



# The Co-operative Pension Scheme (Pace)

Climate change governance and reporting in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

Reporting period: 12 months to 5 April 2022

October 2022



# Contents

Dear Members

Introduction

Governance

Risk Management

Strategy

Metrics and Targets

## Technical Section

Asset allocation

Climate scenario modelling approach

Metrics - Data limitations and assumptions

Important notices from data providers

## Glossary



# Dear Members

On behalf of the Pace Trustee, I am pleased to share our first climate change risk assessment report, which has been prepared in line with the recommendations of the Task Force on Climate-related Financial Disclosures ("TCFD") and the statutory requirements prescribed by the Department of Work and Pensions<sup>1</sup>.

Climate change is one of the most pressing issues of our time. The average global temperature in 2021 was about 1.1°C above pre-industrial levels. Most of this warming has occurred in the past 35 years, with the seven "warmest" years on record taking place since the start of 2015. Climate science tells us that there will be catastrophic implications for current and future generations if we do not address these issues swiftly, and already recent years have seen an increase in extreme weather events, be that flooding, storms, heat-waves or the devastating wildfires seen in North America and Australia.

The Trustee regards climate change as an important issue for responsible investors that may pose significant financial risks to our investments through the physical effects of climate change, the policy and technological measures that will be required to mitigate climate change (but where the need for change will also lead to opportunities), and where investors, businesses and governments all have a responsibility to act.

Since 1844, the Co-operative movement has been built on values of clear social purpose and doing the right thing, and these values and ethics are carried on today by Pace and its sponsoring employers, the Co-op and The Co-operative Bank.

This report is the culmination of a significant exercise over the last year by the Trustee, our advisors and our in-house pensions team to quantify and understand these risks. It sets out our approach for the assessment, ongoing management and mitigation of climate-related risks and opportunities in the context of our regulatory and fiduciary responsibilities for managing Pace on behalf of its members. It also sets out our objective, established this year, to achieve net zero greenhouse gas emissions for Pace's investments by 2050 or earlier, with a 50% reduction in emissions by 2030 - this is aligned with a 1.5°C pathway and is consistent with the Intergovernmental Panel on Climate Change (IPCC) special report on global warming, and guidance from the Institutional Investors Group on Climate Change (IGCC).

The pensions industry's understanding of how we can all understand and manage climate risk continues to develop, and there are areas highlighted in this report where data is not currently available for all asset classes; we will continue to work with our advisors and engage with our asset managers and service providers to increase the depth of coverage in future reporting.

Signed,

Chris Martin  
Chair of Trustees, the Co-operative Pension Scheme (Pace)

<sup>1</sup> The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 and the Occupational Pension Schemes (Climate Change Governance and Reporting) (Miscellaneous Provisions and Amendments) Regulations 2021.

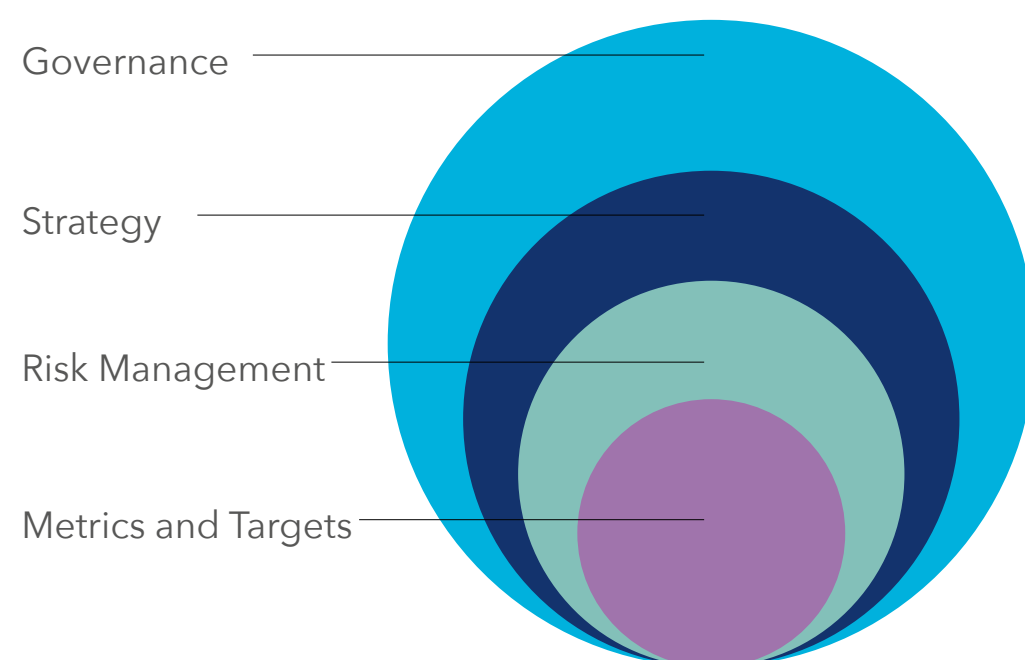


# Introduction


The Co-operative Pension Scheme (Pace) is a UK-registered occupational pension scheme with assets held on behalf of members by PACE Trustees Limited ("the Trustee").

The Trustee supports the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) as a framework to help manage and report on the actions being taken to identify climate change related risks and opportunities in the Scheme's portfolio.

This report explains how we, the Trustee, have established and maintained oversight and processes to ensure that relevant climate related risks and opportunities are considered appropriately by all stakeholders involved in the day-to-day management of the Scheme. The report is divided into four sections; Governance, Risk Management, Strategy and Metrics and Targets, consistent with the four pillars of the TCFD framework:



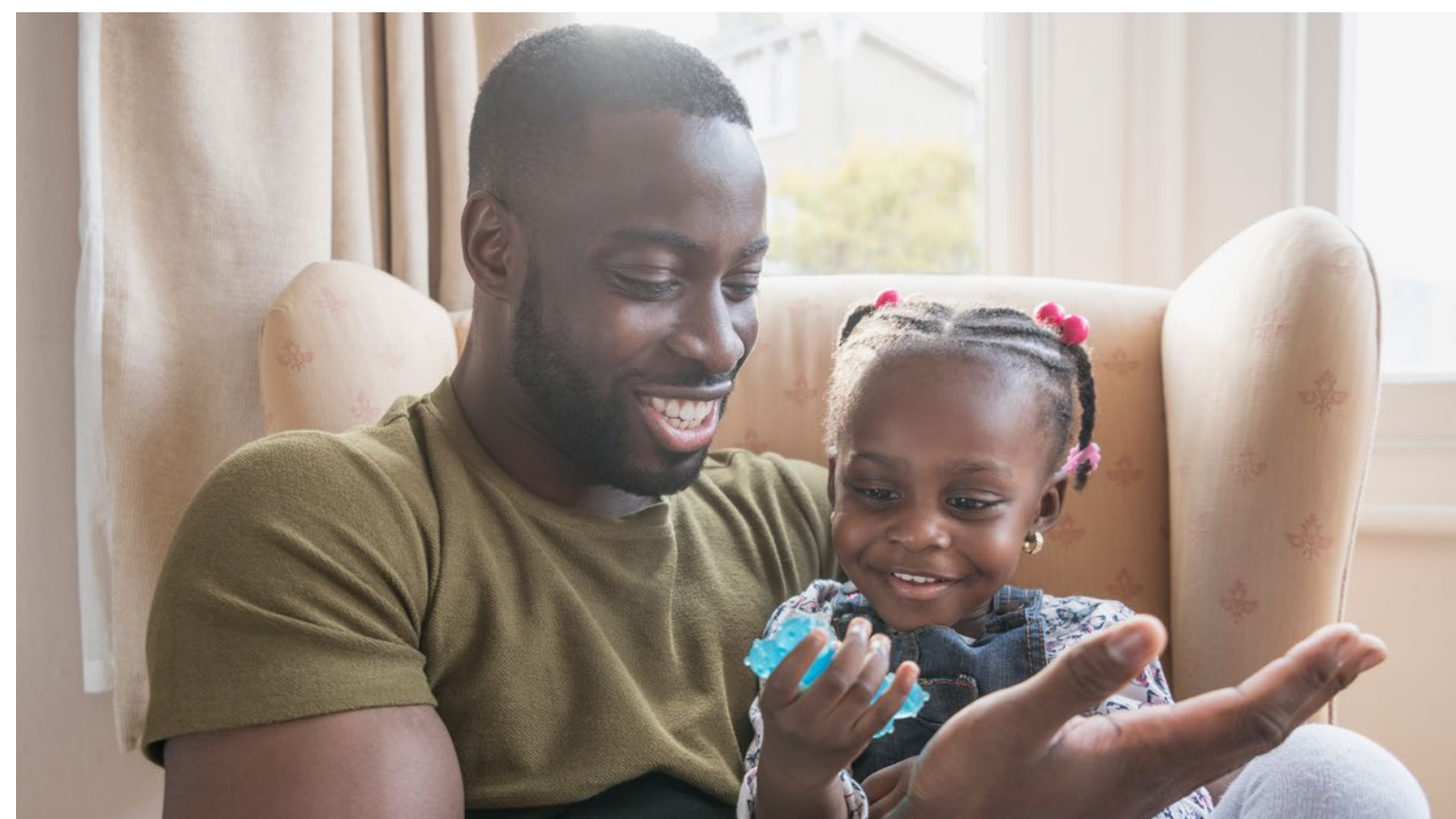
## The framework aims to:

-  Improve climate-related data quality
-  Increase focus on climate change
-  Enable more informed decisions
-  Provide a consistent framework for comparison

We recognise that climate issues can be more relevant and readily implementable for some parts of the portfolio than others. This report focuses on the areas where the governance of climate risk and opportunities has been applied. We will seek to expand the remit of this reporting to cover the entirety of the Scheme's portfolio as and when the ability to monitor these risks becomes more achievable via improved availability of data.

Since August 2018, the Co-operative Pension Scheme's (Pace's) assets and liabilities have been legally sub-divided into two sections, with the principal employers being the Co-operative Group Limited ("the Co-op") and The Co-operative Bank ("the Bank") respectively. Investment policy is determined separately for each section. The Co-operative Bank is the only employer in the Bank Section; all other employers participating in Pace are in the Co-op Section.

The Co-op Section and the Bank Section of Pace each provide two types of benefit; a defined benefit section ("Pace DB") and a defined contribution arrangement ("Pace DC"). Pace DB is closed to new entrants. Both Sections, and both defined benefit and defined contribution benefits, are within the scope of this report.



# Governance

## Trustee's oversight of climate change-related risks and opportunities

The Trustee has ultimate responsibility for ensuring effective governance of climate-related risks and opportunities.

The Trustee maintains a Statement of Investment Principles (SIP), which details the key objectives, risks and approach to considering environmental, social and governance ("ESG") factors, including climate change, as part of their investment decision-making processes. The SIP is reviewed on at least an annual basis and (along with the other documents below) can be found on the **Scheme's website** under 'Pace investments' in the 'Useful information' section.

In addition, the Trustee has adopted a Responsible Investment Policy, which provides further details on how ESG issues are accounted for within the Scheme's investment strategy, and the Trustee's commitments around climate change. The Responsible Investment Policy is also available on our website.

The Trustee is a signatory to the updated UK Stewardship Code (which came into force on 1 January 2020). As such, the Trustee also produces an annual Responsible Investment Report, which sets out how the Scheme has implemented its Responsible Investment Policy over the year, and how the Scheme has complied with the principles underlying the UK Stewardship Code; again, this can be found on our website.

The Trustee's overall investment beliefs on sustainability are:

- ESG factors can have a material impact on long-term risk and return outcomes, and these should be integrated into the investment process.
- Taking a broader and longer-term perspective on risk, including identifying sustainability themes and trends, is likely to lead to improved risk management and new investment opportunities.
- Climate change poses a systemic risk, and investors should consider the potential financial impacts of both the associated transition to a low carbon economy and the physical impacts of different climate change outcomes.
- Stewardship (or active ownership) helps the realisation of long-term shareholder value by providing investors with an opportunity to enhance the value of companies and markets.

Having worked with the Scheme Sponsors, the Co-op and The Co-operative Bank, the Trustee has identified three broad issues which they feel reflect the views of the relevant stakeholders, represent particular risk to the Scheme and can be well addressed by the Responsible Investment Policy. These issues are:

- Climate change and the protection of the environment
- Labour conditions and equal pay
- Corporate governance

# Governance continued

## Organisational structure

### The Trustee

The Trustee has sub-committees that have a specific focus and decision-making powers as set out in their respective terms of reference. The Trustee will consider the recommendations of the sub-committees and will ratify any decisions that require its approval. The relevant sub-committees are listed below:

- TCFD Compliance Working Group
- Manager Monitoring and Implementation Committee
- DC Committee

Research into how climate-related risks and opportunities impact financial markets is constantly evolving and expanding. The Trustee receives training on a regular basis to keep up-to-date with developments, and allocates time on meeting agendas to cover relevant items such as climate scenario analysis. During the Scheme year to 5 April 2022, the Trustee received training on climate-related investment risks and reporting requirements in line with the TCFD recommendations.

The Trustee has dedicated a significant amount of time and resource to the governance of climate-related risks and opportunities. The Trustee has a fiduciary duty to act in the best interests of members, and the Trustee believes that climate-change and other ESG issues will have a material impact on investment risk and return outcomes, which ultimately affect pension outcomes for members. Therefore, the Trustee will continue to ensure that appropriate governance resources are available for developing and implementing ESG and climate change related governance policies.

### TCFD Compliance Working Group

In broad terms, the TCFD Compliance Working Group was initially responsible for understanding the requirements of TCFD on the Scheme, for supporting work towards ensuring the Scheme complies with those requirements, and for undertaking any other actions as delegated to the Working Group by the Trustee or its sub-committees. The TCFD Compliance Working Group operates under Terms of Reference approved by the Trustee.

The Working Group's remit includes:

- Arranging training the Working Group believe is necessary to improve Trustee knowledge and understanding on climate risk;
- Taking advice on and making recommendations to the Trustee on appropriate climate metrics to monitor;
- Taking advice on and making recommendations to the Trustee on appropriate climate-related targets; and
- Providing input into (and agreeing the scope of) investment and funding (including covenant) climate-related scenario analysis to be provided by advisors (in particular, agreeing in advance, the relevant short, medium and long-term time periods to assess, and the scenarios to consider).

Both the Trustee and the Working Group will, when appropriate, question and challenge the information and advice provided to them by their advisors, investment managers and/or insurers in relation to their governance responsibilities.

### Manager Monitoring and Implementation Committee (MMIC)

The MMIC consists of senior members of the Co-op Pensions Department and its role, as set out in its formal terms of reference, is to undertake detailed evaluations of the investment manager appointments made by the Trustee to implement their respective investment strategies, and to monitor the implementation of those strategies (reporting to the Trustee boards of the Co-op sponsored pension schemes).

The MMIC meets at least quarterly, and has a rolling schedule of meetings with Pace's investment managers. Trustee Directors also have a standing invite to attend these meetings.

In relation to climate risk, the MMIC's remit includes:

- Receiving and reviewing periodic written reports prepared by Pace's investment consultants covering the Scheme's investment managers' investment performance, and their integration of ESG risks and opportunities (including climate risk) into their investment processes;

# Governance continued

- Meeting with the appointed investment managers in accordance with a schedule agreed with the Trustee (as amended from time to time), to review investment performance, asset allocation and engagement with investee companies (including in relation to climate risk); and
- Reporting back to the Trustee on key issues raised at the Committee, and the exercise of any delegated powers.

## DC Committee

The DC Committee consists of two Trustee Directors, with a standing invitation for representatives of the Co-op and The Co-operative Bank. Its role, as set out in its formal terms of reference, is to provide oversight and stewardship of Pace's DC section and Additional Voluntary Contribution (AVC) arrangements.

The DC Committee has executive power to make strategic and non-strategic decisions on behalf of the Trustee, in relation to all DC and AVC-related matters.

