds</b>	See Appendix 3.
<b>Cash and hedges</b>	Metrics not reported on grounds of lack of methodology

### Methodology for calculating LDI metrics

Gilts metrics are calculated on a different basis to other mandates shown, so cannot be compared with them.

Total greenhouse gas emissions have been calculated as {"value of investment in gilts" divided by "value of the UK's public debt"} multiplied by "total greenhouse gas emissions produced in the UK" using publicly available data sources.

The carbon footprint has been calculated as "total greenhouse gas emissions produced in the UK" divided by "value of the UK's public debt". This is a measure of the UK's reliance on greenhouse emissions. There can be issues of double counting across the portfolio where UK country emissions double count UK company emissions already accounted for within the credit portfolio.

In calculating metrics for the LDI exposure, derivatives have been treated as an investment in an equivalent gilt. Greenhouse gas emissions have been calculated for the gilt exposure (including the repo loan amount) and separately for the net swap exposure (ie long positions minus short positions). The latter approach is different from DWP's guidance which is to report short and long derivative exposures separately. The investment adviser's view is that this would be overly onerous (as you would need to go through each portfolio line by line) and would not be particularly informative (as offsetting positions cancel out in terms of emissions exposure).

# Metrics and Targets

## 1. Metrics – DB Section (continued)

Manager, asset class and valuation (£m)		Scope 1 and 2 emissions (for holdings with data)			Scope 3 emissions (for holdings with data)			Portfolio alignment	Data source	Date of portfolio value and holdings
		Coverage	Total GHG emissions (tCO <sub>2</sub> e)	Carbon footprint (tCO <sub>2</sub> e/£m)	Coverage	Total GHG emissions (tCO <sub>2</sub> e)	Carbon footprint (tCO <sub>2</sub> e/£m)	Proportion with SBT (%)		
<b>Bonds Mandate 1</b>	85.9	£68.8m / 80%	3,813	56	£68.5m / 80%	23,220	339	35%	MSCI	31/03/22
<b>Bonds Mandate 2</b>	79.2	£49.3m / 62%	2,494	51	£48.3m / 61%	18,970	393	33%	MSCI	31/03/22
<b>Bonds Mandate 3</b>	76.8	£43.7m / 57%	3,818	88	£43.7m / 57%	23,060	527	21%	MSCI	31/03/22
<b>LDI (physical bond exposure)</b>	1,691.7	100%	334,171	198	100%	228,776	136	100% <sup>2</sup>	See below	31/03/22
<b>LDI (derivative exposure)</b>			18,038			12,349				

Source: Investment managers, MSCI, LCP.

Certain data ©2022 MSCI ESG Research LLC. Reported by permission. See Appendix 3 for more details, including how to interpret data where coverage is less than 100%.

LCP Sources for LDI metrics below. LCP has calculated metric figures in line with DWP guidelines.

Climate Watch (climatewatchdata.org) Govt debt

General government debt, GDP and spending - OECD Data

United States: CO2 Country Profile - Our World in Data

UK's Carbon Footprint 1997 - 2018 (publishing.service.gov.uk)

UK government debt and deficit - Office for National Statistics (ons.gov.uk)

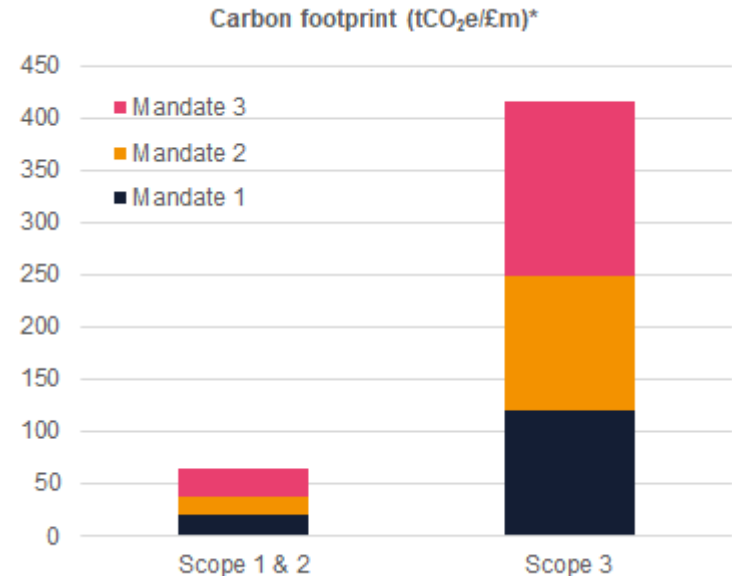
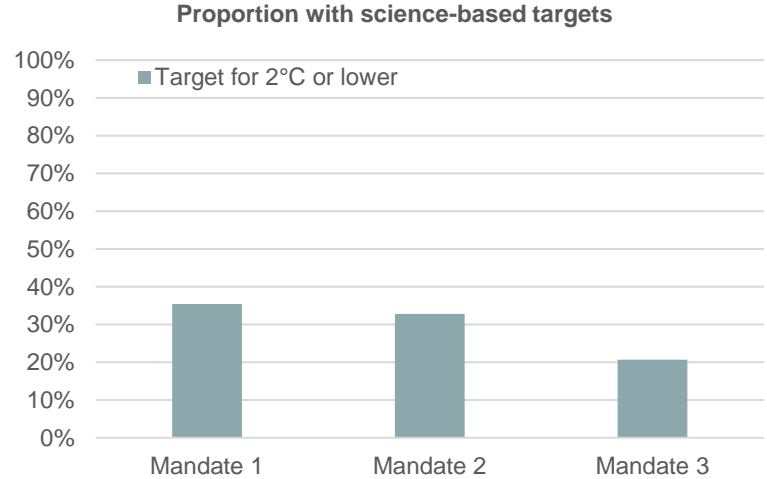
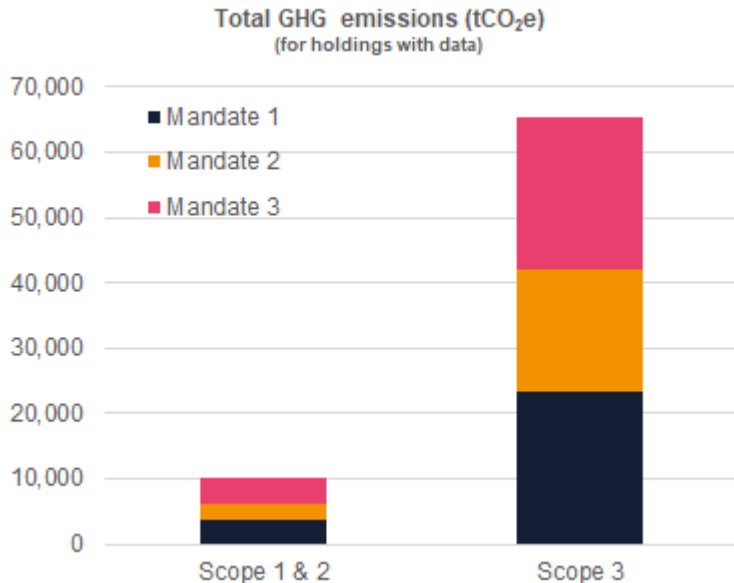
<sup>1</sup>Details on the methodology used to calculate LDI metrics are found on page 18.

