Pace
pension
scheme

The Co-operative Pension Scheme (Pace)

Climate change governance and reporting disclosures

Reporting period: 12 months to 5 April 2025

September 2025

Contents

A message from the Chair

Dear Members

On behalf of the Trustee of Pace, I am pleased to share our fourth climate change risk assessment report, which has been prepared in line with the statutory requirements prescribed by the Department for Work and Pensions[1]. As Chair of Pace, I am proud to share the progress we have made in integrating climate considerations into our investment strategy and risk management framework.

2024 was the warmest year on record, and the first calendar year with a global mean temperature of more than 1.5°C above pre-industrial levels, resulting in the World Meterological Organisation warning that the long-term temperature goal of the Paris Agreement is in "grave danger"[2]. It is therefore more pressing than ever that investors (including pension schemes) understand and manage climate risk in their investments.

The Trustee therefore regards climate change as an important issue for responsible investors that may pose significant financial risks to our members' retirement savings 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.

Our commitment to transparency and accountability is reflected in the disclosures provided in this report. We have structured this report in line with with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, covering four key areas: governance, strategy, risk management, and metrics and targets.

Through this approach, we aim to provide stakeholders with a clear understanding of how climate-related considerations are integrated into our decision-making processes and contribute to the long-term resilience of our pension scheme.

While our analysis only covers the last four years (a relatively short time period), I'm pleased to report that the Scope 1 and 2 carbon intensity for our DC investments has reduced significantly since 2021, and almost all the funds are ahead of where they need to be at 31 December 2024 to achieve a target Weighted Average Carbon Intensity ("WACI") reduction of 50% by 2030. Furthermore, over the course of the year, almost all DC funds have seen a decreased carbon intensity versus the previous year. Similarly, following the buy-in transactions, we have also reduced Pace DB's absolute emissions significantly over the same period with the targets of a 50% reduction by 2030 now having been broadly met – further details on our progress against these targets is set out on page 25. Analysing changes over a short period is fraught with complications given the impact of changing data quality and market movements, but the direction of travel is a clear positive.

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

[1] The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 as amended, and the Occupational Pension Schemes (Climate Change Governance and Reporting) (Miscellaneous Provisions and Amendments) Regulations 2021

[2] **WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level**

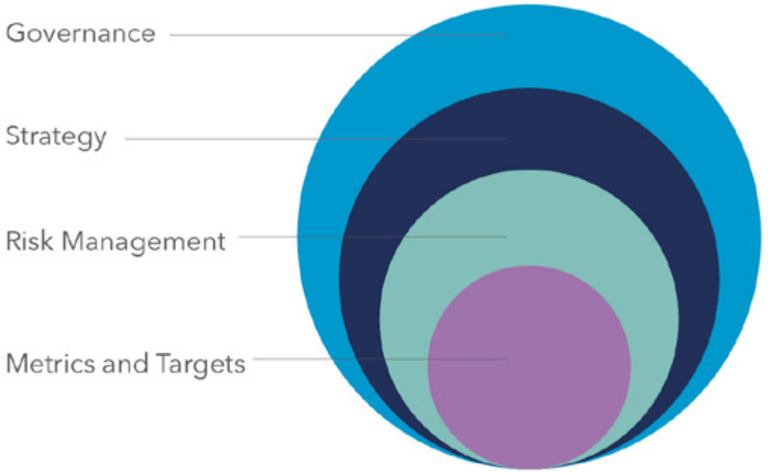
Introduction

The Co-operative Pension Scheme (Pace) ("the Scheme" or "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. TCFD was created to improve and increase reporting of climate-related financial information that can promote more climate-informed investments. The TCFD fulfilled its remit and was disbanded in October 2023, with the TCFD framework taken over by the International Sustainability Standards Board ("ISSB").

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. This is the fourth annual climate change risk assessment report that the Trustee has published and covers the year ending 5 April 2025.

The report is divided into four sections: Governance, Strategy, Risk Management, and Metrics and Targets:



The framework aims to:

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

Since August 2018, the Scheme's assets and liabilities have been legally sub-divided into two Sections, with the principal employers being Co-operative Group Limited ("the Co-op") and The Co-operative Bank plc ("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 have historically each provided two types of benefit: a defined benefit section ("Pace DB" – which is closed to new entrants) and a defined contribution arrangement ("Pace DC"). However, towards the end of March 2025, following a company consultation and review by the Trustee, it was agreed that the DC assets of the Bank Section would be transferred to the Legal & General Master Trust.