In relation to climate risk, the DC Committee's remit includes:

- Reviewing, developing and approving changes to the Pace DC and AVC investment strategy and the default option (including those in relation to climate risk);
- Considering and recommending to the Trustee Board any required changes to the Statement of Investment Principles (including climate-related policies);
- Ensuring that members of the DC Committee are trained and developed as appropriate so as to enable the DC Committee to fulfil its duties; and
- Monitoring development of DC industry practice and assessing suitability of any emerging themes or innovations for the Scheme.

## In house support

In addition to the Committees listed above, the Co-operative Pensions Department ("CPD") provides in-house support to the Trustee as well as acting as a liaison between the Trustee and their investment advisors. Their remit includes:

- Providing challenge to advisor recommendations to ensure advice provided to the Trustee and its sub-committees will facilitate effective and efficient decision-making;

- Monitoring, managing and challenging the performance of the investment consultants and the investment managers;
- Undertaking Scheme governance activities on behalf of the Trustee, such as coordinating required public disclosures;
- Reviewing quarterly investment performance reports and highlighting key information to the Trustee for noting or action; and
- Assisting the Trustee with understanding climate-related risks and opportunities at the strategic asset allocation level and also at the investment manager and individual portfolio level.

During 2021, CPD held regular meetings with Mercer to ensure the information presented to the Trustee in relation to climate-related risks and opportunities contained the right level of technical background in order to allow the Trustee to make informed investment decisions.

## Trustee Advisors

The Trustee has appointed Mercer to the following role:

### Investment Consultant for Pace DB

- Providing training and other updates to the Trustee on relevant climate-related matters;
- Helping the Trustee to formulate its investment beliefs in relation to climate change and reflecting these in the Scheme's DB investment policies and strategy;
- Advising how climate-related risks and opportunities might affect the different asset classes in which the Scheme might invest over the short, medium and long term, and the implications for the Scheme's DB investment strategy (at least annually, or as part of any material changes to Pace DB's strategy);
- Advising the Trustee (directly or through the MMIC) on the appropriateness and effectiveness of the processes, expertise and resources of Pace DB's investment managers in relation to managing climate-related risks and opportunities, given the Trustee's investment objectives and beliefs;

# Governance continued

- Advising on the inclusion of climate change in the Scheme’s governance arrangements and risk register, working with the Trustee and its other advisors as appropriate;
- Leading on the preparation of the Trustee’s TCFD reporting, working with the TCFD Climate Working Group, the Trustee, and its other advisors (and CPD) as appropriate; and
- Assisting the Trustee in identifying and monitoring suitable climate-related metrics and targets in relation to the Scheme’s investments, including liaising with the Scheme’s investment managers / bulk annuity providers and DC Investment advisor as required.

The Trustee has appointed Lane, Clark & Peacock (LCP) for the following role:

## **Investment Consultant for Pace DC**

- Advising how climate-related risks and opportunities might affect the different asset classes in which Pace DC might invest over the short, medium and long term, and the implications for the Scheme’s DC investment strategy (at least annually, or as part of any changes to Pace DC’s strategy);
- Advising the Trustee on the appropriateness and effectiveness of the processes, expertise and resources of Pace DC’s investment managers in relation to managing climate-related risks and opportunities, given the Trustee’s investment objectives and beliefs; and
- Assisting the Trustee in identifying and monitoring suitable climate-related metrics and targets in relation to the DC Section’s investments, including liaising with the Scheme’s DC investment manager regarding provision of the metrics.

In addition, the Trustee has appointed Interpath for the following role:

## **Covenant Advisor for the Scheme**

Providing assessments of the Scheme Sponsors’ ability and willingness to support the Scheme.

Climate related exposures are considered alongside other factors that could have a positive or negative impact on the strength of the Sponsors’ covenant.

## **Assessment of In-house support and Trustee advisors**

### *In-house support*

The Trustee expects CPD to keep informed of updates and progress within the investment and pensions industry. They attend training sessions covering climate change related issues and receive current thought pieces and articles via the DB and DC Investment Consultants and other industry publications.

### *Trustee advisors*

The Trustee is required to ensure that the advisors that provide support and technical expertise on various climate issues have the appropriate level of climate-related risk expertise and resources to enable them to carry out their duties. In light of this, the Trustee has set specific expectations for its DB and DC investment consultants through its annual Investment Consultant Objectives (the “Objectives”); these Objectives are aligned with the best practice indicators from the Investment Consultants Sustainability Working Group (ICSWG) guide for assessing climate competency of Investment Consultants. Feedback on performance of the investment consultants against these objectives is collated on a quarterly basis, and a detailed assessment is performed on an annual basis with results fed back to the investment consultants.

In addition, before commencing any TCFD related work, the Trustee formally assessed the investment consultants against the ICSWG best practice indicators to ensure they were suitable to conduct the roles expected of them.

Mercer and LCP have provided climate related scenario analysis and climate-related metrics for the DB and DC Sections of the Scheme, and will assist the Trustee in producing the Scheme’s TCFD report on an annual basis.

The Scheme’s actuarial advisor (Mercer) also provided input into the climate related scenario analysis and as such, they were also assessed by the Trustee against relevant ICSWG best practice indicators.



# Risk Management

Processes for identifying, assessing and managing climate-related risks and the integration within the Trustee's overall risk management of the Scheme

## Climate Change - The big 'known unknown'

We are already experiencing climate change and its associated physical impacts today. The average global temperature in 2021 was about 1.1°C above pre-industrial levels.

Most of this warming has occurred in the past 35 years, with the seven "warmest" years on record taking place since the start of 2015. The overwhelming scientific consensus is that the observed climatic changes are primarily the result of human activities including electricity and heat production, agriculture and land use change, industry, and transport.

In order to mitigate the worst economic impacts of climate change, there must be a large, swift, and globally co-ordinated policy response. Despite this, the majority of climate scientists anticipate that given the current level of climate action, by 2100 the world is estimated to be between 2°C and 4°C warmer, with significant regional variations. This is substantially higher than the 2015 Paris Climate Change Agreement, which reflects a collective goal to hold the increase in the climate's average global surface temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C.



# Risk Management continued

## What are the climate-related risks and opportunities?

The effects of climate change will be felt over many decades. The Trustee has considered two types of climate-related risks and opportunities in its climate scenario analysis:

### 1. Transition risks

This covers the potential risks and opportunities from the transition to a low-carbon economy (i.e. one that has a low or no reliance on fossil fuels), in areas such as:

- Policy and legislation
- Market
- Technology
- Reputation

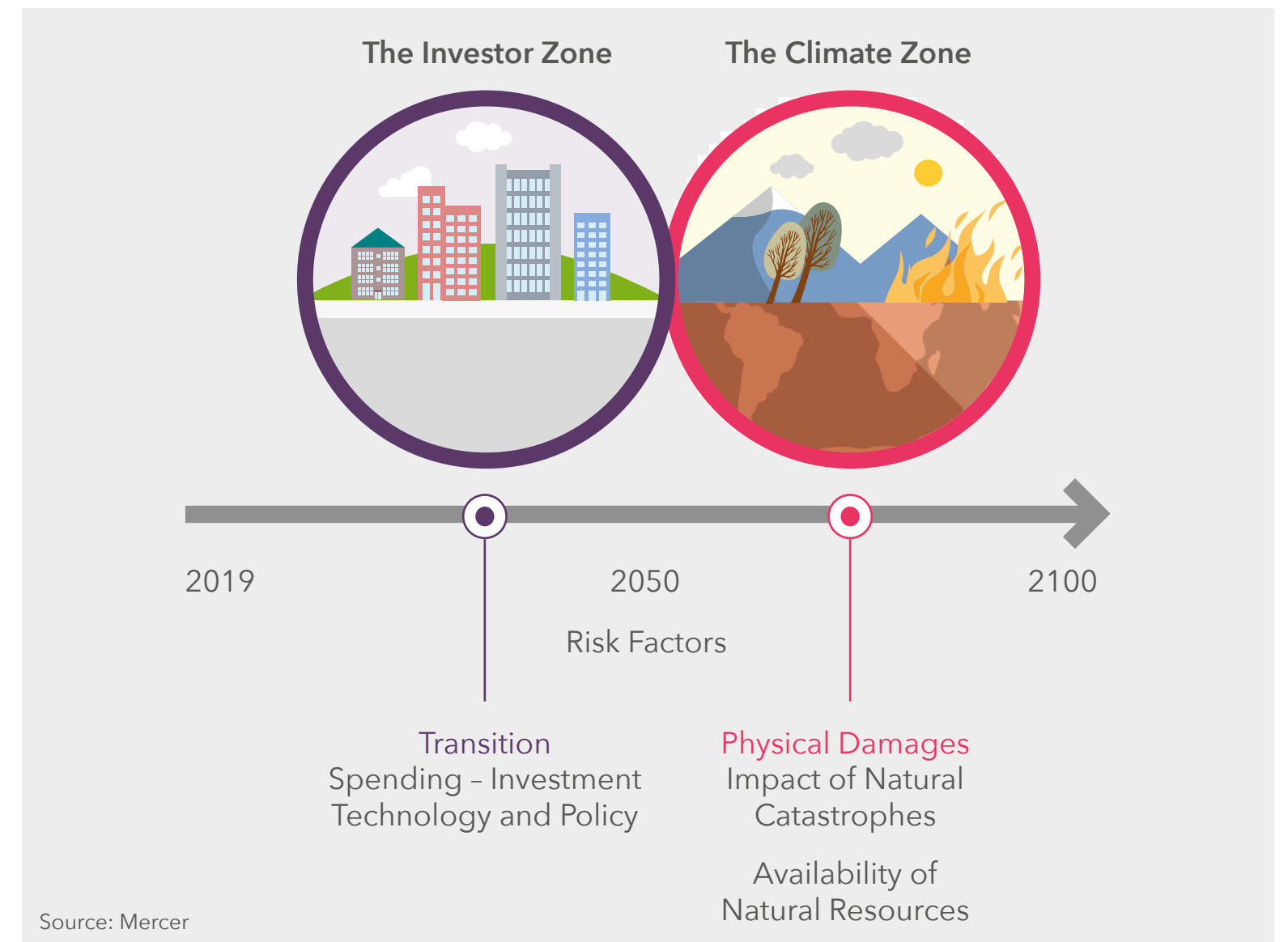
Risks include the possibility of future restrictions, or increased costs, associated with high carbon activities and products. There are also opportunities, which may come from the development and implementation of low-carbon technologies.

In order to make a meaningful impact on reducing the extent of global warming, most transition activities need to take place over the next decade and certainly in the first half of this century.

### 2. Physical risks

The higher the future level of global warming, the greater physical risks will be in frequency and magnitude. Physical risks cover:

- Physical damage (storms; wildfires; droughts; floods)
- Resource scarcity (water; food; materials; biodiversity loss)



Physical risks are expected to be felt more as the century progresses though the extent of the risks is highly dependent on whether global net zero greenhouse gas emissions are achieved by 2050. There are investment opportunities, for example, in newly constructed infrastructure and real estate that are designed to be resilient to the physical impacts of climate change, as well as being constructed and operated in a way that has low or no net carbon emissions. There are also opportunities for investment in those companies or industries that focus on energy conservation and resource efficiency.

# Risk Management continued

A key part of the Trustee's role is to understand and manage risks that could have a financially material impact on both the Scheme's investments and, for the DB Sections of the Scheme, to the wider funding strategy. Climate change is one of the risks that the Trustee considers alongside other financially material risks that may impact the pension outcomes for members.

This section summarises the primary climate-related risk management processes and activities of the Trustee and its sub-committees. These help the Trustee understand the materiality of climate-related risks, both in absolute terms and relative to other risks that the Scheme is exposed to.



## Governance

- The Trustee's **Statement of Investment Principles** is reviewed at least annually and sets out how climate-related investment risks are managed and monitored.
- The Trustee maintains a **risk register** to monitor and mitigate material risks to the Scheme (both financial and non-financial – for example, regulatory and reputational). The climate-related risks, including physical risk and transition risk, are reviewed annually following any updates to climate scenario modelling and reviews of climate-related metric progress. For example, sudden changes in legislation and/or behaviour to facilitate a low carbon transition, or multiple natural disasters occurring across key markets may lead to a negative impact on the value of assets held by the Scheme. In the risk register, the Trustee uses an 'impact and likelihood' framework to assess which risks pose the most significant potential for loss and are most likely to occur, whereby an 'impact' and a 'likelihood' score is assigned to each financially material risk the Scheme is exposed to. The impact score reflects the financial impact, regulatory impact (degree of negative interest from Regulators), member impact (negative effect on member perception of the management of the Scheme), reputation impact (number of member/media enquiries that may damage the Scheme's reputation) and time/problem management impact (Trustee time and resource spent on resolving risk events) of each risk. The Trustee dedicates more time and resource to mitigate the risks that score most highly under this framework. Climate-related risks score highly in terms of both impact and likelihood, and as such the Trustee seeks to prioritise and manage these risks over other risks that are awarded a lower score.
- The Trustee and its sub-committees will receive **training** from time-to-time on climate-related issues, including market updates. The training allows the Trustee to better understand how climate-related risks and opportunities can have an impact on the Scheme and allow the Trustee to challenge whether the risks and opportunities are effectively allowed for in their governance processes and wider activities.
- A **benchmarking analysis** of the extent to which ESG factors are integrated into investment decision making at the portfolio level is undertaken by Mercer on an annual basis for Pace DB. As at the latest date available (30 September 2021), Mercer's Responsible Investment Total Evaluation (RITE) rating for the DB Sections was A+, compared against an average rating of B+ for Schemes of comparable size. This shows that the portfolio is ahead of its peers in this area. The Trustee incorporates recommendations from the RITE assessment framework into its ESG Implementation Plan, and will monitor the score over time with a view to seeking to ensure best practice.
- RITE assesses the extent to which schemes integrate ESG factors. Schemes are scored on a scale from 0-100, with those scored then mapped to a rating scale of C / C+ / B / B+ / A / A+ / A++, as set out on the right.

Rating	Score
A++	91%+
A+	76 - 90%
A	61 - 75%
B+	46 - 60%
B	31 - 45%
C+	16 - 30%
C	0 - 15%

# Risk Management continued

- Benchmarking analysis is carried out against schemes with a similar level of assets under management and by sector of the Sponsoring Employer. Any rating/score has been determined at the sole discretion of Mercer, as professional advisor to both Sections of Pace DB. Mercer does not accept any liability or responsibility to any third party in respect of these findings. RITE is an evaluation at a point in time, informed by Mercer's Sustainable Investment Pathway; more details on the Pathway can be found [here](#).



- The Trustee has adopted a low risk investment strategy for both the Co-op Section and the Bank Section of Pace DB (with limited growth asset exposure and high interest rate and inflation hedge ratios). This means Pace DB's investments are expected to be robust with respect to the potential impact of climate change across short and long term timeframes, and a range of climate scenarios. Use of LGIM's Future World Multi-Asset Fund and ESG tilted equities within the DC default strategy means the default strategy is better positioned to capture a low carbon transition premium in the event of an 'Orderly Transition' (see **Strategy section** for more details on this), and is expected to be robust in 3°C and 4°C scenarios.
- Pace's investment consultants take climate-related risks and opportunities into account as part of the wider **strategic investment advice** provided to the Trustee. This includes highlighting the expected change in climate-risk exposure through proposed asset allocation changes, both from the top-down level (via climate scenario analysis) and bottom-up (via climate-related metrics).
- The Trustee has taken a number of steps to enhance the ESG characteristics of the Scheme's assets at an asset-class level. For example, within the DB Sections' segregated buy & maintain corporate bond mandates, the Trustee has adopted an exclusions list whereby the investment managers are prohibited from investing in companies that



manufacture or distribute controversial weapons, or those in the oil, gas or mining industries that have poor environmental records, or those based in countries with poor human rights records. Both Sections of Pace DB have also implemented an 'environmentally aware' cash fund within their LDI portfolios which will house excess cash collateral; this also incorporates an exclusions policy, and a proportion of the management fee is used to purchase carbon credits. For Pace DC, the Trustee has selected a range of sustainable funds for the growth phase of the default investment strategy.