<sup>2</sup>The UK has a net zero by 2050 target written into law, with carbon budgets based on advice from the independent Committee on Climate Change, so UK government bond exposure has been treated as having a credible science-based target.

# Metrics and Targets

## 1. Metrics – DB Section (continued)

The charts on this page summarise the MSCI data shown on the previous page. LDI has not been included given the LDI metrics have been calculated using a separate methodology. Details on the methodology used to calculate LDI metrics are found on page 18.



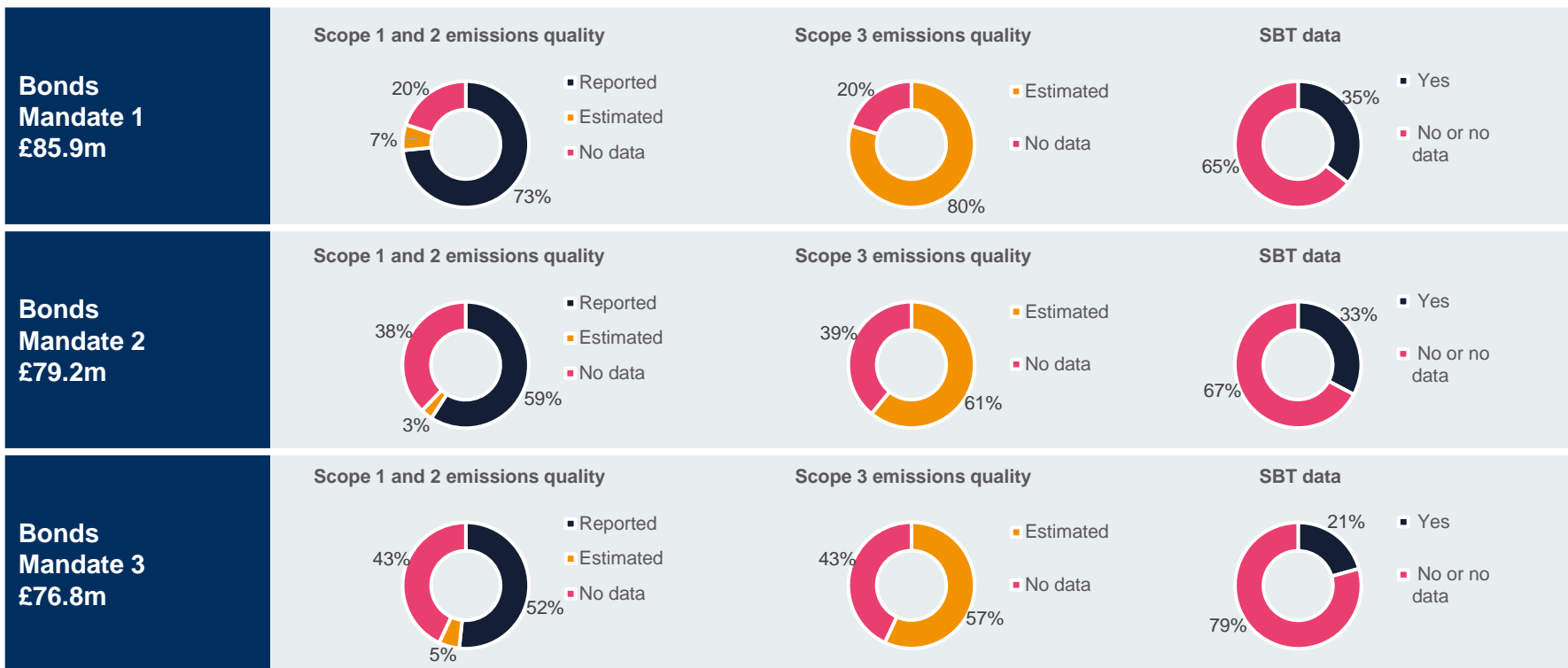
Source: Investment managers, MSCI, LCP. \*Based on £1m invested in proportion to the Fund's assets for which data is available. Certain data ©2022 MSCI ESG Research LLC. Reported by permission. See Appendix 3 for more details.

# Metrics and Targets

## 1. Metrics – DB Section (continued)

This page shows the breakdown of data quality as at 31 March 2022. This is shown as the split of portfolio value (not the split of the emissions figures).

LDI has not been included given the LDI metrics have been calculated using a separate methodology. Details on the methodology used to calculate LDI metrics are found on page 18.



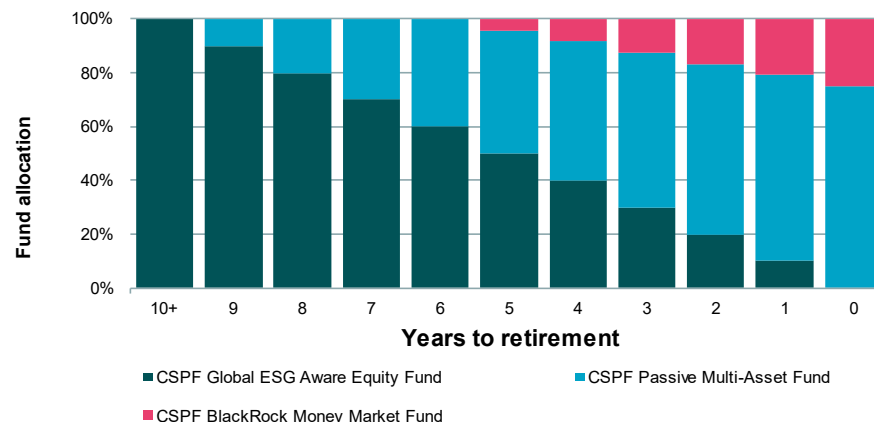
# Metrics and Targets

## 1. Metrics – DC Section

Portfolio holdings	Allocation as at 31 March 2022	
	£m	%
<b>Global ESG Aware Equity Fund</b>	<b>679.34</b>	<b>58.1%</b>
<b>BlackRock Money Market Fund</b>	<b>47.44</b>	<b>4.1%</b>
<b>Passive Multi Asset Fund</b>	<b>134.08</b>	<b>11.5%</b>
BlackRock Global 50/50 Index Fund	163.32	14.0%
BlackRock Over 15 Year Gilts Index Fund	7.26	0.6%
BlackRock European Equity Index Fund	16.46	1.4%
BlackRock Japanese Equity Index Fund	5.52	0.5%
BlackRock Over 5 Years Index Linked Gilt Index Fund	4.43	0.4%
BlackRock Pacific Rim Equity Index Fund	14.98	1.3%
BlackRock UK Equity Index Fund	17.97	1.5%
BlackRock US Equity Index Fund	49.41	4.2%
HSBC Islamic Fund	6.61	0.6%
L&G Global Emerging Markets Index Fund	12.04	1.0%
L&G Overseas Bond Fund	1.49	0.1%
L&G Ethical UK Equity Index Fund	3.07	0.3%
Fidelity Corporate Bond Fund	3.16	0.3%
Threadneedle Pooled Property Fund	2.47	0.2%
<b>Total DC Section</b>	<b>1,169.06</b>	<b>100.0%</b>

The Funds in bold are utilised within the default strategy. The Global ESG Aware Equity Fund invests 90% in the BlackRock Low Carbon Equities Fund and 10% in the BlackRock Emerging Market Equities Fund. The Passive Multi-Asset Fund invests 60% in the Global ESG Aware Equity Fund, 10% in the BlackRock Corporate Bonds Fund, 10% in the L&G Overseas Bond Fund, 10% in the BlackRock Over 15 Year Gilts Index Fund and 10% in the BlackRock Over 5 Years Index Linked Gilt Index Fund.