For completeness, given this transfer took place after the 31 December 2024 reporting date, the Bank Section's DC assets are within the scope of this report.

In 2020 the Trustee entered into four separate insurance policies with PIC and Aviva Life in respect of a portion of Pace DB's pensioner liabilities (across both the Co-op and Bank Sections). In December 2022, the Trustee entered into an additional insurance policy for the Bank Section with Rothesay Life in order to match the vast majority of the remainder of the benefits that will become payable to members of the Bank Section of Pace, while in November 2023, the Trustee entered into a similar insurance policy with Rothesay Life for the Co-op Section of Pace DB.

As part of these transactions, the majority of Pace DB's assets were transferred to Rothesay Life, with the residual assets being held as cash or in money market instruments to meet future costs of the Scheme.

The Trustee's expectation is that both Sections will progress to an insurer buy-out of each Section's liabilities over time, with the aim of achieving an appropriate discharge of liability in accordance with the Section's governing documentation and relevant legislation. In due course,in order to complete the buy-out transaction, members' benefits will be secured by means of individual annuity policies issued by PIC, Aviva and Rothesay Life (collectively referred to as the Insurers) directly to the members. Both DB Sections will then ultimately be wound up.

In this document we have reported on the DB assets of each Section, based on data provided by the respective insurers on the assets they hold in respect of the insurance policies held, and on the DC assets based on data provided by Legal & General.

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) for each Section, 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 SIPs are reviewed at least annually 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 UK Stewardship Code (which came into force on 1 January 2020). As such, the Trustee also produces an annual UK Stewardship Code and 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's Sponsors, the Co-op and The Co-operative Bank, the Trustee has identified three broad issues that it feels reflects the views of the relevant stakeholders, represent particular risks to the Scheme, and can be well addressed by the Responsible Investment Policy. These issues are:

- Climate change and the protection of the environment (including deforestation);
- Labour conditions and equal pay; and
- Corporate governance.

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:

- DC Committee
- Manager Monitoring and Implementation 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 quarterly meeting agendas to cover relevant items such as climate related data metrics within quarterly reports.

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.

In July 2024 changes were made to the structure of the Trustee board. As of 1 July 2024, Independent Trustee Services Limited ("ITS", part of Independent Governance Group) was appointed to the Trustee board as a sole professional trustee. ITS's main representatives are Chris Martin (the Chair of Pace) and Priti Ruparelia, who work primarily on the defined benefit and defined contributions sections respectively.

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

DC Committee

The DC Committee consists of representatives of the Trustee, with a standing invitation for the representatives of the Co-op and The Co-operative Bank to attend. Its role, as set out in its formal terms of reference, is to provide oversight and stewardship of the Scheme'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 SIP (including climate-related polices);
- 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.

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 monitor and evaluate the investment manager appointments across the Co-op sponsored pension arrangements. As a result of the transfer of assets for both Sections of Pace to the Insurers, the MMIC's remit for Pace DB is now targeted on the residual assets, which are held in cash funds with BlackRock.

The MMIC meets at least quarterly; 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 the Scheme's investment advisors covering the Scheme's investment manager investment performance, and their integration of ESG risks and opportunities (including climate risk) into their investment processes;

- Meeting with the appointed investment manager 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.

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 its 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 advisors 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 the Scheme year ended 5 April 2025, CPD met with Mercer (Investment Advisor for Pace DB) 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. CPD also liaised with both the Trustee and its advisors in relation to finalising the content of and publishing previous reports.

Trustee Advisors

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

Investment Advisor 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.

The Trustee has appointed Mercer to the following roles:

Investment Advisor 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;
- Advising how climate-related risks and opportunities might affect the different asset classes in which the Scheme might invest;
- Advising the Trustee (directly or through the MMIC) on the appropriateness and effectiveness of the processes, expertise and resources of Pace DB's investment manager in relation to managing climate-related risks and opportunities, given the Trustee's investment objectives and beliefs;
- 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 climate reporting, working with 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 manager / bulk annuity providers and DC Investment advisor as required.

Actuarial Advisor for Pace DB

- Advises on the funding position including an understanding of the potential funding impact resulting from changes to financial or demographic assumptions driven by climate change; and
- Advises on funding strategy robustness to climate risk. Provides input to enable strategic asset allocation decisions to be made considering the impact of climate risks on funding strategy.

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

The Trustee has appointed Aon for the following role:

Risk Transfer Advisor for the Scheme

- Advising on the selection of insurers for bulk annuity transactions, including their credentials in monitoring and managing climate risk.