- **Climate scenario analysis** for the investments of the Scheme, and the funding strategy for the Defined Benefit Sections of the Scheme, has been undertaken and will be reviewed each Scheme year if there has been a material change to the strategic asset allocation of a Section or there is a material change/update to the scenario modelling approach. A summary of the Trustee's latest climate scenario analysis is included in the **Strategy section** of this report.

# Risk Management continued

## Reporting

- The Trustee receives annual monitoring of **climate-related metrics** in respect of the assets held in the Scheme. The Trustee, via its sub-committees and CPD, uses the information to engage with investment managers.
- CPD receives quarterly **stewardship monitoring reports** in respect of Pace DC and annual **voting and engagement activity** summaries in respect of Pace DB. The reports summarise how the investment managers choose to vote and engage on climate-related issues (among other key engagement priorities). Key information and outcomes from the stewardship monitoring are summarised in the Trustee's annual **Implementation Statement**. CPD, on behalf of the Trustee, will discuss significant votes with the managers as required. The Trustee may also work with investment managers to engage with companies, or engage with investee companies directly, in order to implement positive change. The Trustee believes this engagement activity will make investee companies more likely to be sustainable in the long term.



## Manager selection and retention

- The Trustee, with advice from its investment consultants, will consider an investment manager's firm-wide and strategy-specific approach to **managing climate related risks and opportunities** when appointing a new manager, in the ongoing review of a manager's appointment, or as a factor when considering the termination of a manager's appointment.
- Mercer rates investment managers on the extent of integration of ESG factors (including climate change) into their processes. A manager's stewardship process forms part of the rating assessment. This is considered at the firm level and at the investment strategy/fund level. The ratings are presented in quarterly investment performance reports and are reviewed at MMIC meetings. A downgrade to the ESG rating may (taking into account other factors) lead to an investment manager being put 'on watch' by the Trustee.
- LCP will assess L&G's implementation of ESG considerations within the DC Section's chosen funds. LCP present their advice to the DC Committee on the DC default option and self-select fund range.
- A more detailed review of asset manager integration of ESG factors (including climate change) is carried out annually and is based on the Trustee's advisors' investment manager research.
- The review can highlight gaps in a manager's approach relative to expected market practice and the Trustee may liaise with an investment manager to drive improvements. During the Scheme year in this report, the focus was on engaging with the asset managers to improve the disclosure of information to help with this assessment.

# Strategy

## Analysing the potential impact of climate change on assets, liabilities and the covenant

### Climate scenarios

Given the uncertainty around the timing and impact of climate-related transition and physical risks, the Trustee has considered a range of possible climate scenarios to help test the resilience of the Scheme's investment strategies at the strategic level, and for the Defined Benefit Section, the funding strategy.

This report summarises the analysis of three climate scenarios. These are defined as 'warming pathways' i.e. the expected degrees of warming of the atmosphere by the end of the century relative to pre-industrial levels. Whilst a lower warming pathway (2°C scenario) is one in which governments, businesses and society should aim for, there is a possibility that a failure to reduce GHG emissions quickly enough could set off irreversible feedback loops that significantly warm the planet (as modelled by 3°C and 4°C scenarios). All three scenarios are plausible and therefore it is important for the Trustee to understand the potential impact of the scenarios on the Scheme.

Climate scenario analysis is an ever evolving space and, as such, the scenarios modelled and reported may be subject to review in future periods. It is important to note that the modelling may understate the true level of risk due to the uncertainty around the future economic impacts of climate change.

### Resilience of the Scheme's strategy

Climate change scenario analysis has been undertaken on the DB Sections' strategic asset allocation to assess the potential implications of climate change under three modelled scenarios (2 / 3 / 4°C warming) and over three time periods (2030, 2050 and 2100), with 2°C warming acting as the transition scenario required under the TCFD framework (where one scenario must be for warming of 1.5 - 2 °C). The analysis is based on research from Mercer's report in 2019, titled "Investing in a Time of Climate Change: The Sequel". The Trustee believes these scenarios provide a range of plausible outcomes that reflect the transition and physical risks facing the Scheme.

### 2°C Scenario

A low-carbon economy transformation most closely aligned with the successful implementation of the Paris Agreement's ambitions and the greatest chance of lessening physical damages.

### 3°C Scenario

Some climate action but a failure to meet the Paris Agreement 2°C objective and meaningfully alleviate anticipated physical damages.

### 4°C Scenario

Reflecting a fragmented policy pathway where current commitments are not implemented and there is a serious failure to alleviate anticipated physical damages.

The scenario analysis helps the Trustee to understand that asset prices may not fully reflect the financial impact of future physical risks or the transition costs associated with policy action required to limit global warming to 2°C or less, and that asset prices may not fully reflect the technology risk inherent in the transition.



# Strategy continued

Scenario	2°C	3°C	4°C
<b>Overview</b>	This scenario captures an early transformation to a low-carbon economy, in order to limit global warming to no more than 2°C by the end of the century.	Delayed climate action leads to a failure to meet the Paris Agreement goal of keeping rising global temperatures to well below 2°C by the end of the century.	Fragmented policy pathway where current commitments are not implemented and there is a serious failure to alleviate anticipated physical damages.
<b>Risk Factors</b>	Transition risks are high, particularly in the first half of this century. Physical risks are anticipated in the latter half of the century though are less impactful relative to higher warming pathway scenarios.	Transition risks are not experienced until post 2035 but will be more material than under the 2°C scenario. Physical risks are greater in magnitude and will be experienced sooner.	Transition risks are not experienced. Severe physical damages are incurred, which are largely considered irreversible by 2100.
<b>Narrative</b>	Global action starts today, driven by policy and regulation as well as consumer sentiment. Emissions peak in the 2020s and coal is phased out by mid-century. By the middle of the century, the average global sea level is expected to rise and longer droughts will be experienced in regions across the globe.	Global carbon emissions are flat by 2050, but still high in absolute terms. Coal is still a significant part of the energy mix. Towards the middle of the century, irreversible physical damages will be experienced, including a reduction in available water.	Fossil fuels still represent the vast majority of primary energy sources in 2050. Permanent loss of arctic sea ice. Heatwave and forest fire risk is very high and compromises normal outdoor activities. Risk to marine fisheries and ecosystems and medium-to-high risk of decline in fish stocks, plus negative aggregate impact on agriculture and food production, increases chance of famine and reductions in food supplies and employment.
<b>Market Impact</b>	Over the period to 2030, the cost of transition will play through at the sector level with heavy carbon-based industries, such as the energy sector and utilities being most negatively impacted. The renewable energy sector is expected to perform strongly under this scenario, along with raw materials, telecoms and IT.	Out to 2030, low-carbon regulatory and policy changes are less than under a 2°C scenario. Whilst the energy and utility sectors are expected to perform poorly under this scenario, the impact is less relative to the 2°C scenario. Most sectors will experience a marginal drag on performance due to the impact of physical damages and some fragmented policy changes. Beyond 2035, high carbon sectors will be impacted by strong and swift policy action. Companies in sectors that are reliant on natural resources will be impacted by resource scarcity and will need to adapt or be left behind their competitors.	Over the period to 2030, low-carbon regulatory and policy changes are severely lacking. Real assets, including real estate, infrastructure, agriculture and timberland have the greatest negative sensitivity to the impact of physical damages and resource availability. Companies in sectors that are reliant on natural resources will be impacted by resource scarcity and will need to adapt or be left behind their competitors. The industrial sector experiences the largest negative impact on performance to 2050.
<b>Asset Class Impacts</b>	At the asset class level, equities, infrastructure and commodities are most sensitive to climate related risks. Sustainable allocations to global equity and infrastructure capture the opportunities presented by the transition to a low-carbon economy and avoid exposure to carbon-intensive sectors and/or companies.	At the asset class level, equities, infrastructure and commodities are most sensitive to climate related risks. The pattern of expected climate impacts to expected return is similar to that under the 2°C scenario except the impacts are much more muted and closer to a 'business as usual' scenario. Under this scenario, increased climate action will take place post 2030.	At the asset class level, equities, infrastructure and commodities are most sensitive to climate related risks. The 4°C has the worst outcome across all three timeframes evaluated (the periods to 2030, 2050 and 2100). Allocations to sustainability-themed asset classes have no noticeable impact on returns. All sectors, including renewables, have negative return impacts, to 2030 and 2050.

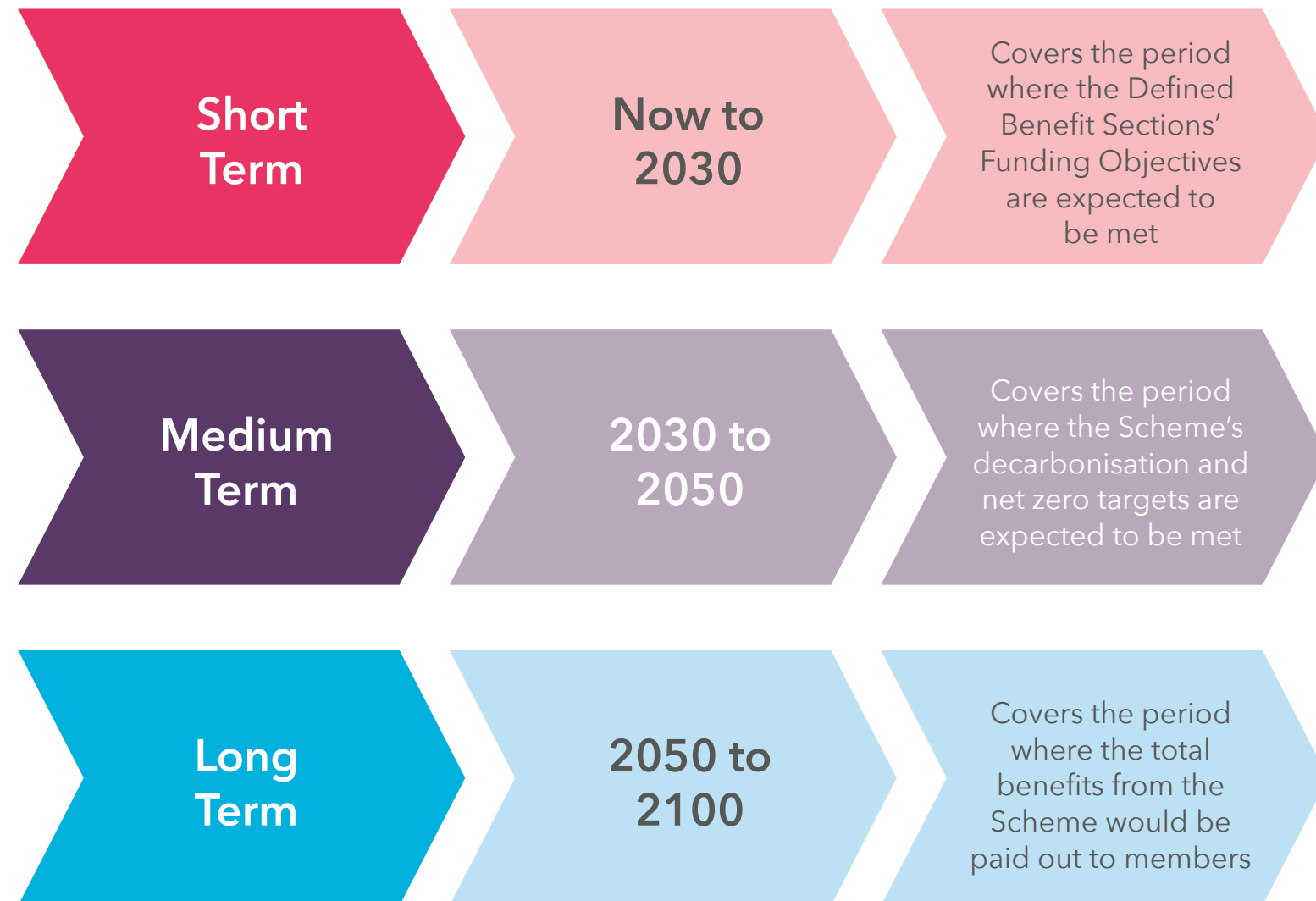
# Strategy continued

The effects of climate change, and the actions or measures taken by governments, businesses or individuals, will be felt at different times in the future and to different extents. It is important for the Trustee to understand how the Scheme’s exposure to climate-related risks may change over time, when the risk exposure may be greatest and what actions can be taken now, or in the future, to avoid those risks becoming financially material to the Scheme.

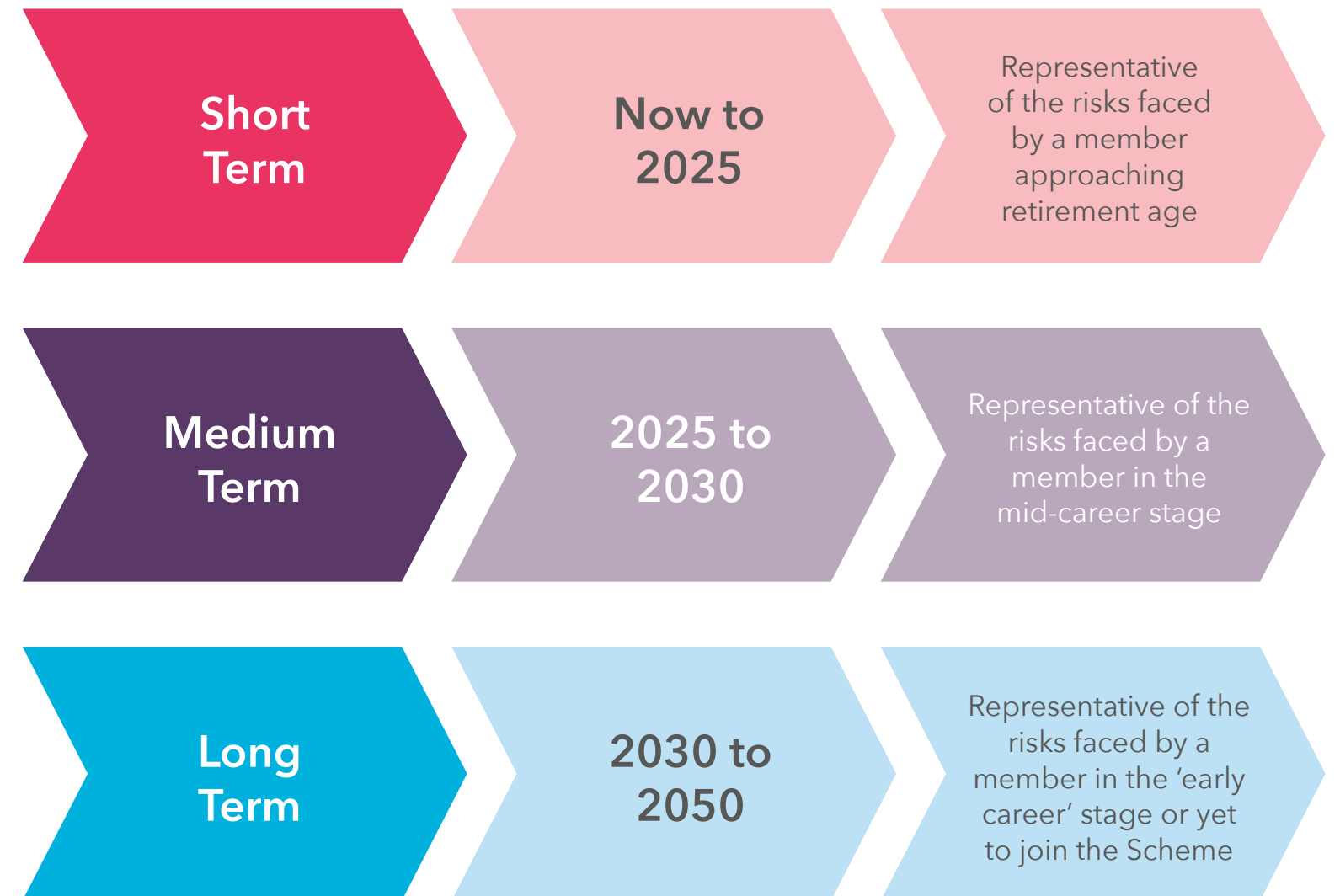
To help with this assessment, the Trustee has defined short, medium and long-term time horizons for the DB and DC Sections of the Scheme. The climate-related risks and opportunities that are relevant to the Scheme will be different over these periods.