### CSPF Drawdown Lifestyle Strategy



The majority of DC assets are invested in the default strategy, with the assets allocated depending on members' expected retirement dates (as shown in the chart) or in the BlackRock Global 50:50 Index Fund on a self-select basis. We have assessed "popular arrangements" to be an investment option with more than £100m invested or which accounts for 10% or more of total scheme assets.

As at 31 March 2022, 74% of DC assets were invested in the default strategy and 14% in the BlackRock Global 50:50 Index Fund.

The other assets are invested in a range of self-select funds, the largest allocation being c4% (£49m). The Trustee has not collected metrics for these other assets as it did not feel it was proportionate to do so. This is in line with the guidance issued by the Department for Work and Pensions on including data for "popular arrangements".

The metrics on the following slide are reported at the underlying fund level, details of which are provided under the table opposite. We were unable to attain data for the funds in the default strategy that only hold sovereign bonds.

# Metrics and Targets

## 1. Metrics – DC Section (continued)

There are two popular arrangements within the DC section of the Fund: the default strategy and the BlackRock Global 50:50 Index Fund. The top three funds in the table below are utilised within the default strategy, the first popular arrangement. The bottom fund in the table below is the second popular arrangement.

Manager, asset class and valuation (£m)		Scope 1 and 2 emissions (for holdings with data)			Scope 3 emissions (for holdings with data)			Portfolio alignment	Data source	Date of portfolio value and holdings
		Coverage	Total GHG emissions (tCO <sub>2</sub> e)	Carbon footprint (tCO <sub>2</sub> e/£m)	Coverage	Total GHG emissions (tCO <sub>2</sub> e)	Carbon footprint (tCO <sub>2</sub> e/£m)	Proportion with SBT (%)		
<b>BlackRock Low Carbon Equities</b>	683.8	£678.5m / 99%	4,874	8	£677.1m / 99%	113,495	168	35%	MSCI	31/03/22
<b>BlackRock Emerging Market Equities</b>	76.0	£72.7m / 96%	13,851	191	£72.5m / 95%	49,293	680	5%	MSCI	31/03/22
<b>BlackRock Corporate Bonds</b>	13.4	£6.5m / 48%	376	58	£6.5m / 48%	2,572	398	20%	MSCI	31/03/22
<b>BlackRock Global 50:50 Equities*</b>	163.3	£157.1m / 96%	11,126	71	N/A	N/A	N/A	At the time of writing, this data is being clarified with BlackRock	MSCI via BlackRock	31/03/22

Source: Investment managers, MSCI, LCP.

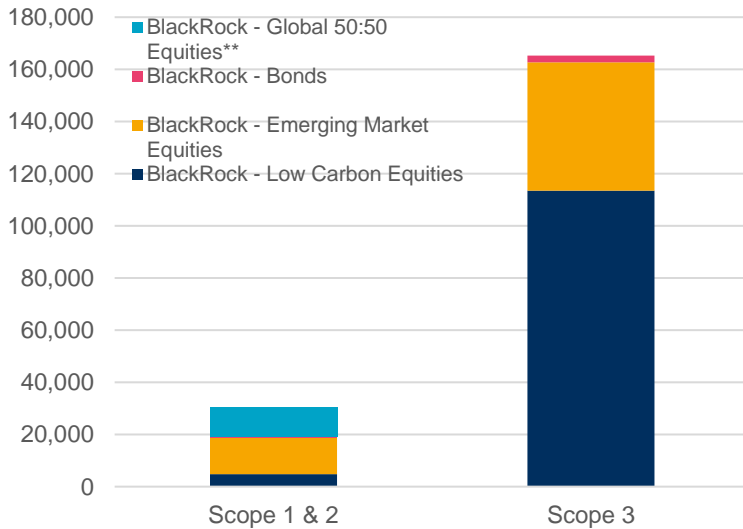
Certain data ©2022 MSCI ESG Research LLC. Reported by permission. See Appendix 3 for more details, including how to interpret data where coverage is less than 100%. The underlying funds, with available data, of the CSG Global ESG Aware Equity Fund and the Passive Multi Asset Fund have been reported in the top three rows of the table above. \*BlackRock has been unable to provided Scope 3 emissions data for this Fund as at 31 March 2022.

# Metrics and Targets

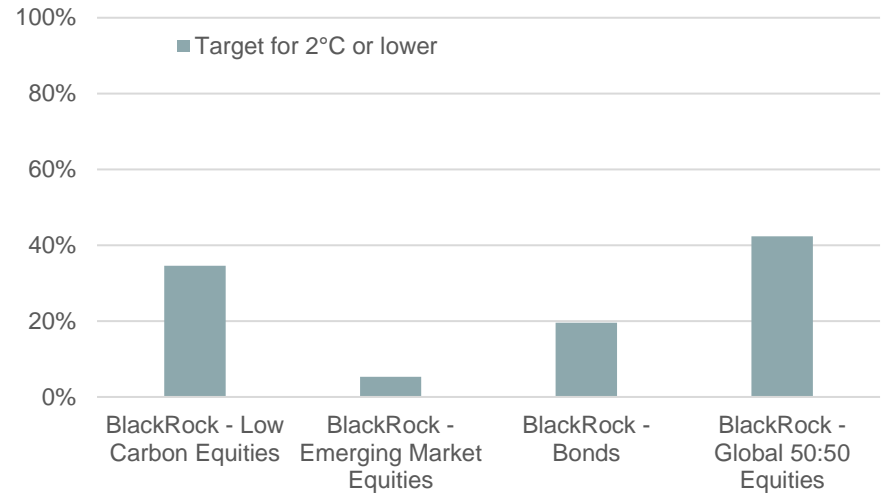
## 1. Metrics – DC Section (continued)

The charts on this page summarise the MSCI data shown on the previous page.