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 DC and DB Investment Advisors 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 DC and DB investment advisors through its annual Investment Advisor 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 Advisors. Feedback on performance of the investment advisors 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 advisors.

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

LCP and Mercer have provided climate-related metrics for the DC and DB sections of the Scheme, respectively, and will assist the Trustee in producing the Scheme's climate change risk assessment report on an annual basis.

The Scheme's Risk Transfer advisor, Aon, considered various commercial and non-commercial aspects when reviewing potential insurance partners. This included assessing the ESG credentials of the insurers, including their process for monitoring and managing climate risk.

Risk Management

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

Climate Change – The big 'known unknown'

We are already experiencing climate change and its associated physical impacts today. The average global temperature as at December 2024 was about 1.55°C above pre-industrial levels, meaning 2024 was the warmest year on record, with a global average temperature exceeding the pre-industrial level by more than 1.5°C for the first time.

Most of this warming has occurred in the past 35 years, with the ten "warmest" years on record all 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. More remains to be done to meet the ambition of the Paris 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. Even though 2024 exceeded this level, this more ambitious goal is not necessarily ruled out by having one year of warming above this target, as this could be lowered in future through appropriate policy changes and action.

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

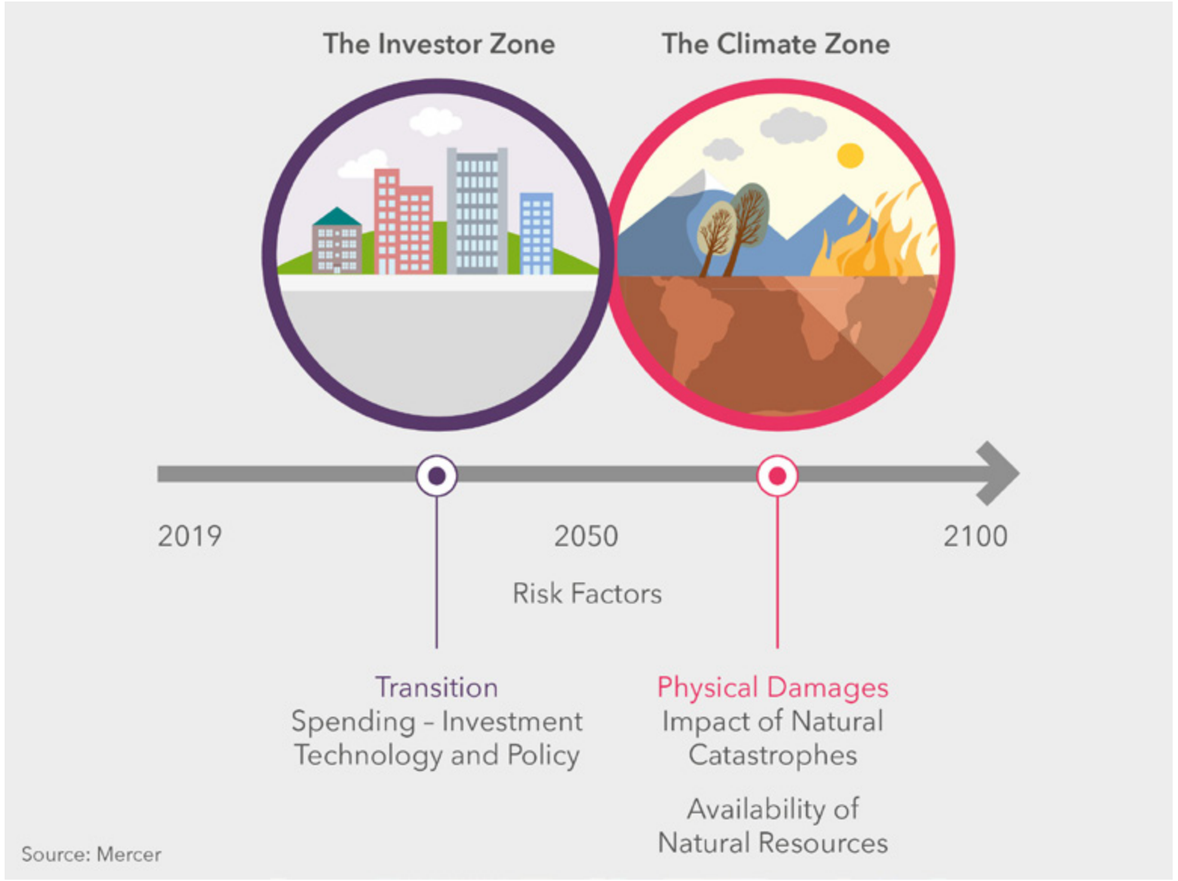
Risks include the possibility of future restrictions, or increased costs, associated with high carbon activities and products. There are also opportunities, which may come from the development and implementation of low-carbon technologies.