The Trustee acknowledges that given the high level of funding for the DB Sections the time horizon may be shorter in practice than any of the scenarios listed below (and particularly the medium term and long term scenarios). However, it is considered important to understand these impacts, given the possibility that the circumstances of the Scheme change.

## Pace DB



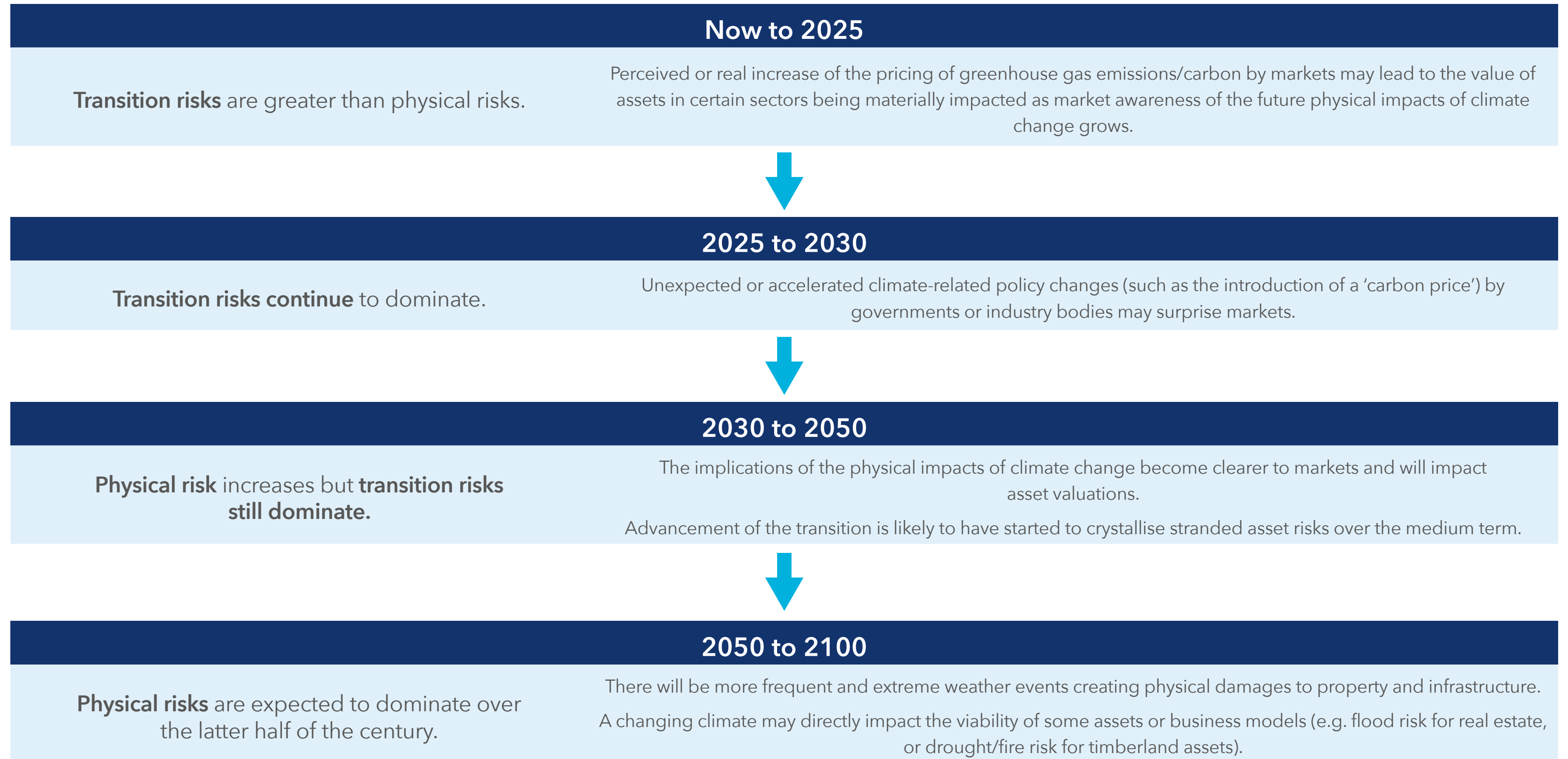
## Pace DC





# Strategy continued

## Market impact



# Strategy continued

## Climate scenarios - summary of results

### Pace DB

Both DB Sections demonstrate robustness with respect to the potential impact of climate change across all timeframes and scenarios (both when considering the impact on portfolio returns and on the funding levels). This is not surprising given the de-risked nature of the investment strategies, but is nonetheless reassuring. We note, however, that the modelling may understate the true level of risk and uncertainty is likely to be greater for higher significant warming scenarios.

The impact at the sector level is expected to be more significant, and the buy and maintain corporate bond mandates have material allocations to utilities, some of which could be significantly impacted by the implementation of climate-related policies and low carbon technologies.

### Pace DC

The default strategy is well positioned to capture the “low carbon transition premium” under a 2°C scenario to 2030 and demonstrates robustness with respect to the potential impact of climate change under the more damaging 3°C and 4°C scenarios.

The decision to allocate to the MSCI ACWI Adaptive Capped ESG Index Fund (an ESG tilted fund) and the LGIM Future World Multi-Asset Fund is expected to improve outcomes under a 2°C scenario, with no additional material downside under 3°C and 4°C scenarios.

The impact at the sector level is expected to be more significant, and while the current equity portfolio is marginally underweight energy stocks, it is marginally overweight utility stocks which, with the exception of renewable utilities, are expected to be negatively impacted under a low carbon transition.

## Covenant Scenario Analysis (DB Sections)

The sponsors of the Scheme, the Co-operative Group (Co-op Section) and The Co-operative Bank (Bank Section), will be exposed to climate-related risks. At this time, Interpath consider the overall risk exposure to be low, noting that the Co-op and the Bank are proactively engaged in taking steps to manage climate issues and are expected to have a material level of resilience.

Mercer have also considered on a qualitative basis the impact on the covenant, including considering:

- **Transition risks:** Policy and Legal; Market; Technology; and Reputation
- **Physical risks:** Physical Damages; and Resource Scarcity

Sustainability and climate change play a key role in the Co-op’s business strategy.

The Co-op has a ten point climate plan to reduce its climate impact, including aiming for net zero by 2040. This will reduce the impact of any transition risk, as Co-op aims to be ahead of the curve in tackling climate change.

There will undoubtedly be impacts on Co-op’s everyday businesses as a result of climate change, for example due to impacts on supply chains, and the need to adapt distribution networks and adopt new technologies. However, given the limited reliance on the Co-op due to the strong funding position, Mercer believe there are no firm actions the Trustee needs to take at this time in relation to the Co-op Section.

Equally, the Bank has a targeted focus on its environmental impact which includes targeting reductions in carbon emissions and remaining “beyond carbon neutral”. The Bank notes it is impossible to reduce emissions from its business activities to zero and compensates for this by offsetting 110% of its residual carbon emissions through purchasing carbon credits (to offset residual emissions and to address the impact their business activities have had in the past). These positive actions will reduce exposure to transition risk, but there would be potential financial impacts as a result of any climate change-related market fall out.

As the Bank Section is also well funded, the reliance on covenant is reduced and given the anticipated time horizon there should be limited impact on the Scheme should there be a weakening in covenant.

# Strategy continued

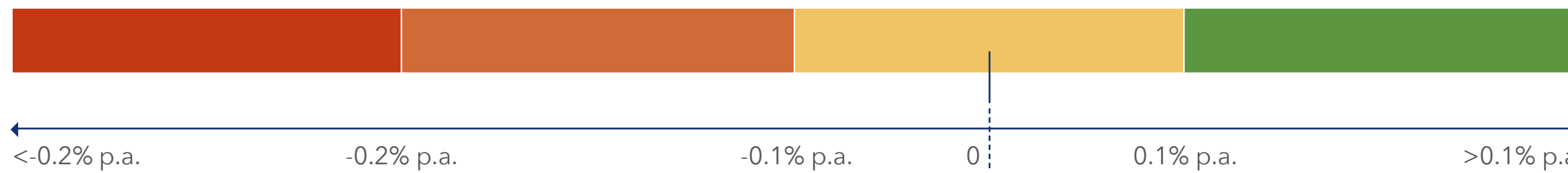
## Climate scenario analysis - Pace DB

The table below summarises the results of the climate scenario analysis undertaken on the assets of the DB Sections. The analysis looks at the annualised impact on expected returns over the various time periods under review, using a colour-coding framework set out below the table, where a green rating would represent a more positive impact and a red rating larger negative impacts.

Scenario	Per annum return impacts out to projection horizon		
	Projection horizon	Co-op	Bank
2°C	2030		
	2050		
	2100		
3°C	2030		
	2050		
	2100		
4°C	2030		
	2050		
	2100		

**Summary**

For Pace DB, both Sections are likely to experience a muted return impact under the 2°C, 3°C and 4°C scenarios due to high allocations to investment grade corporate bonds and gilts, which are at the lower end of the risk spectrum from a climate change perspective. These assets may experience positive performance as yields fall under higher warming scenarios and safe haven assets are sought by investors.



Source: Mercer. Modelling based on the strategic asset allocation (excluding the buy-ins). A breakdown is shown in the Technical Section.

# Strategy continued

## Impact on Funding Strategy (Pace DB)

The 'Network for Greening the Financial System' scenarios have been used to illustrate the potential impact of climate change (physical risk) and climate policy and technology trends (transition risk) on the Sections' funding positions. We have focused on 'Disorderly Transition' and 'Failed Transition' scenarios.

- **'Disorderly' scenarios** explore higher transition risk due to policies being delayed or divergent across countries and sectors. Carbon prices are typically higher for a given temperature outcome.
- **Failed Transition scenarios<sup>1</sup>** assume that some climate policies are implemented in some jurisdictions, but global efforts are insufficient to halt significant global warming. Critical temperature thresholds are exceeded leading to severe physical risks and irreversible impacts like sea-level rise.

These scenarios are not designed to be extreme or tail risk events. The Disorderly transition scenario is consistent with a 2°C or less warming scenario, whilst a Failed Transition scenario would be consistent with the 3°C scenario.

Analysis on the funding level has been conducted using a maximum of a 10 year scenario (i.e. significantly shorter than the time periods used to assess the impact on the assets of the DB and DC Sections). This is due to the fact that over long time periods, stochastic funding level monitoring becomes less meaningful given the assumptions involved and significant cashflows out of the Scheme.

Under the Failed Transition and Disorderly Transition scenarios, the funding level and therefore funding strategy impact on the Co-op and Bank Sections is expected to be limited. This is consistent with the analysis conducted on the assets of the Sections.

## Co-op Section

Funding level projection			
Projection date	September 2022	September 2024	September 2031
Base scenario	108.9%	110.1%	116.4%
Failed Transition	108.9%	110.1%	115.7%
Disorderly Transition	108.8%	109.6%	116.1%

Source: Mercer. Analysis shown as at 30 September 2021. Funding levels are expressed on the Long Term Ambition ("LTA") basis.

- Over 3 years, transition risks dominate under the Disorderly Transition scenario and this shows a funding deterioration of c.0.5% relative to the base scenario. During this timeframe, physical risk impacts from the Failed Transition are yet to be felt.
- Over 10 years, the Disorderly Transition tends towards the base case, as changes are slowly made to correct initial failures. The Failed Transition scenario worsens over time to a c.0.7% gap. This would suggest limited transition risks, however physical risks begin to be priced into the market.

## Bank Section

Funding level projection			
Projection date	September 2022	September 2024	September 2031
Base scenario	106.0%	107.2%	110.1%
Failed Transition	106.0%	107.2%	109.6%
Disorderly Transition	105.9%	106.8%	110.0%

Source: Mercer. Analysis shown as at 30 September 2021. Funding levels are expressed on the Low Risk Target Basis ("LRTB").

<sup>1</sup> Referred to by the Network for Greening the Financial System as 'Hot house world'

## Strategy continued

- Over 3 years, transition risks dominate under the Disorderly Transition and the scenario shows a plausible funding deterioration of c.0.4% relative to the base scenario. During this timeframe, physical risk impacts from the Failed Transition are yet to be felt.
- Over 10 years, the Disorderly Transition tends towards the base case, as changes are slowly made to correct initial failures. The Failed Transition scenario worsens over time to a c.0.5% gap. This would suggest limited transition risks as physical risks dominate.

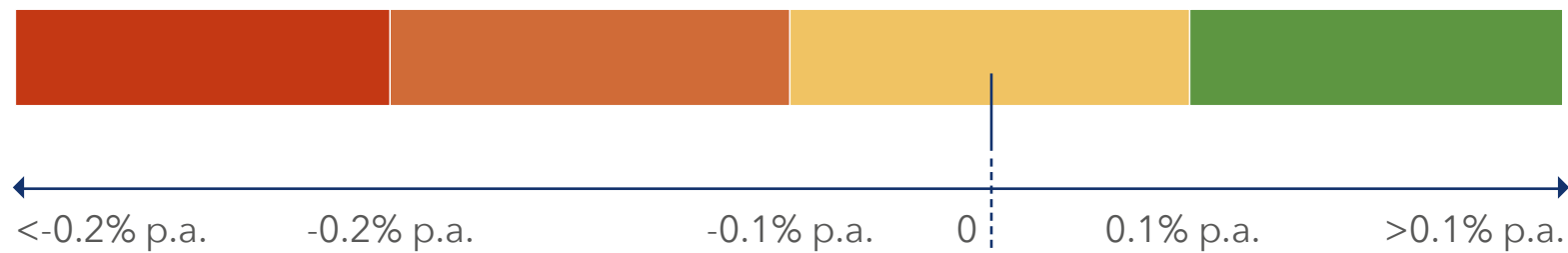
When applying climate change shock scenarios that account for a general decline in markets and a fall in interest rates alongside a rise in inflation (further details of the assumptions are included in the **technical section**), the surplus would be expected to increase for both the Co-op and Bank Sections. This is due to the liability hedging strategy that is in place for both Sections; both the assets and liabilities will increase under this scenario, however, assets are expected to increase to a greater extent than the liabilities given that both Sections are over 100% funded on the Technical Provisions basis and are more than 100% hedged against the liabilities (on the Technical Provisions basis). Therefore, in a scenario of falling interest rates the hedging assets will increase by more than the liabilities.



# Strategy continued

## Climate scenario analysis - Pace DC

Per annum return impacts out to projection horizon		
Scenario	Projection horizon	DC Section
2°C	2030	
	2050	
	2100	
3°C	2030	
	2050	
	2100	
4°C	2030	
	2050	
	2100	



Source: Mercer. Modelling based on the strategic asset allocation for the growth phase of the default strategy. A breakdown is shown in the appendix.

### Summary

Under a 2°C scenario to 2030 the current portfolio benefits from the low carbon transition premium, driven by exposures to ESG tilted equity. The portfolio suffers the most under the 4°C scenario as listed equity, private equity and infrastructure allocations are sensitive to physical damages. Fixed income allocations offer diversification benefits and are less impacted under higher warming scenarios.