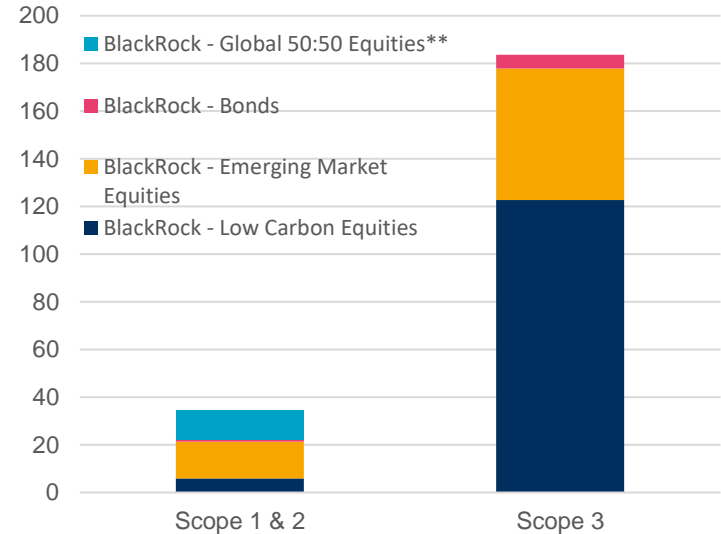
**Total GHG emissions (tCO<sub>2</sub>e)**  
(for holdings with data)



**Proportion with science-based targets**



**Carbon footprint (tCO<sub>2</sub>e/£m)\***  
(for holdings with data)



Source: Investment managers, MSCI, LCP. \*Based on £1m invested in proportion to the Fund's DC assets for which data is available. Certain data ©2022 MSCI ESG Research LLC. Reported by permission. See Appendix 3 for more details. \*\* BlackRock have been unable to provide Scope 3 emissions data for this Fund as at 31 March 2022.



# Metrics and Targets

## 1. Metrics – DC Section (continued)

### Breakdown of data quality as at 31 March 2022



Source: Investment managers, MSCI, LCP. Certain data ©2022 MSCI ESG Research LLC. Reported by permission. See Appendix 3 for more details. \* BlackRock has been unable to provide Scope 3 emissions data for this Fund as at 31 March 2022.

# Metrics and Targets

## 2. Target (DB and DC Sections)

The Trustee has set the following target and will monitor progress towards this over time:

Target	DB Section coverage	DC Section coverage	Reference date
<b>80% of listed equity and corporate bond investments to have set science-based targets by 2030</b>	Corporate bonds (c.15% of total DB assets)	Listed equities and corporate bonds within the default investment strategy (c. 88% of DC default investment strategy assets)	31 March 2022

### Initial performance against the target

The climate reporting carried out for the Fund during the year included an assessment of the current alignment with the above target. Broadly 30% of the DB Section's corporate bond investments and 31% of the DC Section's listed equity and corporate bond investments within the default investment strategy had set SBT targets by 31 March 2022, based on information held on the MSCI database about validated targets. The Trustee assumes that no other portfolio companies have set science-based targets.

The proportion of each fund with science-based targets was compared with the corresponding figure for a relevant market index with similar characteristics. Overall, the current proportion is considered to be broadly in line with the wider market. The analysis enabled the Trustee to identify the most appropriate funds and managers to focus their engagement on, which would result in the most significant improvement in the Fund's alignment with its target.

### The following steps are being taken to achieve the target:

- The Trustee, with help from its investment advisor, will communicate the target to each investment manager.
- Investment managers are routinely invited to present at Trustee meetings as part of the existing monitoring process. When meeting with any of the Fund's investment managers, the Trustee will periodically ask the manager how they expect the proportion of portfolio companies with science-based targets to change over time and encourage the manager to engage with portfolio companies about setting science-based targets, prioritising those with the highest carbon footprint.
- Science-based targets are often validated by the Science Based Targets initiative (SBTi). Where relevant, the Trustee will ask the manager about "equivalent" methods of assessing whether emissions reduction targets are science-based, for example for holdings for which SBTi validation is not available or not well suited, with a view to extending the coverage of the SBT metric.
- The investment consultant encourages managers to support the goal of net zero emissions by 2050 or earlier and has published its expectations for investment managers in relation to net zero. This includes the use of effective voting (where applicable) and engagement with portfolio companies to encourage achievement of net zero. The investment consultant continues to engage with managers on this topic and will encourage them to use their influence with portfolio companies to increase the use of SBT.
- The Trustee will review progress towards the target each year and consider whether additional steps are needed to increase their chance of meeting the target.

# Appendices



## Appendices

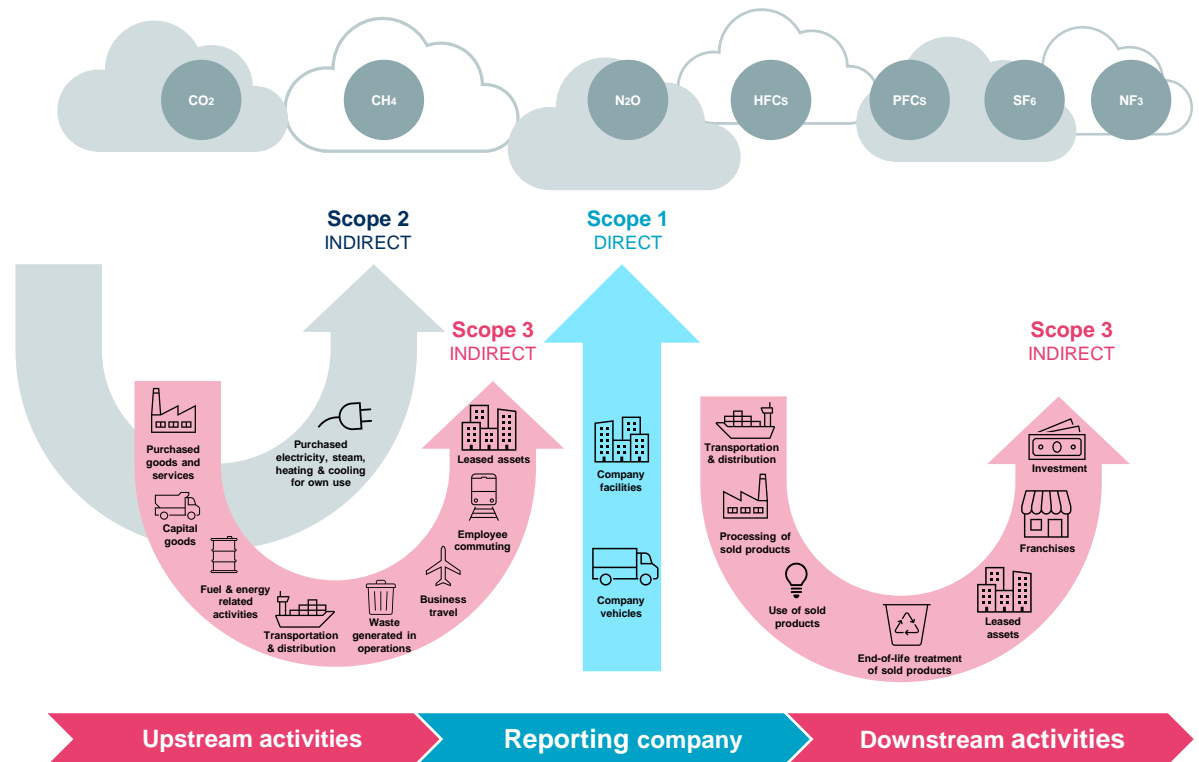
- Appendix 1 – Greenhouse gas emissions Page 28
- Appendix 2 – Climate scenario analysis Page 29
- Appendix 3 – MSCI data Page 35
- Appendix 4 – Glossary of terms Page 37

# Appendix 1 – Greenhouse gas emissions explained

Within the 'metrics and targets' section of the report, the emissions metrics relate to seven greenhouse gases – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>). The figures are shown as "CO<sub>2</sub> equivalent" (CO<sub>2</sub>e) which is the amount of carbon dioxide that would be equivalent to the excess energy being stored by, and heating, the earth due to the presence in the atmosphere of these seven greenhouse gases.