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)



Source: Mercer

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.

A key part of the Trustee's role is to understand and manage risks that could have a financially material impact on the Scheme's investments. 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 (SIP)** for each Section is typically 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 (for Pace DC in particular, given the longer investment time horizon than Pace DB, and the annuity policies implemented for the Co-op and Bank DB Sections), 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 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 allows the Trustee to challenge whether the risks and opportunities are effectively allowed for in their governance processes and wider activities.

Strategy

- Use of Legal & General (L&G)'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 scenario), and is expected to be robust under higher warming scenarios.
- As at 5 April 2025, the majority of Pace DB's assets were bulk annuity policies held with the Insurers. When appointing these insurers, the Trustee assessed their respective ESG credentials including their process for monitoring and managing climate risk. Following the transactions, the two Sections were left with some residual cash holdings, which are to be used to pay ongoing Scheme costs. The majority of these residual assets are held in the pooled 'environmentally aware' cash fund, which incorporates an exclusions policy and a proportion of the management fee is used to purchase and retire carbon credits. The remainder of the residual assets are held in the Trustee bank account.

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. The reports summarise how the investment managers choose to vote and engage on climate-related issues (among other key engagement priorities that are defined by the Trustee). Key information and outcomes from the stewardship monitoring are summarised in the Trustee's annual **Implementation Statement** for each Section. 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 acitivity will make investee companies more likely to be sustainable in the long term.

Manager selection and retention

- LCP will assess L&G's implementation of ESG considerations within the DC Section's chosen funds. LCP present their advice to the Trustee on the DC default option and self-select fund range.
- As part of the selection of insurers for the bulk annuity transactions, Aon and the Trustee assessed each insurer's ESG credentials and how they monitor and manage climate risk. ESG and climate considerations were therefore factors in the decision-making process that ultimately resulted in the Insurers being selected by the Trustee.

Strategy

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

Climate scenarios

The Trustee believes it is important 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.

There have been no material changes to DB or DC investment strategy since the Scheme last undertook climate scenario analysis. The Trustee has therefore agreed to report on the previously completed scenario analysis which was undertaken in 2024.

Defined Contribution (DC) Sections

Having previously conducted scenario analysis for the DC sections of the Scheme as part of the first reporting process, the Trustee refreshed the analysis in the 2024 report, at 30 September 2023, to reflect changes in the modelling approach as well as to cover the default investment strategy in full (assuming a member joins the Scheme and is invested in the default lifestyle arrangement until retirement).

To help with this assessment, the Trustee has defined short-, medium- and long-term time horizons for the DC sections of the Scheme.

Short Term	Medium Term	Long Term
5 years *(reflecting a short period of service, remaining in the scheme for a small number of years)*	**20 years**	**40 years** *(reflecting the potential time in the scheme for a relatively young new joiner, remaining to retirement)*
Risks may present themselves through rapid market re-pricing relating to climate transition	Risks are likely to be more balanced reflecting both transition and physical risk	Physical risks are expected to come to the forefront

The Trustee has considered the following short, medium and long-term drivers of risk in relation to climate change.

Over the short term (out to 5 years), risks may present themselves through rapid market re-pricing relating to climate transition as:

- Scenario pathways become clearer. For example, a change in the likelihood of a well below 2°C scenario occurring (i.e. an increase in probability would be expected to drive additional transition risk).
- Market awareness grows. For example, the cost and impacts of the transition suddenly influence market pricing.
- Policy changes unexpectedly surprise markets. For example, if a carbon price or significant regulatory requirement was introduced across key markets to which the portfolio is exposed, at a sufficiently high price to impact behaviour.
- Market sentiment is shocked. For example, falls in markets could create a downward spiral where economic sentiment worsens and asset values fall.
- Perceived or real increased pricing of greenhouse gas emissions/carbon.
- Substitution of existing products and services with lower emission alternatives may impact part of the portfolio.
- Litigation risk relating to dangerous warming becoming more prevalent.
- Increases in the energy/heat efficiency of buildings and infrastructure.

As well as risks associated with these drivers, there could also be opportunities. For example, investing in climate solutions as policy support strengthens.