# Strategy continued

## Impact, Risks and Opportunities

### Now to 2030

- Pace DB's greatest climate-related exposure is through the investment grade corporate bond allocations; as noted above, the impact of climate risk on the funding strategy over this time period is expected to be limited given the strong funding position, low risk investment strategy and limited reliance on covenant.
- The Trustee's ability to understand these short term changes can position the Scheme favourably, for example taking advantage of the climate transition by avoiding or reducing investment in high-emitting carbon sensitive businesses that do not have a business plan that supports the transition to a low carbon economy. For the DB Section's segregated investment grade corporate bond mandates, the Trustee has already provided the managers with a list of specific investments to exclude from further purchases, where these investments have been identified as conflicting with the key areas of the Scheme's Responsible Investment Policy.
- Specifically for Pace DB, the climate scenario analysis and climate metrics help the Trustee to understand which sectors within the investment grade corporate bond mandates are most exposed to climate-related risks and which are best positioned for the transition to a low carbon economy.
- For Pace DC, the greatest climate-related exposure is through the public equity allocation, where maintaining a sizeable equity allocation is typically appropriate given most members' long time horizon up to and through retirement. However the DC Section has allocated to a mix of 'ESG tilted' equity funds which are expected to outperform conventional equities under various warming scenarios.

### 2030 to 2050

- For Pace DB, the very high allocation to defensive fixed income assets means the impact of different climate change scenarios is relatively muted.
- Further policy, legislation and regulatory action post 2030 is likely to be inflationary, to the extent it results in higher costs for consumers and businesses (e.g. through a carbon tax). The DB Section's liability hedging programme will reduce the impact of rising inflation on the funding level of the Scheme.
- Property and riskier assets such as illiquid credit (Co-op Section only) are likely to experience negative, albeit muted, return impacts, particularly under higher warming scenarios, as physical risks detract from returns. However, in practice it is unlikely these mandates would be retained over this time period given the well funded position of the Scheme.
- Investment opportunities remain in investments linked with the development of technology and low carbon solutions, which will be harnessed through the ESG tilted equity allocation within the DC Section.
- The Trustee seeks to select managers that can identify and benefit from the potential emergence of low carbon opportunities and avoid the decline of some traditional sectors.

### 2050 to 2100

- Pace DB's market exposure will likely be low beyond 2050 as the scheme matures, and as such the expected impact on Pace DB's assets or broader funding strategy is very limited.
- The public equity allocation within Pace DC will need to be positioned towards companies that are less exposed to changes in resources and other supply chain restrictions.
- Within Pace DC's multi-asset fund, opportunities can be captured by increased exposure to infrastructure projects that display a high level of climate resilience. This would need to be driven by the investment manager, given the DC Section's assets are invested in pooled funds.

# Metrics and Targets

## Assessing climate-change related risks and opportunities

Climate-related metrics help the Trustee to understand the climate-related risk exposures and opportunities in the Scheme's investment portfolios, and identify areas for further risk management focus, including investment manager portfolio monitoring, and voting and engagement activity.

The Trustee has chosen to present three and five climate related metrics for the DC and DB Sections respectively. These metrics were identified after considering the range of different available options, with a view to ensuring they provide a holistic assessment of the climate-related exposure of the Scheme. In aggregate, the metrics will provide an assessment of the existing/historic climate risk exposure (e.g. through analysing the absolute emissions generated by portfolio companies over a one-year period), and also the forward looking climate risk exposure (e.g. by assessing what temperature warming scenario the portfolio is currently aligned with).

The chosen metrics in this report are set out in the table on the right.



Metric	Type of Metric	Description	Reported for DB/DC?
<b>Total carbon emissions</b>	Absolute emissions	Absolute greenhouse gas emissions associated with a portfolio (tCO <sub>2</sub> e)	DB and DC
<b>Weighted average carbon intensity (WACI)</b>	Emissions intensity	Exposure to carbon-intensive companies (tCO <sub>2</sub> e / \$m revenue)	DB and DC
<b>Carbon Footprint</b>	Emissions intensity	Total greenhouse gas emissions, standardised per \$m invested (tCO <sub>2</sub> e / \$m invested)	DB only
<b>Implied temperature rise</b>	Additional climate metric	An indication of how the portfolio aligns to a global temperature warming level (°C)	DB and DC
<b>Percentage of portfolio with Science Based Targets (SBT)</b>	Additional climate metric	% of companies in a portfolio that have submitted climate transition plans that have been approved by the Science Based Targets Initiative	DB only



# Metrics and Targets continued

The Trustee recognises the challenges with various metrics, tools and modelling techniques used to assess climate change risks. The Trustee aims to work with its investment consultants and investment managers to continuously improve the approach to assessing and managing risks over time as more data becomes available. The **Technical Section** of this report sets out the data limitations and assumptions used in collating these metrics.

The metrics have been calculated and reported for all mandates for both Sections of Pace DB, with the exception of the illiquid credit portfolios as the availability of accurate data for this asset class is currently limited. Similarly, for the Pace DC assets managed by LGIM, all metrics have been calculated and reported based on holdings in listed equities and corporate bonds only. LGIM provided data for each fund in which Pace DC invests, however they were unable to report on certain asset classes within each fund. The asset classes that have been excluded from the metrics analysis for Pace DC are due to the unavailability of data from LGIM. The Trustee chose not to report the Carbon Footprint metric for the DC Section in this report, given the data availability for WACI was expected to be higher, albeit this will be reviewed over time.

The Trustee sought to source climate metrics data from each of the underlying investment mandates. The data was requested from each of the Scheme's investment managers, however some were unable to provide accurate data. Some managers provided some data, but the Trustee decided not to include it. The following tables summarise the outcome for each manager.

## Pace DB

Manager	Mandate	Data obtained	Comments where data unavailable or partial data provided
Insight	Buy & Maintain Credit	✓	
RLAM	Buy & Maintain Credit	✓	
LGIM	Buy & Maintain Credit	✓	
ICG	Illiquid Credit	✗	This asset class does not have an agreed methodology for measuring emissions. It is likely that reporting for this asset class will be dependent on data availability and methodology being developed/agreed by the market. The managers (and the Trustee) will continue to monitor progress in this regard.
Insight	Illiquid Credit	✗	
M&G	Illiquid Credit	✗	
24AM	Asset-Backed Securities	✓	Data is available for some underlying holdings within the mandates, including consumer loans and Residential Mortgage Backed Securities; but not for all underlying asset classes (e.g. not available for Collateralised Loan Obligations ("CLOs") and car loans). 24AM are working to expand coverage to all sub-asset classes within the next 12 months.
PGIM	Alternative Inflation-Linked Property	✗	Ongoing emissions are related to the energy use of the tenants occupying the properties. PGIM does not currently collect data on tenants' emissions, but are working towards a data collection strategy and will update the Trustee with a timeline on this.
BlackRock	LDI	✓	Data reported includes government bonds as well as a small allocation to index-linked corporate bonds in the portfolio. However, the methodology for the data on government bonds is still being developed with consultations ongoing.

# Metrics and Targets continued

## Pace DB

Insurance provider	Mandate	Data obtained	Comments where data unavailable or partial data provided
Pension Insurance Corporation	Buy-in	✓	Private debt holdings are not covered at this point and PIC are working to develop a methodology to report on this section.
Aviva	Buy-in	✗	Aviva are not able to produce scheme-specific data to support TCFD reporting at this point. They are targeting a date of June 2023 to be able to report this data for pension schemes.

## Pace DC

Manager	Mandate	Data obtained	Comments where data unavailable or partial data provided
LGIM	Pace Growth (Shares) 2021 Fund	✓	
LGIM	Pace Growth (Mixed) Fund	✓	Data reported does not include government bonds.
LGIM	Pace Growth (Ethical Shares) Fund	✓	
LGIM	Pace Growth (Shares) Fund	✓	
LGIM	Pace Pre Retirement Inflation Linked Fund	✓	Data reported does not include government bonds.
LGIM	Pace Pre Retirement Fund	✓	Data reported does not include government bonds.
LGIM	Pace Cash Fund	✓	LGIM are currently unable to provide the temperature alignment metric for this fund.



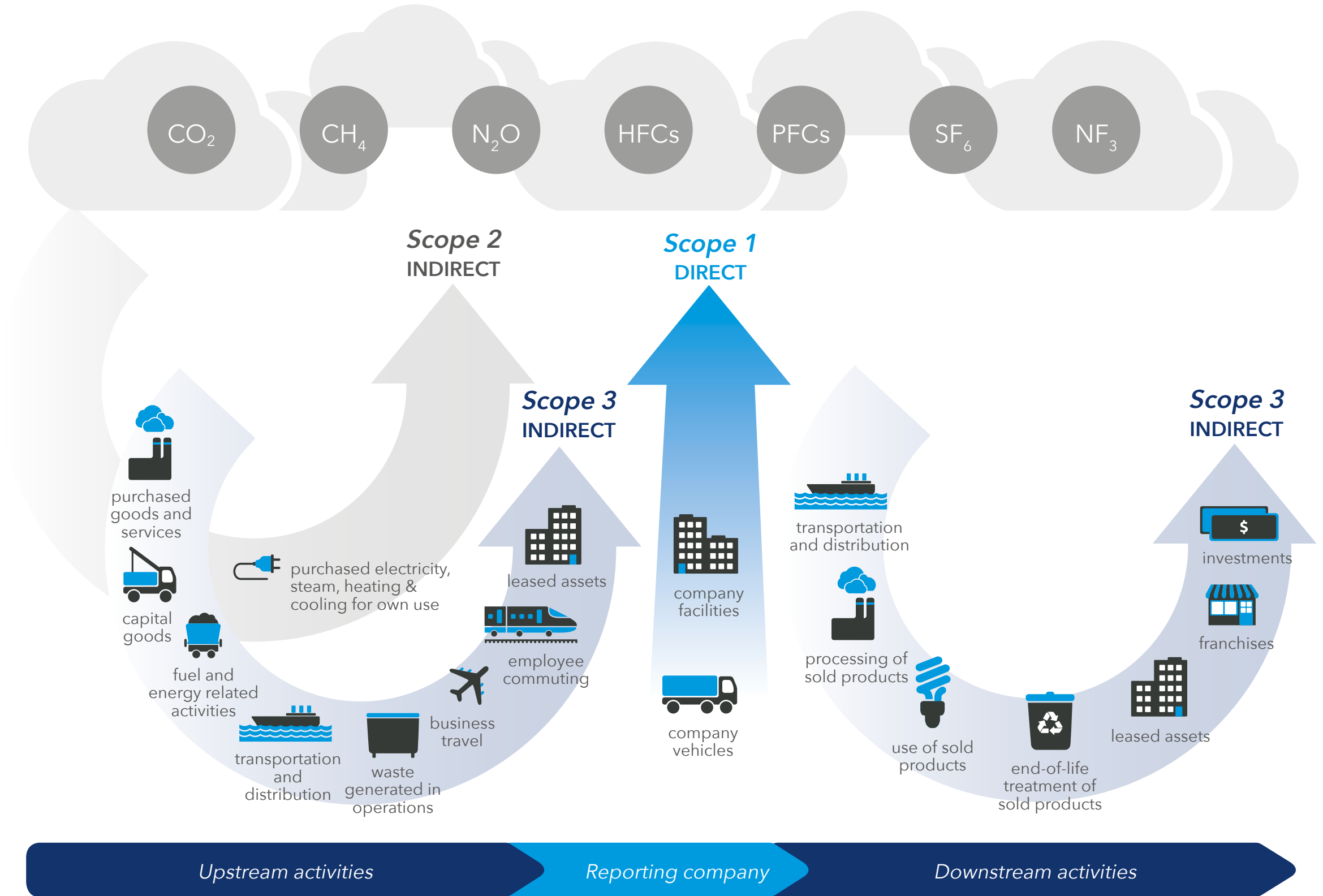
# Metrics and Targets continued

## Absolute emissions based metric

### 1. Total carbon emissions

The absolute emissions metric is a proxy for the share of greenhouse gas (“GHG”) emissions that are ‘owned’ by the Scheme through investing in the underlying companies and issuers, including countries (referred to as ‘sovereign exposure’) through government debt.

This metric represents the underlying investee company’s or issuer’s reported or estimated GHG emissions, where available. It includes various scopes of emissions, which are summarised in the following diagram.



# Metrics and Targets continued

There are seven recognised greenhouse gases, as defined by the GHG Protocol. In order to simplify reporting, each greenhouse gas is calibrated relative to carbon dioxide and is reported as 'carbon dioxide equivalent' emissions (CO<sub>2</sub>e).

For the purpose of this report, only scope 1 and 2 emissions have been reported.

- **Scope 1 "direct" emissions:** those from sources owned or controlled by the company (e.g. direct combustion of fuel from vehicles); and
- **Scope 2 "indirect" emissions:** those caused by the generation of energy (e.g. electricity) purchased by the company.

Scope 3 emissions are currently not included in the metrics analysis for two reasons:

- The rate of scope 3 disclosure remains insufficient to use reliably in carbon foot-printing analysis.
- The inclusion of scope 3 emissions leads to double counting at the portfolio level.

The Trustee will continue to work with Mercer, LCP and the investment managers to obtain scope 3 data for inclusion in future reports.



# Metrics and Targets continued

## Intensity based metrics

### 1. Weighted-Average Carbon Intensity (WACI)

This metric scales the total carbon emissions of each underlying investee company by the amount of revenue generated by that company. At a total asset class portfolio level, this metric gives an indication of carbon efficiency – for each tonne of greenhouse gas emitted by each company/issuer, how much revenue has been generated (stated in \$m). A lower WACI score shows better efficiency.

### 2. Carbon Footprint (DB Sections only)

This metric reflects total carbon emissions for a portfolio, weighted to take account of the size of the investment (tCO<sub>2</sub>e /\$m invested).

The carbon footprint analysis includes scope 1 and 2 emissions but does not include scope 3 emissions. This means that for some companies, the assessment of their carbon footprint could be considered an ‘understatement’. Examples could include an online retailer whose logistics emissions are not included in scope 1 or 2.

## Additional Climate metrics

### 1. Implied temperature rise (ITR)

This is a forward-looking metric that considers the pledges, commitments and business strategy changes that underlying investee companies/issuers have made. It provides a prediction of the potential temperature rise over the rest of the century based on the activities of those companies and issuers. The metric illustrates the degree of portfolio alignment with the goals of the Paris Agreement (notably to limit warming to well below 2°C by the end of the century).

The Trustee has chosen this metric to include in this report because of its simplicity in presentation and the fact it is a useful way to see, at a glance, the alignment of a fund with a low carbon economy. Funds with high ITR metrics are invested in companies or issuers that are not transforming their businesses or activities in order to reduce the reliance on fossil fuels. This is also a measure of climate transition risk, with greater transition risk highlighted in funds with higher ITRs.

### 2. Science based targets (SBT) (DB Sections only)

A measure of how many companies in a portfolio have submitted climate transition plans that have been approved by the Science Based Targets Initiative (SBTi). For the purposes of this report, a percentage in line or above the market comparator index is viewed as a positive indicator.