The metrics related to greenhouse gas emissions are split into the following three categories: Scope 1, 2 and 3. These categories describe how directly the emissions are related to an entity's operations, with Scope 1 emissions being most directly related to an entity's everyday activities and Scope 3 referring to indirect emissions in an entity's value chain. Scope 3 emissions often form the largest share of an entity's total emissions, but are also the ones that the entity has least control over.

- **Scope 1** greenhouse gas emissions are all direct emissions from the activities of an entity or activities under its control.
- **Scope 2** greenhouse gas emissions are indirect emissions from electricity purchased and used by an entity which are created during the production of energy which the entity uses.
- **Scope 3** greenhouse gas emissions are all indirect emissions from activities of the entity, other than scope 2 emissions, which occur from sources that the entity does not directly control.



## Appendix 2 – Climate scenario analysis

### Scenarios considered and why the Trustee chose them

The Trustee carried out climate scenario analysis based on macro-economic data at 30 June 2021, calibrated to market conditions at 30 September 2021 (for DC) and 31 December 2021 (for DB) with the support of their investment consultants, LCP. The analysis looked at three possible scenarios:

Transition	Description	Why the Trustee chose it
Failed Transition	Paris Agreement goals not met; only existing climate policies are implemented and temperatures rise significantly.	To explore what could happen to the Fund's finances if carbon emissions continue at current levels and this results in significant physical risks from changes in the global climate that disrupt economic activity.
Paris Orderly Transition	Paris Agreement goals met; rapid and effective climate action (including using carbon capture and storage), with smooth market reaction.	To see how the Fund's finances could play out if carbon emission reduction targets are met in line with the Paris Agreement, meaning that the economy makes a material shift towards low carbon by 2030.
Paris Disorderly Transition	Same policy, climate and emissions outcomes as the Paris Orderly Transition, but financial markets are slower to react and then react abruptly.	To look at the potential impact on the Fund if carbon emission reduction targets are met in line with the Paris Agreement, but financial markets are volatile as they adjust to a low carbon economy.

The Trustee acknowledges that many alternative plausible scenarios exist, but found these were a helpful set of scenarios to explore how climate change might affect the Fund in future.

The intricacies of climate systems present considerable difficulties in modelling the impacts on pension schemes' assets and liabilities. This is particularly true in the Failed Transition scenario where over 4°C of warming is observed. Due to the unprecedented nature of such warming, it is challenging to encompass all potential consequences within the modelling process. Simplifications in the modelling, such as not allowing for tipping points, mean the actual impact on pension schemes is likely to be more significant than is currently being modelled. As long as these limitations are understood, the scenarios still provide valuable insights to inform climate risk assessment and management.

The scenarios' key features are summarised on the next page.

These scenarios show that equity markets could be significantly impacted by climate change with lesser but still noticeable impacts in bond markets. All three scenarios envisage, on average, lower investment returns and these result in a worse DB funding position and lower retirement outcomes for DC members.

## Appendix 2 – Climate scenario analysis

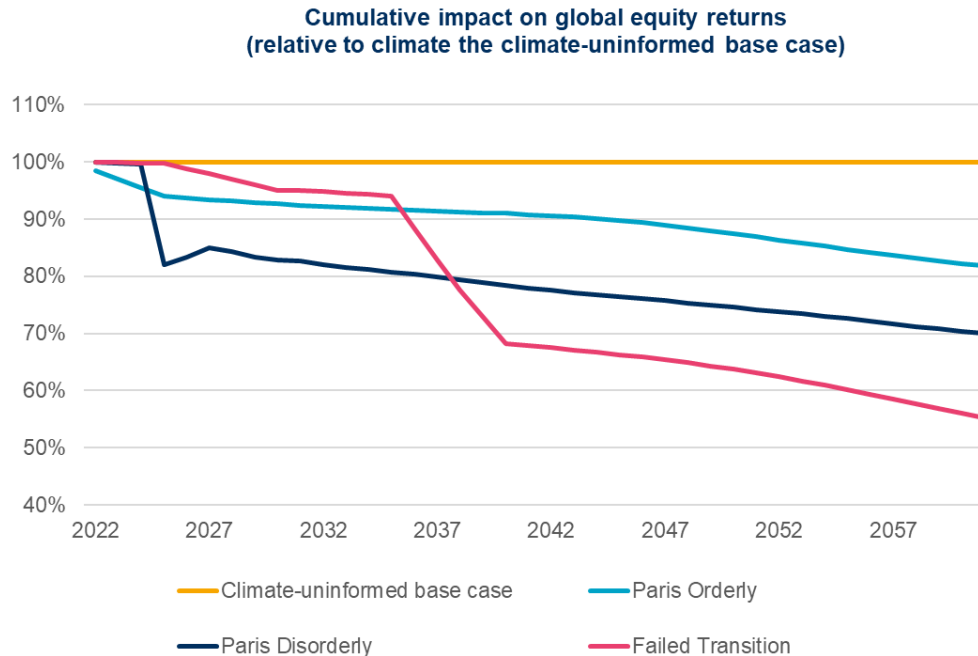
### The climate scenarios considered by the Trustee

Scenarios as at 30 June 2021 – key features

Scenarios:	Failed Transition	Paris Orderly Transition	Paris Disorderly Transition
<b>Low carbon policies</b>	<b>Continuation</b> of current low carbon policies and technology trends	<b>Ambitious</b> low carbon policies, high investment in low-carbon technologies and substitution away from fossil fuels to cleaner energy sources and biofuel	
<b>Paris Agreement outcome</b>	Paris Agreement goals <b>not</b> met	Paris Agreement <b>goals met</b>	
<b>Global warming</b>	Average global warming is about 2°C by 2050 and 4°C by 2100, compared to pre-industrial levels	Average global warming stabilises at 1.6°C above pre-industrial levels	
<b>Physical impacts</b>	Severe physical impacts	Moderate physical impacts	
<b>Impact on GDP</b>	Global GDP is significantly lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be 50% lower than in the climate uninformed scenario.	Global GDP is lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be about 5% lower than in the climate-uninformed scenario.	In the long term, global GDP is slightly worse than in the Orderly Net Zero scenario due to the impacts of financial markets volatility.
<b>Financial market impacts</b>	Physical risks priced in over the period 2026-2030. A second repricing occurs in the period 2036-2040 as investors factor in the severe physical risks	Transition and physical risks priced in smoothly over the period of 2022-2025	Abrupt repricing of assets causes financial market volatility in 2025

## Appendix 2 – Climate scenario analysis

These scenarios show that equity markets could be significantly impacted by climate change, as shown in the chart below, with lesser but still noticeable impacts in bond markets.