Over the medium term (out to 20 years), risks are likely to be more balanced reflecting both transition and physical risk. Over this time period the transition pathway will unfold and the level of anticipated physical damage will become much clearer. While the full extent of the physical damage is unlikely to have occurred markets are likely to be allowing for it to a large degree in asset pricing.

Over the long term (40 years and beyond), physical risks are expected to dominate. This includes the impact of natural catastrophes leading to physical damages through extreme weather events. Availability of resources is expected to become more important if changes in weather patterns (e.g. temperature or precipitation) affect the availability of natural resources such as water. The impact of global heating on productivity, particularly in areas closer to the equator, will also be a key driver.

Climate-related risks and opportunities relevant to the Scheme

In respect of the Scheme's DC popular arrangements (i.e. the investment arrangement in the DC sections which is most used by members), the following risks and opportunities have been identified:

- Over the short term, the Trustee has identified the inter-related risk of climate transition risk and asset repricing risk as being most relevant to the DC popular arrangements. Over this time period opportunities are most likely to occur in transition-related investments such as climate solutions.
  - 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 and reducing investment in high-emitting carbon sensitive businesses/assets that do not have a business plan that supports the transition to a low carbon economy. This is consistent with action taken historically to invest the growth phase of the default in 'sustainable' strategies.
- Over the medium term, the Trustee has concluded that both transition risk and physical risk (particularly in the form of asset repricing to allow for future physical damages) could be material.
  - The Trustee's ability to understand these changes and evolve the portfolio as the pathway develops should help to control risk and potentially enhance returns. The Trustee seeks to select managers and choose indices that can identify the potential emergence of low carbon opportunities and the decline of some traditional sectors.
- Over the long term, the Trustee has identified physical risk as the key driver of climate-related risk.

The Trustee has investigated the potential impacts of these risks and opportunities in the scenario analysis. The Trustee notes that the DC sections are likely to be impacted to a greater extent over the medium- and long-term, given the expected investment strategy needed to generate good member outcomes.

Testing the resilience of the investment strategy

Scenario analysis

The Trustee has undertaken climate scenario analysis to test the resilience of the investment strategy adopted by the Trustee for the DC sections.

Quantitative climate change scenario analysis has been undertaken on the Trustee's 'popular arrangements' to assess the potential implications of climate change under three modelled scenarios:

- **Rapid Transition (1.5°C)**
  Average temperature increase of 1.5°C by 2100 (relative to pre-industrial average). This scenario assumes a sudden downward re-pricing across asset classes in 2026. This could be driven by a change in policy, consideration of stranded assets, or expected costs. The shock is partially sentiment driven and so is followed by a partial recovery. Physical damages are most limited under this scenario.
- **Orderly Transition (less than 2°C)**
  Average temperature increase of less than 2.0°C by 2100. Governments and wider society act in a co-ordinated way to decarbonise and to limit global warming to well below 2°C. Transition impacts do occur but are relatively muted.
- **Failed Transition (greater than 4°C)**
  Average temperature increase above 4°C by 2100. The world fails to co-ordinate a transition to a low carbon economy. Physical climate impacts significantly reduce economic productivity and have increasingly negative impacts including from extreme weather events. These are reflected in re-pricing events in the late 2020s and late 2030s.

For the purposes of this analysis, the popular arrangements for the DC sections are the default lifestyle arrangements ("Target: lump sum"). No other strategies meet the criteria of a popular arrangement as at Scheme year-end used for the scenario analysis. Further information on the modelling approach is included in the **Technical Section**.

The analysis is based on scenarios developed by Mercer working with Ortec Finance. These scenarios were selected by the Trustee to test a broad range of feasible outcomes and the Scheme's exposure to both transition and physical risks.

In designing scenario analysis a fundamental decision is whether to assume that any climate impacts are priced in today. The analysis in this report is expressed relative to a 'climate-informed' baseline[1]; the implication is that all return impacts are presented in terms of how they are different to what we are assuming is priced in today.

Further detail on climate scenario narratives, including modelling assumptions and limitations, is included in the **Technical Section** of this report.

[1] The baseline represents what we are assuming the market is currently pricing in. The baseline includes a 10% weight to a **Failed Transition**, 40% weight to an **Orderly Transition**, 10% to a **Rapid Transition** and 40% to a range of **low impact scenarios**.