# Metrics and Targets continued

## Co-op Section (DB)

Mandate	Manager	Sub Asset Class	Allocation (%)	% of portfolio with Science Based Targets	Implied Temperature Rise (°C)	Absolute emissions (tCO <sub>2</sub> e based on value of investment)		Carbon Footprint (tCO <sub>2</sub> e/\$million investment)		WACI (tCO <sub>2</sub> e/\$million sales)	
						Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2
LDI	BlackRock	Credit	1.2	8%	3.8	22%	12,106	22%	63.6	75%	286.5
		UK Gilts*	29.8	n/a	2.8	100%	576,000	100%	150.0	100%	129.0
<b>Total LDI</b>			<b>31.0</b>	<b>n/a</b>	<b>2.8</b>	<b>97%</b>	<b>588,106</b>	<b>97%</b>	<b>147</b>	<b>99%</b>	<b>135.0</b>
Buy & Maintain	Insight	Buy & Maintain	8.8	28%	2.1	64%	59,173	64%	41.7	92%	214.6
	RLAM	Buy & Maintain	5.9	13%	2.1	30%	39,997	30%	41.2	63%	109.6
Credit	LGIM	Buy & Maintain	5.3	26%	2.2	48%	41,728	48%	48.6	77%	251.1
<b>Total Buy &amp; Maintain Credit</b>			<b>20.0</b>	<b>23%</b>	<b>2.1</b>	<b>50%</b>	<b>140,897</b>	<b>50%</b>	<b>43.4</b>	<b>79%</b>	<b>192.9</b>
Credit comparator index**			n/a	25%	2.2	50%	-	50%	59.7	87%	121.6
ABS	24AM	RMBS	2.4	n/a	n/a	100%	4,809	100%	32.2	100%	32.2
		Consumer Loans		n/a	n/a	100%	0***	100%	0***	100%	0
<b>Total Section (excl buy-in)</b>			<b>53.4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>733,813</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Buy In Policy	PIC	Credit	18.2	8%	2.4	93%	36,099	93%	84.8	93%	225.0
		Sovereign*		n/a	n/a	n/a	n/a	n/a	n/a	92%	170.0
		US Municipals		n/a	n/a	92%	1,770	92%	55.3	92%	34.2
		Social Housing		n/a	n/a	98%	3,383	98%	43.5	98%	296.0
		Student Accommodation		n/a	n/a	100%	n/a	100%	n/a	100%	59.0
		Equity Release Mortgages		n/a	n/a	100%	232	100%	7.5	100%	163
<b>Total Section (incl buy-in)</b>			<b>71.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>775,297</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Source: Investment managers, MSCI, Mercer calculations. Excludes legacy equity holdings (0.0% allocation), Insight, ICG and M&G illiquid credit portfolios (8.6%), PGIM alternative inflation-linked portfolio (3.3%) and the Mercer alternatives portfolio (0.4%) and the Aviva buy-in (18.3%). Numbers may not sum due to rounding.

\* Consensus around sovereign bond footprinting methodology is still being developed with consultations ongoing. Whilst BlackRock and PIC have provided data, they do not currently have any methodologies or metrics that they are comfortable with for this asset class.

\*\* Markit iBoxx over 5 year non-gilts.

\*\*\* Consumer loans emissions are stated as zero as these are largely securitised credit card debt, and there is no way to know what the credit card was used to finance and the emission associated with that activity.

# Metrics and Targets continued



- The buy and maintain portfolios display a range of carbon intensities, with RLAM showing significantly lower weighted average carbon intensity (WACI) than Insight and LGIM. The portfolios have an ITR of 2.1-2.2°C, which is encouraging. However, less than 25% of underlying companies have set decarbonisation targets verified by the SBTi.
- All of the Co-op Section's credit managers have a lower Carbon Footprint than the iBoxx broad market comparator, with the exception of PIC Credit and BlackRock Credit (within the LDI mandate). PIC have stated that their top sectoral contributors to Carbon Footprint are energy, utilities and industrials, all traditionally highly carbon intensive sectors.
- Conversely, RLAM is the only manager to exhibit a lower WACI than the comparator. This is driven by a lower contribution from Energy. Insight and LGIM's higher WACI is explained by their Utilities sector WACI contribution, which is greater than twice the size of that of the comparator.
- High exposure to the utilities sector has been shown previously to explain the WACI of managers being higher than the comparator, whilst their Carbon Footprint is lower. Carbon Footprint metrics have much lower coverage compared to WACI metrics, making comparisons difficult. However this finding is likely due to utility companies typically having a large capital base (measured by "Enterprise Value Including Cash", or EVIC), and therefore having a large denominator on a carbon footprint basis. Despite their size, owing to the regulated nature of the utilities industry, revenues are typically lower, leading to higher emissions intensity metrics on a WACI basis.

# Metrics and Targets continued

## Bank Section (DB)

Mandate	Manager	Sub Asset Class	Allocation (%)	% of portfolio with Science Based Targets	Implied Temperature Rise (°C)	Absolute emissions (tCO <sub>2</sub> e based on value of investment)		Carbon Footprint (tCO <sub>2</sub> e/\$million investment)		WACI (tCO <sub>2</sub> e/\$million sales)	
						Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2
LDI	BlackRock	Credit	1.7	8%	3.3	22%	3,220	22%	63.6	75%	286.5
		UK Gilts*	45.9	n/a	2.8	100%	106,000	100%	150.0	100%	129.0
<b>Total LDI</b>			<b>47.6</b>	<b>n/a</b>	<b>2.8</b>	<b>97%</b>	<b>109,220</b>	<b>97%</b>	<b>147.9</b>	<b>99%</b>	<b>135.6</b>
Buy & Maintain	Insight	Buy & Maintain	10.9	29%	2.2	63%	13,249	63%	40.6	92%	218.6
	RLAM	Buy & Maintain	10.5	16%	2.1	32%	13,702	32%	43.6	68%	126.0
Credit	LGIM	Buy & Maintain	10.9	26%	2.3	53%	20,303	53%	62.4	82%	340.7
<b>Total Buy &amp; Maintain Credit</b>			<b>32.3</b>	<b>23%</b>	<b>2.2</b>	<b>49%</b>	<b>47,255</b>	<b>49%</b>	<b>48.9</b>	<b>81%</b>	<b>229.7</b>
Credit comparator index**			n/a	25%	2.2	50%	-	50%	59.7	87%	121.6
ABS	24AM	RMBS	3.0	n/a	n/a	100%	1,110	100%	32.5	100%	32.5
		Consumer Loans		n/a	n/a	100%	0***	100%	0***	100%	0
<b>Total Section (excl buy-in)</b>			<b>82.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>157,584</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Buy In Policy	PIC	Credit	16.7	8%	2.4	93%	14,235	93%	84.8	93%	225.0
		Sovereign*		n/a	n/a	n/a	n/a	n/a	n/a	92%	170.0
		US Municipals		n/a	n/a	92%	698	92%	55.3	92%	34.2
		Social Housing		n/a	n/a	98%	1,334	98%	43.5	98%	296.0
		Student Accommodation		n/a	n/a	100%	n/a	100%	n/a	100%	59.0
		Equity Release Mortgages		n/a	n/a	100%	91	100%	7.5	100%	163.0
<b>Total Section (incl buy-in)</b>			<b>99.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>173,942</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Source: Investment managers, MSCI, Mercer calculations. Excludes Mercer Alternatives portfolio (0.4% allocation).

\* Consensus around sovereign bond footprinting methodology is still being developed with consultations ongoing. Whilst BlackRock and PIC have provided data, they do not currently have any methodologies or metrics that they are comfortable with for this asset class.

\*\* Markit iBoxx over 5 year non-gilts.

\*\*\* Consumer loans emissions are stated as zero as these are largely securitised credit card debt, and there is no way to know what the credit card was used to finance and the emission associated with that activity.



# Metrics and Targets continued

- The buy and maintain portfolios display a range of carbon intensities, with RLAM showing significantly lower weighted average carbon intensity than Insight and LGIM. The portfolios have an ITR of 2.1-2.3°C, which is encouraging. However, less than 25% of underlying companies have set decarbonisation targets verified by the SBTi.
- All of the Bank Section's managers have a Carbon Footprint that is broadly in line or lower than the iBoxx broad market comparator, with the exception of PIC Credit. PIC have stated that their top sectoral contributors to Carbon Footprint are energy, utilities and industrials, all traditionally highly carbon intensive sectors.
- All of the credit managers exhibit a WACI that is higher than the comparator. One notable result is that LGIM's WACI is c.35% greater than the equivalent portfolio for the Co-op Section. This appears to be driven by the Bank's portfolio having allocations to companies within the utility sector that are significantly more carbon intensive than the Co-op Section.



# Metrics and Targets continued

## Pace DC

Mandate	Manager	Allocation (%)	Absolute emissions (tCO <sub>2</sub> e based on value of investment)		WACI (tCO <sub>2</sub> e/\$million sales)		Implied Temperature Rise (°C)	
			Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2	Coverage (%)	ITR
Pace Growth (Shares) 2021 Fund	LGIM	22.9	96.1%	16,746.9	99.1%	142.3	89.0%	3.7
Pace Growth (Mixed) Fund**	LGIM	67.9	68.9%	39,343.2	71.3%	177.4	78.0%	3.3
Pace Growth (Ethical Shares) Fund	LGIM	0.7	98.7%	341.1	99.8%	99.8	90.0%	3.7
Pace Growth (Shares) Fund	LGIM	0.1	93.1%	94.7	95.7%	155.5	86.0%	3.8
Pace Pre-Retirement Inflation-Linked Fund**	LGIM	0.1	22.2%	55.8	23.3%	139.2	81.0%	2.8
Pace Pre-Retirement Fund**	LGIM	0.1	31.4%	74.7	33.0%	139.2	73.0%	2.9
Pace Cash Fund	LGIM	8.2	48.5%	50.1	57.8%	2.6	N/A	N/A*

Source: LGIM, LCP. Data as at 31 December 2021.

\* LGIM is currently unable to provide the ITR for the Pace Cash Fund.

\*\* Data for these funds does not cover government bonds. LGIM plan to include government bonds from Q2 2022.

- The provision of these metrics is still in its infancy and therefore there are some data gaps. In particular, LGIM's data does not cover government bonds which is likely to understate the emissions in the funds that hold these.
- The total carbon emissions are given for each of Pace DC's funds. Naturally, the funds with the largest assets have the largest total carbon emissions. The data does not include government bonds so the emissions reported for the bond funds are likely understated.
- WACI is comparable between non-cash funds and it shows that the growth funds have the highest carbon intensity (although the bond fund figures are likely to be understated). In particular, the Pace Growth (Mixed) Fund has the highest WACI, due to the regional differences in its equity exposure compared to the other growth funds (in particular, a higher weighting to emerging market equities which has higher emissions than most other regions).
- Like the WACI, temperature alignment is comparable between funds but shows slightly different results, as the equity funds have a higher temperature compared to the Pace Growth (Mixed) Fund. This implies that the projected emissions for the companies held in the equity funds are higher than those in other funds.

# Metrics and Targets continued

## Targets

### Pace DB

The Trustee has adopted a 2050 net zero target for the Scheme's absolute emissions; this target is aligned with scientific consensus and is also in line with the ambitions of the Paris Agreement, with the aim of facilitating a 'well below' 2°C limit on global temperature increases.

The Trustee has also adopted an interim target of a 50% reduction in emissions by 2030 (2021 baseline). As this is the first year we have reported our emissions, we are also using this as the baseline for our target and can't therefore measure performance against this target; we will start reporting progress against the target next year.

The Trustee will monitor decarbonisation targets on both an absolute emissions and WACI basis (based on Scope 1 and 2 data). In due course, the Trustee will seek to incorporate Scope 3 emissions when data availability improves.

The emissions reduction targets set out above broadly align with manager analysis and proposals, where discussions have been held at this stage (e.g. with the Buy and Maintain Credit managers). Steps the Trustee will take to achieve these targets include engaging with our asset managers and amending investment guidelines if required, and including alignment with these objectives when considering further de-risking or asset allocation changes.

A wide range of factors will affect whether the Trustee is able to achieve its targets and the Trustee has varying degrees of control over these factors. For example, the progress of the UK and other national governments will have a significant influence over the timescale for reaching net zero. In addition, the quality and availability of data improving over time means that the quoted greenhouse gas emissions are likely to change. Ultimately, achieving the desired level of decarbonisation will depend on economies overall being successful in decarbonising.

In addition, the Trustee may make significant changes in its investment approach which may affect the pace of decarbonisation (for example based on progress made against the agreed long term objectives).

### Pace DC

The Trustee has set a long-term target for the DC default option of net zero by 2050 and a short-term target of 50% carbon reduction by 2030, using a base year of 2021 and measured using WACI.

This target initially applies to listed equities and corporate bonds, although the Trustee will look to broaden this to other asset classes within the default option as data availability improves.

As for Pace DB, this is the first year we have reported our emissions, and we are using this year's analysis as the baseline for our target. We will start reporting progress against the target next year.

Given Pace DC's assets are invested in pooled funds, the Trustee is engaging with LGIM in relation to the alignment of the funds underlying the Pace DC fund range with this objective.