Over the long-term, and particularly beyond the time horizon modelled, the largest effects would be felt under the Failed Transition scenario. The modelling suggests that this would have greatest impact on the younger members of the DC section. On the face of it, the results suggest that the DB section is resilient in this scenario. This is due to the de-risked nature of the nature of the investment strategy, which has no equity exposure. Moreover, the DB section invests in a way that is designed to make it fairly immune to changes in interest rates and inflation in normal circumstances, which significantly reduces the volatility of its funding position. However, under climate scenarios with major economic disruption – such as the later years of the Failed Transition scenario – the Fund’s interest rate and inflation protection may break down, leaving it more exposed to climate risks. The median modelled outcomes do not illustrate this possibility.

## Appendix 2 – Climate scenario analysis

### Modelling approach

- The scenario analysis is based on a model developed by Ortec Finance and Cambridge Econometrics. The outputs were then applied to the Fund's assets and liabilities by LCP.
- The three climate scenarios are projected year by year, over the next 40 years.
- The results are intended to help the Trustee to consider how resilient the DB funding strategy, DB investment strategy and the DC default strategy are to climate-related risks.
- The Trustee discussed how future planned changes to the investment strategies for both Sections would change the analysis.
- The three climate scenarios chosen are intended to be plausible narratives of how the future could unfold, not "worst case". They are only three scenarios out of countless others which could have been considered. Other scenarios could give better or worse outcomes for the Fund.
- The results discussed in this report have been based on macro-economic data at 30 June 2021, calibrated to market conditions at 30 September 2021 (for DC) and 31 December 2021 (for DB).

For more information about the modelling approach, see p34.

### Modelling limitations

- The asset and liability projections shown reflect the Fund's current strategic journey plan. No allowance is made for changes that might be made to the funding or investment strategy as the climate pathways unfold, nor for action to be taken in response to the Fund achieving its long-term funding target.

- As this is a "top-down" approach, investment market impacts were modelled as the average projected impacts for each asset class. This contrasts with a "bottom up" approach that would model the impact on each individual investment held by the Fund's DB investment portfolio and DC default strategy. As such, the modelling does not require extensive scheme-specific data and so the Trustee was able to consider the potential impacts of the three climate scenarios for all of the Fund's DB assets and DC assets in the default strategy.
- In practice, the Fund's investments may not experience climate impacts in line with the market average.
- Like most modelling of this type, the modelling does not allow for all potential climate-related impacts and therefore is quite likely to underestimate some climate-related risks. For example, tipping points (which could cause runaway physical climate impacts) are not modelled and no allowance is made for knock-on effects, such as climate-related migration and conflicts. In addition, the model presumes that the UK government will remain solvent, thereby making no allowance for credit risk on government bonds. However, in a scenario where global warming exceeds 4°C, this assumption may no longer be valid.
- Medians from Ortec Finance's model outputs are used to project forward assets and liabilities, which means the results reflect the model's "middle outcomes" for investment markets under the three scenarios. Allowing for market volatility would result in better or worse model outputs than shown. Investment markets may be more volatile in future as a result of physical and transition risks from climate change, and this is not illustrated in the modelling shown.



## Appendix 2 – Climate scenario analysis

### Impact of climate change on life expectancy for the DB Section

If a member lives longer, the Fund pays the member's DB pension for longer and therefore needs more assets to make the payments.

Like the economic impacts, the impact of climate change on life expectancy is highly uncertain. As part of the discussions on the climate scenario analysis, the Trustee considered the various possible drivers for changes in mortality rates with both positive and negative impacts expected in each of the scenarios considered.

Given the level of uncertainty, the Trustee noted that no specific allowance has currently been made in the scenario analysis, but that it would keep up to date on developments in this area and consider it further at the next actuarial valuation.

Failed Transition <span style="float: right; background-color: #ffc107; border-radius: 10px; padding: 2px 5px;">-2%</span>	Paris Transition <span style="float: right; background-color: #ffc107; border-radius: 10px; padding: 2px 5px;">+2%</span>
Life expectancy in the UK affected adversely	Life expectancy in the UK affected favourably
▼ Carbon emissions continue to rise, with more air pollution-related deaths.	▲ High investment in low carbon technology, reducing the use of fossil fuels, so carbon emissions reduce and air quality improves.
▼ Average temperatures become more extreme, with greater frequency and severity of adverse events, particularly heatwaves and harsh winters.	▲ Average temperature rises are more modest, with no significant change in extreme events.
▼ The UK population does not adequately adapt to the changing circumstances.	▲ Population adequately adapts to the changing circumstances (eg installation of air conditioning, insulation, flood defences)
▼ Shocks to UK GDP growth, leading to less public resources available for healthcare and the NHS. Advances in medical advances are limited.	▲ UK economy adapts to low carbon technology and grows more in the medium term, resulting in no adverse impact on availability of public resources for healthcare. Medical advances continue.
▼ Food supplies are restricted (both UK and imports), leading to less healthy diets.	▲ Improvements to general diets, such as reduced consumption of meat.
▼ Fuels costs increase, affecting people's lifestyles and health.	▲ Improvements in lifestyles, such as more cycling and general exercise.

**Note:** These effects are uncertain and the magnitude will differ between schemes. The lists of effects are not exhaustive.