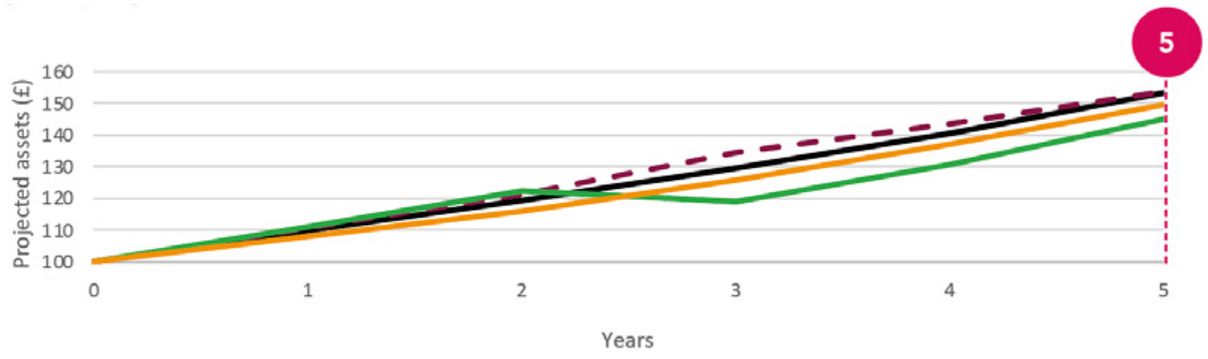
Scenario Analysis Results

The charts on the following pages represent the output of the Trustee's quantitative scenario analysis on the DC sections' popular arrangements.

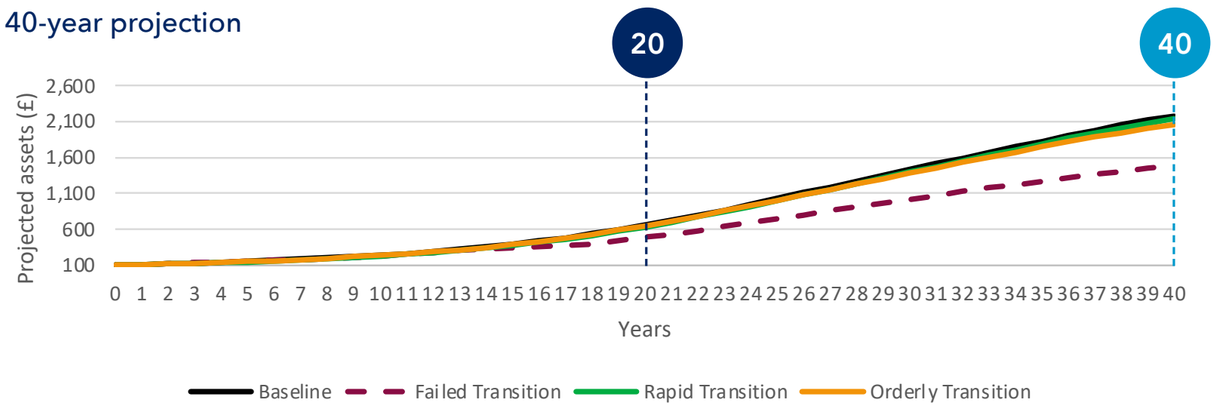
The charts show the impact on member outcomes of the chosen scenarios, using two primary metrics: 'Growth of £100' (removing any impact of contributions, to isolate the impact of investment returns) as well as the impact on annualised returns. Analysis assumes that a member joins the Scheme at age 25 and is invested in the default lifestyle arrangement until retirement. A full results table is included in the **Technical Section** for completeness.