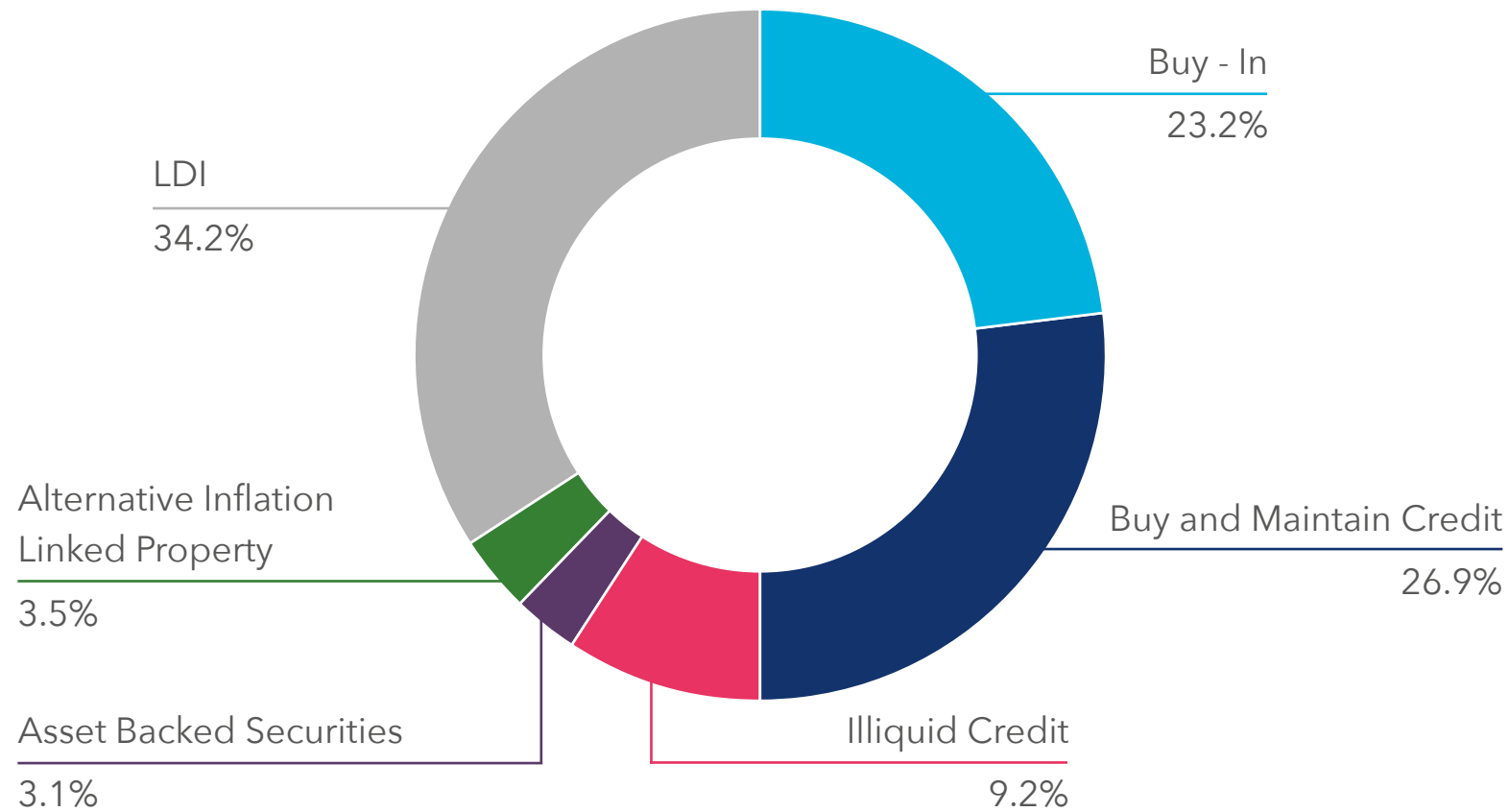
# Technical Section



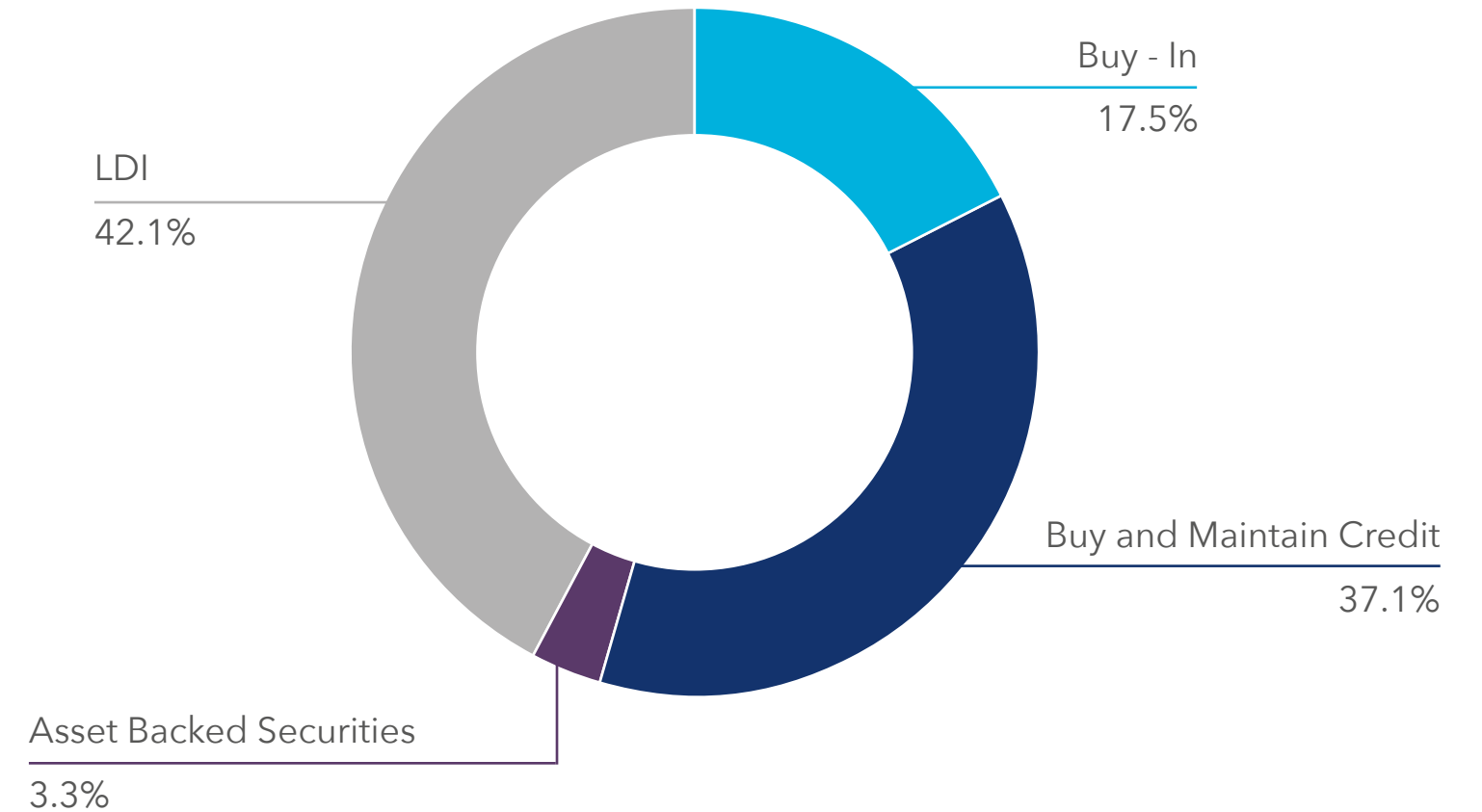
# Asset allocation

## Defined Benefit Sections

The chart below shows the asset allocation for the Co-op Section. Allocations are derived from the buy-in valuation as at 30 September 2021 and the Section’s strategic asset allocation.



The chart below shows the asset allocation for the Bank Section. Allocations are derived from the buy-in valuation as at 30 September 2021 and the Section’s strategic asset allocation.

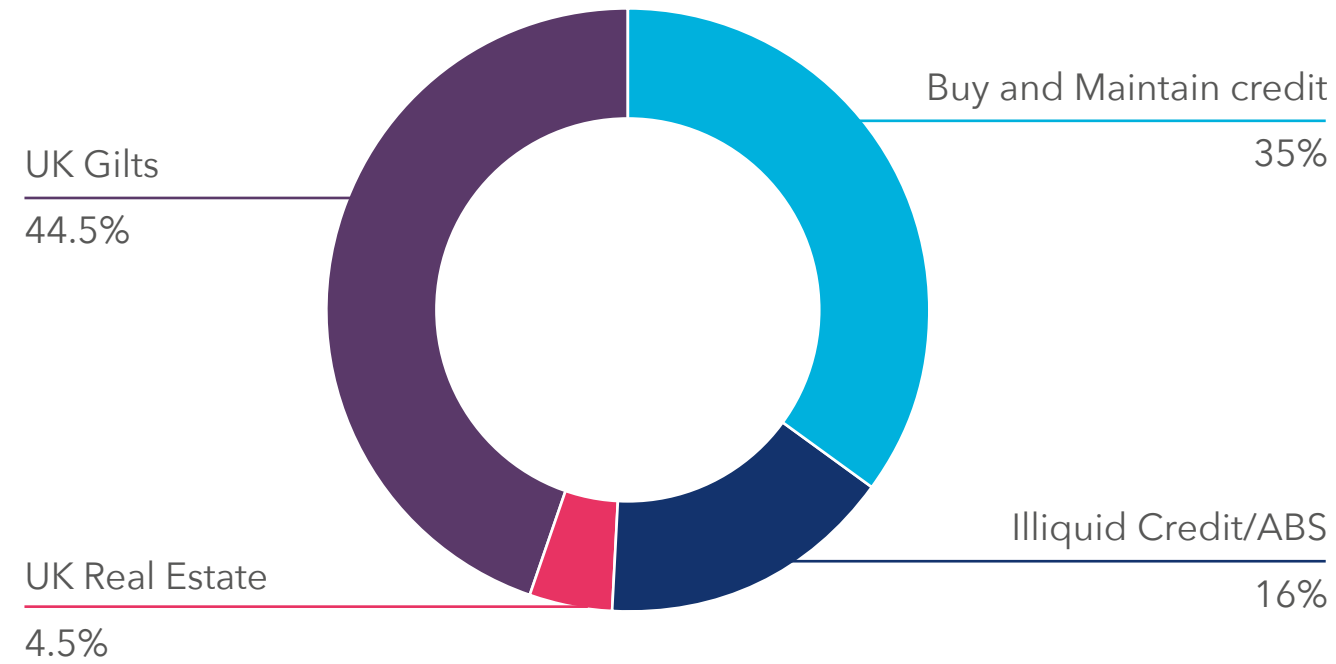


We have included a **glossary** at the end of this report which explains some of the terms used in this section.

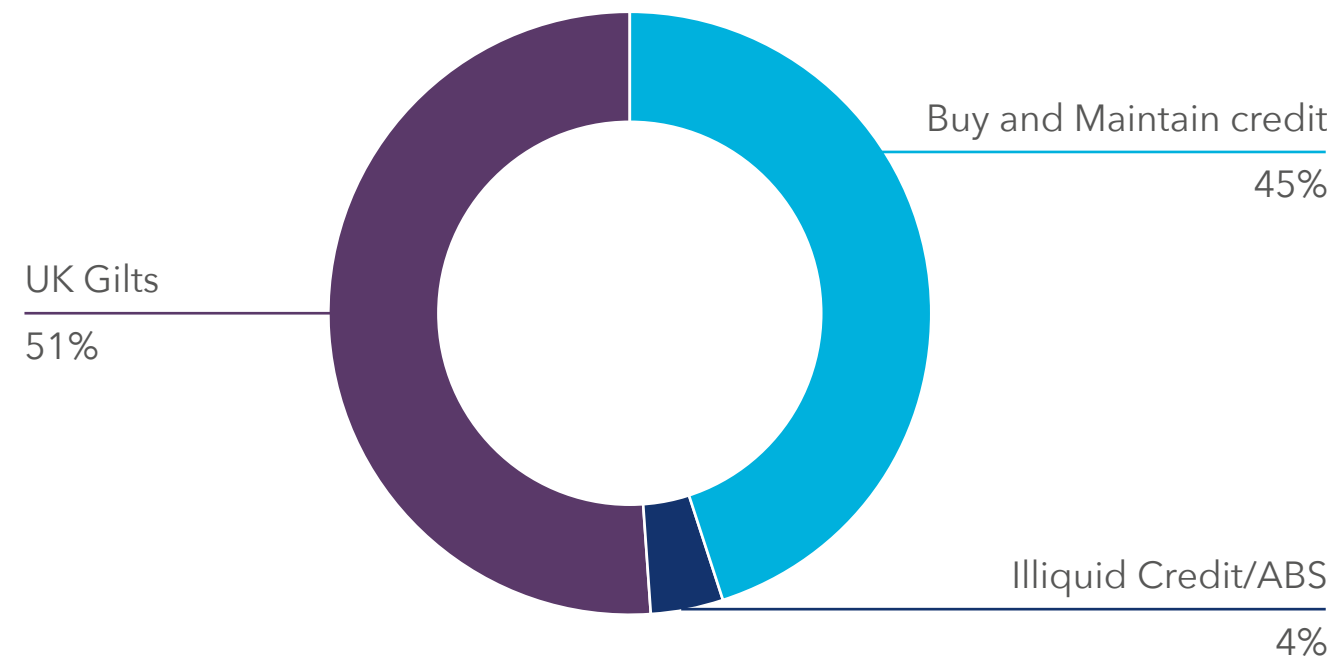
# Asset allocation continued

The charts below set out the strategic asset allocation for each Section (excluding the buy-ins for the DB Sections).

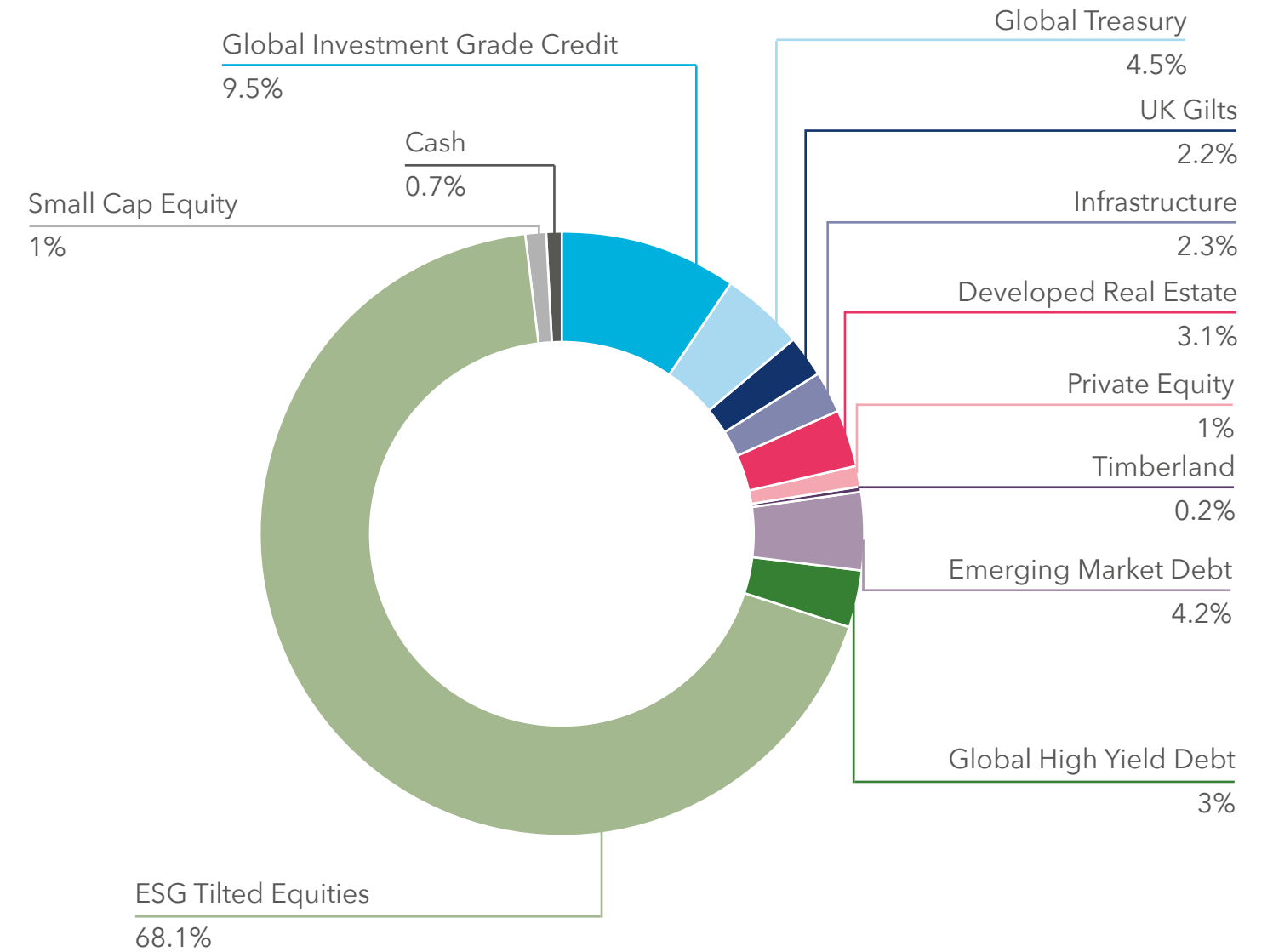
**Pace DB: Co-op Section (excluding buy in policies)**



**Pace DB: Bank Section (excluding buy in policy)**

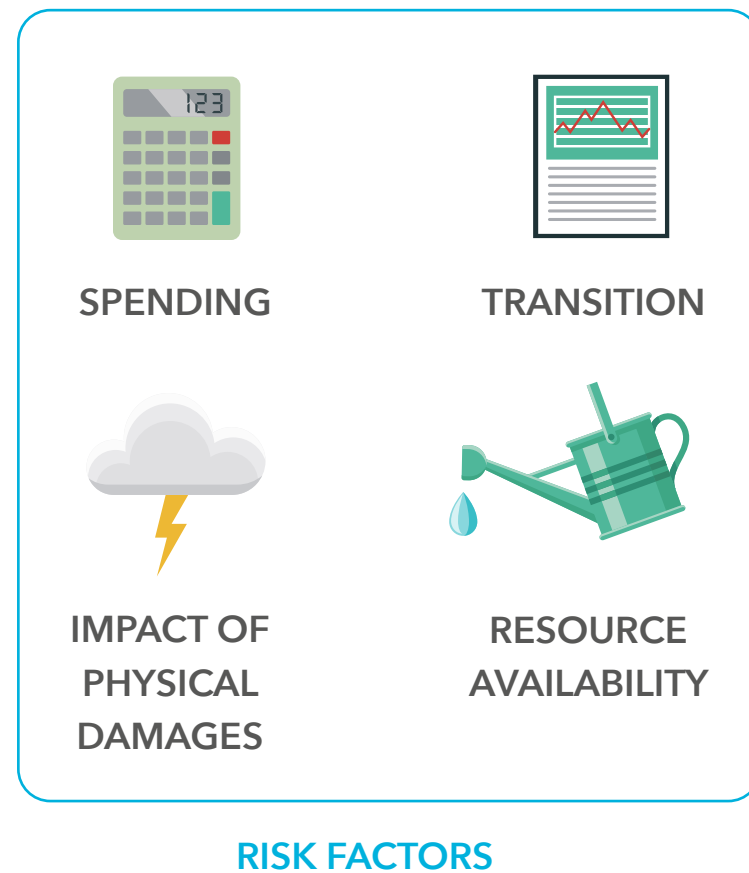


**Pace DC: (growth phase of the default investment strategy)**



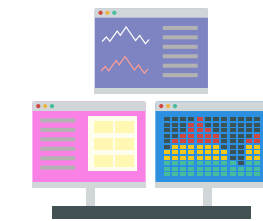
# Climate scenario modelling approach

**1** Four climate risk factors have been identified



Source: Mercer

**2** The weighting placed on each risk factor will vary by asset class and the risk factors have different degrees of sensitivity under each of the three climate change scenarios.