# Appendix 2 – Climate scenario analysis

## Modelling approach – more details

- The scenario analysis is based on the ClimateMAPS model developed by Ortec Finance and Cambridge Econometrics, and was then applied to the Fund's assets and liabilities by LCP. The three climate scenarios were projected year by year, over the next 40 years.
- ClimateMAPS uses a top-down approach that consistently models climate impacts on both assets and liabilities, enabling the resilience of the DB Section's funding strategy to be considered. The model output is supported by in-depth narratives that bring the scenarios to life to help the Trustee's understanding of climate-related risks and opportunities.
- ClimateMAPS uses Cambridge Econometrics' macroeconomic model which integrates a range of social and environmental processes, including carbon emissions and the energy transition. It is one of the most comprehensive models of the global economy and is widely used for policy assessment, forecasting and research purposes. The outputs from this macroeconomic modelling – primarily the impacts on country/regional GDP – are then translated into impacts on financial markets by Ortec Finance using assumed relationships between the macroeconomic and financial parameters.
- Ortec Finance runs the projections many times using stochastic modelling to illustrate the wide range of climate impacts that may be possible, under each scenario's climate pathway. LCP takes the median (ie the middle outcome) of this range of impacts, for each relevant financial parameter, and adjusts it to improve its alignment with LCP's standard financial assumptions.
- LCP then uses these adjusted median impacts to project the assets and liabilities of the Fund to illustrate how the different scenarios could affect its funding level. The modelling summarised in this report used scenarios based on the latest scientific and macro-economic data at 30 June 2021, calibrated to market conditions at 30 September 2021 (for DC) and 31 December 2021 (for DB).
- The modelling included contributions assumed to be paid in line with the current Schedule of Contributions, and the Trustee discussed how future planned changes to the investment strategies for both Sections would change the analysis. For the DC Section, members' starting pots values were assumed to equal the average (median) value for Fund members at each exact age. As c95% of members are deferred, we have assumed zero contributions. No allowance was made for changes to the investment strategy or contributions in response to the climate impacts modelled.
- As this is a "top-down" approach, investment market impacts were modelled as the average projected impacts for each asset class, ie assuming that the Fund's investments are affected by climate risk in line with the market-average portfolio for the asset class. This contrasts with a "bottom up" approach that would model the impact on each individual investment held in the Fund's investment portfolio. As such, it does not require extensive scheme-specific data and so the Trustee was able to consider the potential impacts of the three climate scenarios for all of the Fund's assets.
- In practice, the Fund's investment portfolio may not experience climate impacts in line with the market average. The Trustee considers, on an ongoing basis, how Fund's climate risk exposure differs from the market average using climate metrics (which are compared with an appropriate market benchmark).
- The Trustee notes that the three climate scenarios chosen are intended to be plausible, not "worst case", and the modelling is based on median outcomes. It therefore illustrates how the centre of the "funnel of doubt" surrounding DB funding and DC asset projections might be affected by climate change. It does not consider tail risks within that funnel, nor does it consider how the funnel might be widened by the additional uncertainties arising from climate change. In addition, only three scenarios out of infinitely many have been considered. Other scenarios could give better or worse outcomes for the Fund.
- Uncertainty in climate modelling is inevitable. In this case, key areas of uncertainty relating to the financial impacts include how climate change might affect interest rates and inflation, and the timing of market responses to climate change. ClimateMAPS, like most modelling of this type, does not allow for all climate-related impacts and therefore, in aggregate, is quite likely to underestimate the potential impacts of climate-related risks, especially for the Failed Transition scenario. For example, tipping points (which could cause runaway physical climate impacts) are not modelled and no allowance is made for knock-on effects, such as climate-related migration and conflicts.

## Appendix 3 – MSCI data

### Notes for data sourced from MSCI (shown on pages 18 - 25)

Emissions are attributed to investors using “enterprise value including cash” (ie EVIC, the value of equity plus outstanding debt plus cash).

The total GHG emissions figures omit any companies for which data was not available. For example, if the portfolio was worth £200m and emissions data was available for 70% of the portfolio by value, the total GHG emissions figure shown relates to £140m of assets and the portfolio’s carbon footprint equals total GHG emissions divided by 140. In other words, no assumption is made about the emissions for companies without data.

The science-based targets metric equals the % of portfolio by weight of companies that have a near-term carbon emissions reduction target that has been validated by the Science Based Targets initiative (SBTi). The MSCI database does not distinguish between companies which do not have an SBTi target and companies for which MSCI does not check the SBTi status, so the coverage for this metric is equal to the % of the portfolio with an SBTi target.

### Emissions data coverage and quality

Where coverage of the portfolio analysed is less than 100%, this is because the MSCI database:

- Does not cover some holdings (eg cash, sovereign bonds, bonds that have recently matured, shares in companies no longer listed when the analysis was undertaken);
- Does not hold emissions data for some portfolio companies because the company does not report it and MSCI does not estimate it; and/or
- Does not hold EVIC data for some portfolio companies, so emissions cannot be attributed between equity and debt investors.

The last of these reasons is usually the main explanation for the fairly low coverage of bond portfolios.

The MSCI database records whether emissions data is reported or estimated, and which estimation method has been used, but not whether companies’ reported emissions have been independently verified. Our investment consultant has asked MSCI to introduce this distinction. Where emissions data is estimated, MSCI uses one of three methods.

- For electric utilities, MSCI’s estimate of Scope 1 emissions is of direct emissions due to power generation, calculated using power generation fuel-mix data.
- For companies not involved in power generation, which have previously reported emissions data, MSCI starts with a company-specific carbon intensity model.
- For other companies, MSCI uses an industry segment-specific carbon intensity model, which is based on the estimated carbon intensities for 1,000+ industry segments.

For Scope 3 emissions, we have chosen to use MSCI’s estimated emissions even where reported emissions are available. This provides greater consistency than using a mixture of reported and estimated emissions. Analysis of reported Scope 3 emissions suggests that the data quality is currently low: data is volatile and often out of date, with relatively few companies reporting on all types of Scope 3 emissions. In contrast, MSCI estimates all types of Scope 3 emissions for most companies in its database, for a recent reporting year and using a consistent approach.

MSCI is a leading provider of climate-related data, so we would expect the coverage to compare favourably with other data sources. Our investment consultant is engaging with MSCI to encourage them to improve EVIC coverage for debt issuers and to distinguish between companies which do not have an SBTi target and companies for which it does not check the SBTi status.

## *Appendix 3 – MSCI data*

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## Appendix 4 - Glossary

**Actuarial valuation** – an actuarial valuation is an accounting exercise performed to estimate future liabilities arising out of benefits that are payable to members of a DB pension scheme, typically once every three years. In the actuarial valuation exercise, a liability payout at a future date is estimated using various assumptions such as discounting rate and salary growth rate.

**Alignment** – in a climate change context, alignment is the process of bringing greenhouse gas emissions in line with 1.5°C temperature rise targets. It can be applied to individual companies, investment portfolios and the global economy.

**Asset class** – a group of securities which exhibit broadly similar characteristics. Examples include equities and bonds.

**Bond** – a bond is a security issued to investors by companies, governments and other organisations. In exchange for an upfront payment, an investor normally expects to receive a series of regular interest payments plus, at maturity, a final lump sum payment, typically equal to the amount invested originally, or this amount increased by reference to some index.

**Buy-out** – DB pension scheme trustees may choose to “buy-out” some or all of their scheme’s expected future benefit payments by purchasing a bulk (ie one covering many individuals) annuity contract from an insurance company. The insurer then becomes responsible for meeting pension benefits due to scheme members (effected ultimately by allocating to each scheme member an individual annuity contract). Following a full buy-out, (ie one covering all scheme members) and having discharged all of the trustees’ liabilities, the pension scheme would normally be wound up.

**Carbon emissions** - These refer to the release of carbon dioxide, or greenhouse gases more generally, into the atmosphere, for example from the burning of fossil fuels for power or transport purposes.

**Carbon footprint** – In an investment context, the total carbon dioxide or greenhouse gas emissions generated per amount invested (eg in £m) by an investment fund. Related definitions are used to apply the term to organisations, countries and individuals.

**Climate change mitigation** – steps taken to limit climate change by reducing greenhouse gas emissions, for example by shifting to renewable sources of energy – such as solar and wind – and by using less energy and using it more efficiently.

**Covenant** – the ability and willingness of the sponsor to make up any shortfall between a DB scheme’s assets and the agreed funding target.

**Credit** – long-term debt issued by a company, also known as corporate bonds. Corporate bonds carry different levels of credit risk which is indicated by their rating and credit spread.