Growth of £100 – Co-op Section

5-year projection

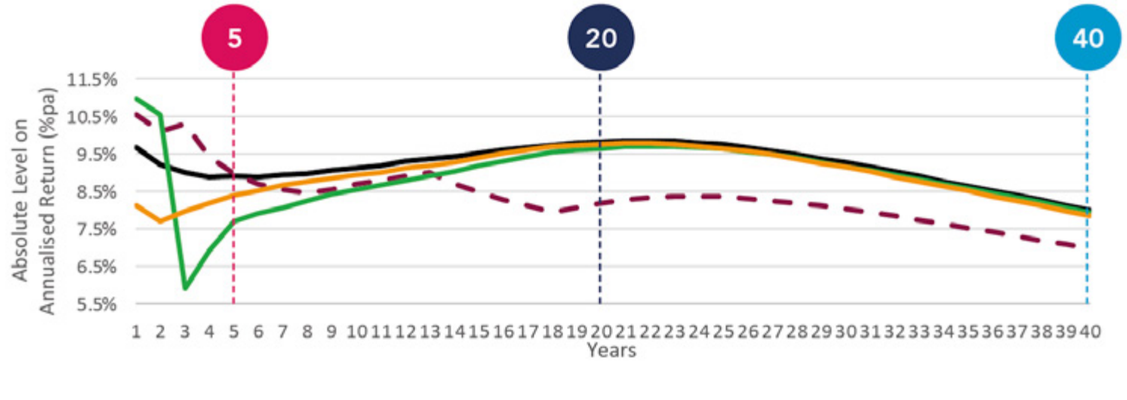


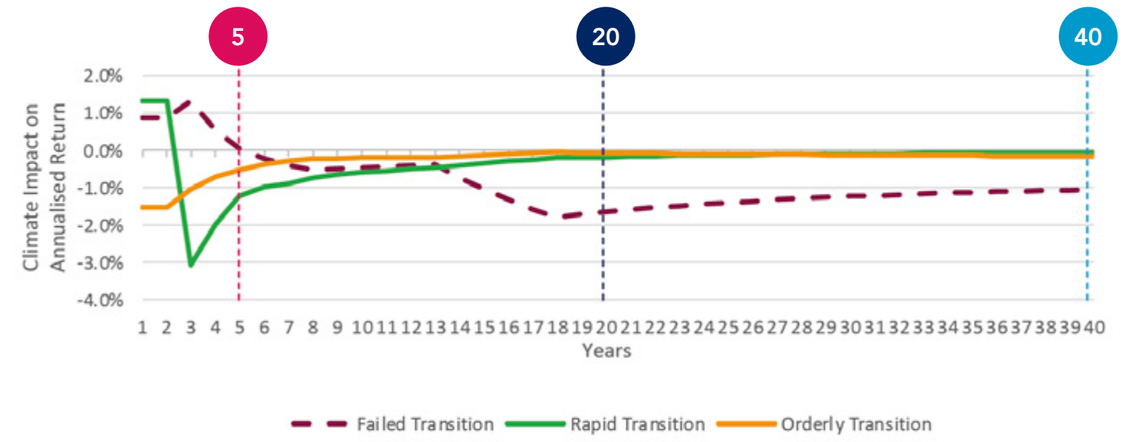
40-year projection



Annualised returns

Target: Lump Sum (Co-op Section)