ASSET CLASS  
SENSITIVITY

X

=

ASSET CLASS  
RETURN IMPACTS



CLIMATE  
SCENARIOS

**3** An estimate can be placed on the impact on annual asset class returns over multi-year time periods, and to identify where the risk and opportunity priorities lie.

Climate scenario modelling is a complex process. The Trustee is aware of the modelling limitations. In particular:

1. The further into the future you go, the less reliable any quantitative modelling will be.
2. Looking at average asset class returns over multi-decade timeframes leads to invariably small impacts. The results are potentially significantly underestimated.
3. There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or 'tipping points', like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
4. Financial stability and insurance 'breakdown' is not modelled. A systemic failure may be caused by either an 'uninsurable' 4°C physical environment, or due to the scale of mitigation and adaptation required to avoid material warming of the planet.
5. Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.

# Climate scenario modelling approach continued

## Three directions to 2100

TRANSITION

- 80% of energy
- 80% not carbon-priced
- 6 million

2017-2018

PHYSICAL DAMAGES

- ↑ 1.1°C hotter
- ↑ 22cm
- 1/2 Great Barrier Reef dead

- 2020: Peak  
2080: Net zero
- 2050: No coal
- 2050: 50% new vehicle sales

2°C SCENARIO

- 2050: ↑ 1.7°C  
2100: ↑ 2°C
- ↑ 50cm
- Daily temp: ↑ 2.6°C  
Droughts 4+ months

- 2050: Flat
- 2050: Coal ↓ 7%  
80% of energy
- 2050: 37% new vehicle sales

3°C SCENARIO

- 2050: ↑ 1.9°C  
2100: ↑ 3.2°C
- ↑ 58cm
- Irreversible damages  
30% less water

- 2050: ↑ 49%
- 2050: 84% of energy
- 2050: 25%

4°C SCENARIO

- 2050: ↑ 2°C  
2100: ↑ 3.9°C
- ↑ 70cm
- 50% less water  
Hurricanes ↑ 80%

ANNUAL RETURN IMPACT

### SCENARIO PATHWAYS

- How will each risk factor change over time for each scenario?
- Quantitative pathway developed for each risk factor and scenario

X

### ASSET SENSITIVITY

- How sensitive is each sector and asset class to each risk factor?
- Risk factor sensitivity assigned, as positive or negative, and a relative magnitude

=

### ANNUAL RETURN IMPACTS

- How are different sectors or asset classes impacted on an annual, average basis over multi-year time periods?
- What are the risk and opportunity priorities?



# Metrics – Data limitations and assumptions

## Data sources

All climate-related metrics data has been requested directly from the investment managers. Climate-related metrics provided in respect of the Insight, RLAM and LGIM Buy & Maintain credit portfolios have been sourced from MSCI using stocklist data provided by the investment managers.

## Scope of emissions

Only scope 1 and 2 emissions data has been included in this report. This means that for some companies the assessment of their carbon footprint could be considered an understatement. Scope 3 emissions are currently excluded because scope 3 disclosure remains insufficient to use reliably at present. Scope 1,2 and 3 emissions are as defined by the GHG protocol - **Greenhouse Gas Protocol**.

The Trustee will continue to work with Mercer, LCP and the investment managers to obtain scope 3 data for the different asset classes.

## Data coverage

Data coverage refers to the proportion of an asset fund in which the various climate-related metric data is available. There are gaps in the data:

- Some public listed companies or issuers are not publishing climate-related data or are providing poor quality data. This is relevant to public equity and corporate bonds. Obtaining data for emerging market equity can also be challenging due to general disclosure and transparency challenges;
- Many private companies do not currently produce climate-related data and coverage for private markets, such as private equity and private debt, will be low, or zero for mature funds;
- Sovereigns, or governments, may not publish climate-related data in the public domain. This is a particular challenge for emerging market debt. For UK government debt, data is available but there is a delay in the data being published;
- Short-term instruments, such as in the illiquid credit assets or money market funds, have limited data available due to the short-term nature of the individual assets;

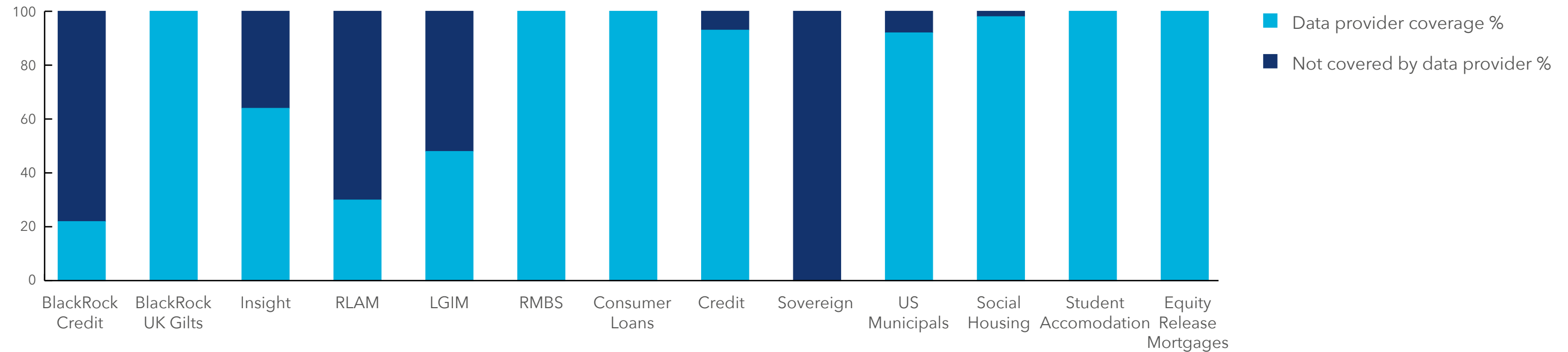
- Real estate (property) assets can have low climate-related data coverage due to the lack of reporting on the individual properties or projects held within the portfolio.

In this report, the Trustee has used a pro rata approach to scale up each climate metric in order to present the data as if full coverage was available for each asset fund. This assumes that the part of an investment fund that does not have data available has the same investment characteristics (for example, same sector or geography) as the part where there is data.

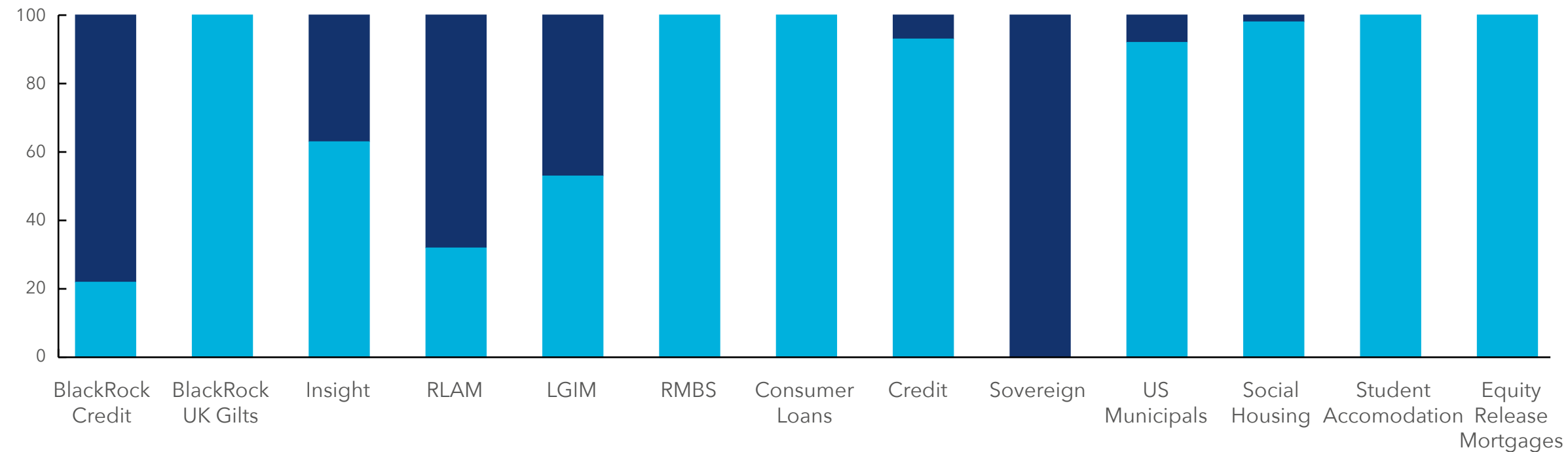


# Metrics - Data limitations and assumptions continued

**Pace DB: Co-op Section absolute emissions coverage (scope 1 and 2)**



**Pace DB: Bank Section absolute emissions coverage (scope 1 and 2)**



(1) The BlackRock LDI mandate has a small allocation to index-linked corporate bonds, these are held on a buy and hold basis.

# Metrics – Data limitations and assumptions continued

## Specific asset class assumptions - Defined Benefit Sections

This table details the methodology for calculating the absolute emissions and carbon intensity metrics for the asset classes where methodologies differ from the standard calculations detailed in the report.

Investment Manager	Sub asset class	Methodology
<b>BlackRock</b>	Sovereign bonds	Absolute emissions: tons of CO <sub>2</sub> e per country x (Value of gilts in the portfolio / Public debt) WACI: tons CO <sub>2</sub> e per USD million GDP nominal Carbon Footprint: tons CO <sub>2</sub> e per USD million of public debt
<b>24AM</b>	Residential mortgage-backed securities	As ABS do not have revenue, enterprise value (EV) is used as a proxy, hence WACI and Carbon Footprint are equivalent measures. WACI and Carbon Footprint: tons CO <sub>2</sub> e per £m EV
Insurance Provider		
<b>Pension Insurance Corporation</b>	Sovereign bonds	Absolute emissions: tons of CO <sub>2</sub> e per country x (Value of gilts in the portfolio / Public debt) WACI: tons CO <sub>2</sub> e per USD million GDP nominal Carbon Footprint: tons CO <sub>2</sub> e per USD million of public debt
	Social Housing	PIC have taken the value of average emissions per social housing dwelling to be 2.6 t CO <sub>2</sub> e, as estimated by The Sustainable Energy Association. PIC then estimate the number of units financed as a proportion of investment. Combining this with the SEA estimate of 2.6 t CO <sub>2</sub> e gives a final value of absolute emissions (t CO <sub>2</sub> ).
	Student Accommodation	PIC has used an estimate average m <sup>2</sup> per room to be 15m <sup>2</sup> given internal data available. The CO <sub>2</sub> emission rate (kg CO <sub>2</sub> /m <sup>2</sup> per year) for each student accommodation is available online ( <a href="https://www.gov.uk/find-energy-certificate">https://www.gov.uk/find-energy-certificate</a> , 2021). This is then multiplied by the Total m <sup>2</sup> and converted to tons to give absolute emissions (tCO <sub>2</sub> E).
	Equity Release Mortgages	PIC calculate the average Carbon Emissions (tons) per house, derived from UK government data for Carbon Dioxide Emissions (tons per annum) and Number of Lodgements for each region (This resulted in an average of 4.04 tons of CO <sub>2</sub> per house). By dividing average ERM issuance value by the average value of the homes underlying the loans, it is estimated that PIC provides financing to an average of 34% of the property value and so take accountability for this proportion of the house's carbon footprint. For the \$m revenue used in the WACI calculation PIC use the interest earned on the loan.

# Metrics – Data limitations and assumptions continued

## DB Funding level scenario analysis assumptions

	Disorderly transition (corresponding to 2°C scenario)	Failed transition (corresponding to 3°C scenario)
UK long dated Interest rate	-0.25% p.a. compared to the Mercer yield curve	In line with Mercer base case for the next 10 years
Inflation	+0.5% p.a. compared to the Mercer yield curve	In line with Mercer base case for the next 10 years
UK life expectancy	Any changes in life expectancy due to climate change, such as deaths due to extreme heat vs improved mortality due to milder winters, are expected to be largely offsetting in the UK over the next 10 years	
Equity market	Global Equities: -15% Emerging markets: -25% reflecting greater volatility in EM and additional exposure to energy Small Cap: -20% reflecting greater volatility	Global Equities: -10% Emerging markets: -20% reflecting greater volatility in EM and additional exposure to energy Small Cap: -12%
IG Credit spread widening	+0.25% p.a.	+0.15% pa
High yield Debt (HYD) and Multi-Asset Credit (MAC)	-7.5% reflecting low risk compared to equity partially offset by high energy weightings	-5% reflecting low risk compared to equity
Emerging Market Debt (EMD)	-10% significant variation by issuer, assumes worse than HYD reflecting the disorder and its impact on EMD issuers	-8% significant variation by issuer, assumes worse than HYD reflecting the disorder and its impact on EMD issuers
Diversified Growth Fund	-10% reflecting other asset classes	-8% reflecting other asset classes
Hedge funds	-5% significant variation by fund, reflects equity beta of a third	-3% significant variation by fund, reflects equity beta of a third
Phasing	75% of the change is expected over the first 5 years with the remainder spread over the later 5 years	Given the long term nature of the physical risks, 5% of the change over the first 5 years, increasing annually for the next 5 years

# Important notices from data providers

## **Mercer**

Past performance does not guarantee future results. Information contained herein has been obtained from a range of third party sources. While the information is believed to be reliable, Mercer has not sought to verify it independently. As such, Mercer makes no representations or warranties as to the accuracy of the information presented and takes no responsibility or liability (including for indirect, consequential or incidental damages), for any error, omission or inaccuracy in the data supplied by any third party. The information does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities and/or any other financial instruments or products or constitute a solicitation on behalf of any of the investment managers, their affiliates, products or strategies that Mercer may evaluate or recommend.

## **MSCI**

In addition, some of the underlying data has been provided by MSCI which is ©2022 MSCI ESG Research LLC. Reproduced by permission.

Although information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness of any data herein. None of the ESG Parties makes any express or implied warranties of any kind, and the ESG Parties hereby expressly disclaim all warranties of merchantability and fitness for a particular purpose, with respect to any data herein. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein. Further, without limiting any of the foregoing, in no event shall any of the ESG Parties have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.



# Glossary

In this document, when we say:	We mean:
Alternative Inflation-linked Property	Investment in property which has inflation-linked income streams as part of the investment terms. This type of investment aims to generate income which keeps up or exceeds inflation in addition to capital appreciation. These types of properties can include student accommodation and long lease ground rents on commercial properties such as hotels, for example.
Asset Backed Securities	An asset backed security is the term given to a bond whose value is derived from a pool of underlying assets which together generate income and collateralise the specific pool. Examples include a pool of mortgages or credit card debt.
Buy and maintain credit	An investment in corporate bonds where the manager aims to select bonds with low default risk that can be held to maturity, and aims to have very low turnover in holdings.
Buy-in	<p>A buy-in policy (also known as a bulk annuity) is an insurance policy that covers a proportion of a pension scheme's liabilities, such as the pension in-payment. The policy pays the scheme an income equal to the benefits of the members covered and therefore removes the risk of there being insufficient assets to meet those future liabilities.</p> <p>A buy-in policy is an investment held by a pension scheme, and the scheme (and its trustees) remains responsible for paying pensions to members.</p>
Equity	An investment in the form of shares in companies (also known as stocks). Owning shares makes shareholders part owners of the company in question and usually entitles them to a share of the profits (if any), which are paid as dividends.
Gilt	A bond issued by the UK Government.
Illiquid Credit	Illiquid Credit investments take the principles of bond investing, lending of money in return for regular interest payments, into less standardised areas which are not actively traded. This results in favourable terms for investors and greater potential gain, which the scheme is able to access as a long-term investor.
Liability Driven Investment ("LDI")	An investment approach which focuses on matching the sensitivities of a pension scheme's assets to those of its underlying liabilities in response to changes in certain factors, normally interest rates and inflation expectations.