**Defined Benefit (DB)** – a pension scheme in which the primary pension benefit payable to a member is based on a defined formula, frequently linked to salary. The sponsor bears the risk that the value of the investments held under the scheme fall short of the amount needed to meet the benefits.

**Defined Contribution (DC)** – a pension scheme in which the sponsor stipulates how much it will contribute to the arrangement which will depend upon the level of contributions the member is prepared to make. The resultant pension for each member is a function of the investment returns achieved (net of expenses) on the contributions and the terms for purchasing a pension at retirement. In contrast to a defined benefit scheme, the individual member bears the risk that the investments held are insufficient to meet the desired benefits.

**Debt** – money borrowed by a company or government which normally must be repaid at some specified point in the future.

**Default strategy** – the fund or mix of funds in which contributions in respect of a DC member will be invested in the absence of any explicit fund choice(s) of that member.

## Appendix 4 – Glossary

**Environmental, social and governance (ESG)** – an umbrella term that encompasses a wide range of factors that may have been overlooked in traditional investment approaches. Environmental considerations might include physical resource management, pollution prevention and greenhouse gas emissions. Social factors are likely to include workplace diversity, health and safety, and the company’s impact on its local community. Governance-related matters include executive compensation, board accountability and shareholder rights.

**Equity** – through purchase on either the primary market or the secondary market, company equity gives the purchaser part-ownership in that company and hence a share of its profits, typically received through the payment of dividends. Equity also entitles the holder to vote at shareholder meetings. Note that equity holders are entitled to dividends only after other obligations, such as interest payments to debt holders, are first paid. Unlike debt, equity is not normally contractually repayable.

**Ethical investment** – an approach that selects investments on the basis of an agreed set of environmental, social and governance (ESG) criteria that are motivated by ethical considerations. These can be positive – eg choosing companies involved in water conservation or negative – eg not choosing companies involved in the arms trade.

**Fiduciary obligations** – a legal obligation of one party (a fiduciary) to act in the best interest of others. Fiduciaries are people or legal entities that are entrusted with the care of money or property on behalf of others. They include pension scheme trustees.

**Fossil fuels** – fuels made from decomposing plants and animals, which are found in the Earth’s crust. They contain carbon and hydrogen, which can be burned for energy. Coal, oil, and natural gas are examples of fossil fuels.

**Funding position** – a comparison of the value of assets with the value of liabilities for a DB pension scheme.

**Gilts** – bonds issued by the UK government. They are called gilts as the bond certificates originally had a gilt edge to indicate their high quality and thus very low probability of default

**Greenhouse gas (GHG) emissions (scopes 1, 2 and 3)** – gases that have been and continue to be released into the Earth’s atmosphere. Greenhouse gases trap radiation from the sun which subsequently heats the planet’s surface (giving rise to the “greenhouse effect”). Carbon dioxide and methane are two of the most important greenhouse gases. See also Appendix 1.

**Investment mandate** – see pooled mandate and segregated mandate

**Liabilities** – obligations to make a payment in the future. An example of a liability is the pension benefit ‘promise’ made to DB pension scheme members, such as the series of cash payments made to members in retirement. The more distant the liability payment, the more difficult it often is to predict what it will actually be and hence what assets need to be held to meet it.

**LDI (Liability Driven Investment)** – an investment approach which focusses more than has traditionally been the case on matching the sensitivities of a DB pension scheme’s assets to those of its underlying liabilities in response to changes in certain factors, most notably interest rate and inflation expectations.

**Net zero** – this describes the situation in which total greenhouse gas emissions released into the atmosphere are equal to those removed. This can be considered at different levels, eg company, investor, country or global.

**Offsetting** – the process of paying someone else to avoid emitting, or to remove from the atmosphere, a specified quantity of greenhouse gases, for example through planting trees or installing wind turbines. It is sometimes used to meet net zero and other emission reduction targets.

**Paris Agreement** – the Paris Agreement is an international treaty on climate change, adopted in 2015. It covers climate change mitigation, adaptation and finance. Its primary goal is to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels.

**Physical risk** – these are climate-related risks that arise from changes in the climate itself. They include risks from more extreme storms and flooding, as well as rising temperatures and changing rainfall patterns.

# Appendix 4 – Glossary

**Pooled mandate** – a feature of a collective investment vehicle whereby an investor’s money is aggregated (ie “pooled”) with that of other investors to purchase assets. Investors are allotted a share of those assets in proportion to their contribution. Ownership is represented by the number of “units” allocated – eg if the asset pool is worth £1m and there are 1m units then each unit is worth £1. Pooled funds offer smaller investors an easy way to gain exposure to a wide range of investments, both within markets (eg by buying units in a UK equity fund) as well as across markets (eg by buying units in both a UK equity fund and a UK corporate bond fund).

**Portfolio alignment metric** – this measures how aligned a portfolio is with a transition to a world targeting a particular climate outcome, such as limiting temperature rises to well below 2°C, preferably to 1.5°C, as per the Paris Agreement. Assessments using these metrics consider companies’ and governments’ greenhouse gas (GHG) emissions reduction plans and likelihood of meeting them, rather than current, or the latest reported, GHG emissions.

**Responsible Investment (RI)** – the process by which environmental, social and governance (ESG) issues are incorporated into the investment analysis and decision-making process, and into the oversight of investments companies through stewardship activities. It is motivated by financial considerations aiming to improve risk-adjusted returns.

**Science-based targets** – targets to reduce greenhouse gas emissions that are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement.

**Science-Based Targets initiative (SBTi)** – an organisation that sets standards and provides validation for science-based targets set by companies and investors.

**Scenario analysis** – a tool for examining and evaluating different ways in which the future may unfold.

**Scope 1, 2 and 3** – a classification of greenhouse gas emissions. See Appendix 1.

**Segregated mandate** – a segregated investment approach ensures that an investor’s investments are held separately from those of other investors. This approach offers great flexibility – for example, the investor can stipulate the precise investment objective to be followed and can dictate which securities can or cannot be held.

**Self-select** – in contrast with a default fund, a self-select fund within a DC scheme is one of a range of funds that members can choose to invest in.

**Stakeholder** – an individual or group that has an interest in any decision or activity of an organisation. The stakeholders of a company include its employees, customers, suppliers and shareholders.

**Statutory obligations** – statutory obligations are those obligations that do not arise out of a contract, but are imposed by law.

**Stewardship** – stewardship is the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society. It is often implemented via engagement with investee companies and exercising voting rights.

**Sustainable investing** - an approach in which an assessment of the environmental and social sustainability a company’s products and practices is a key driver in the investment decision. ESG analysis therefore forms a cornerstone of the investment selection process.

**Taskforce on Climate-related Financial Disclosures (TCFD)** – a group of senior preparers and users of financial disclosures from G20 countries, established by the international Financial Stability Board in 2015. The TCFD has developed a set of recommendations for climate-related financial risk disclosures for use by companies, financial institutions and other organisations to inform investors and other parties about the climate-related risks they face.

**Transition risk** – these are climate-related risks that arise from the transition to a low-carbon economy and can include changes in regulation, technology and consumer demand.