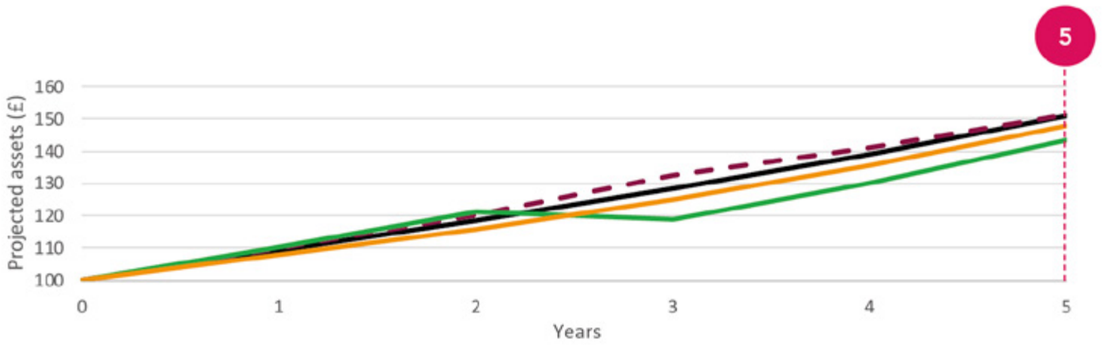




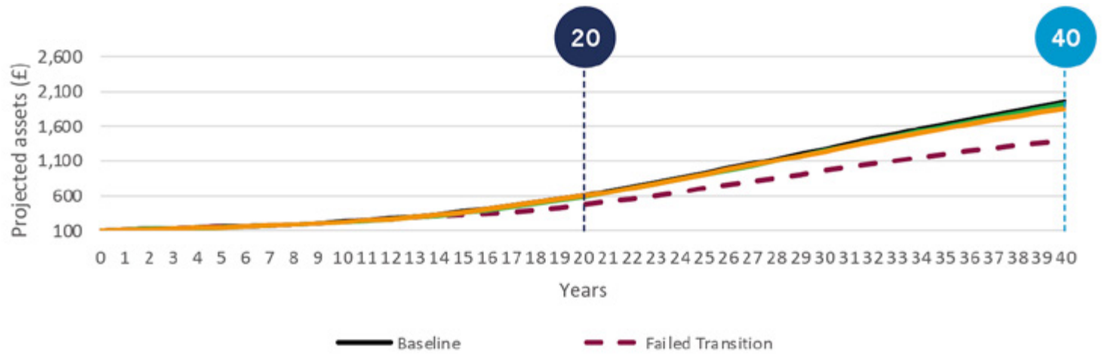
Source: Mercer

Growth of £100 – Bank Section

5-year projection

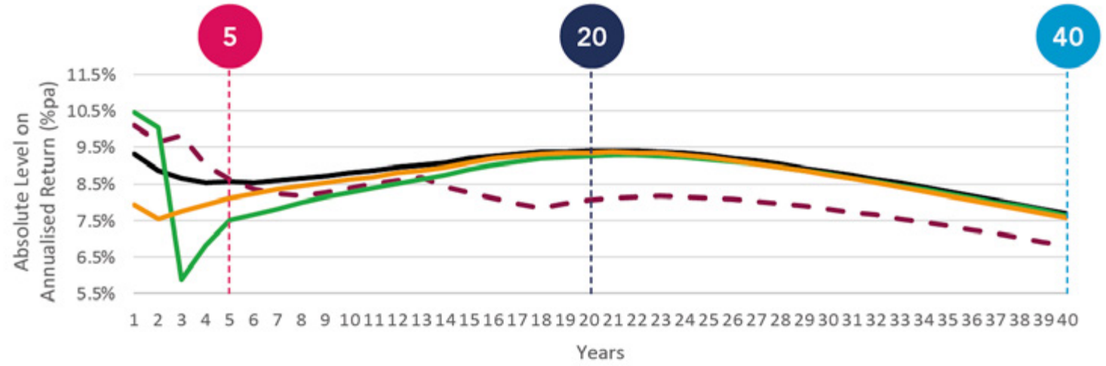


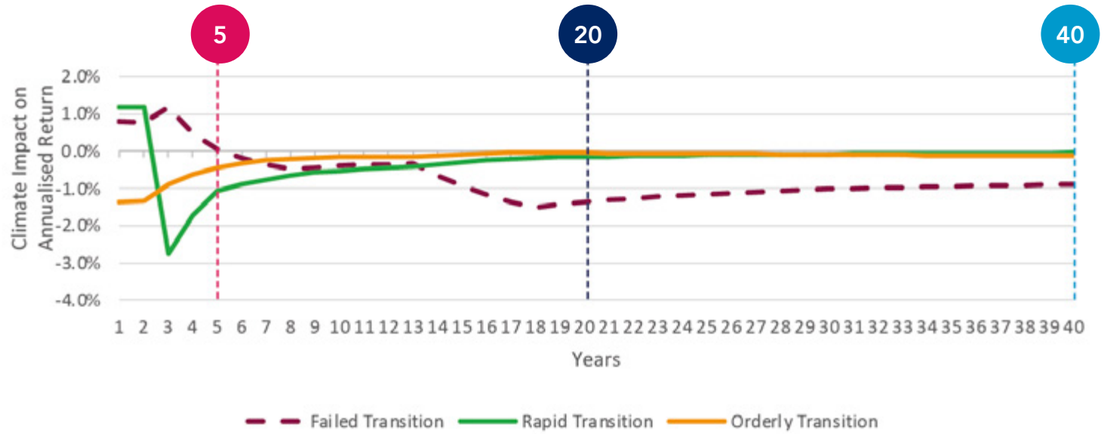
40-year projection



Annualised returns

Target: Lump Sum (Bank Section)





Source: Mercer

Scenario Analysis Findings

In light of the above quantitative analysis, the Trustee noted the following findings (for both the Co-op and Bank Sections of Pace DC):

Short Term (5 years)	Over the short term, transition risk dominates with the Rapid Transition having the biggest impact. An initial fall in asset returns (relative to baseline) is driven by a transition shock impacting the economy and investment markets causing losses. This could be driven by unprecedented policy action, with markets initially overreacting before partially recovering. The actual timing of any shock or recovery is uncertain. The impact of the Rapid Transition scenario is mitigated by the tilts within the default investment strategy to climate-aligned funds.
Medium Term (20 years)	Over the medium term, physical risks begin to dominate, impacting returns by more than 1% p.a. Any negative impact under a Rapid Transition has largely been worked through over the medium term, with returns relatively similar to the baseline scenario.
Long Term (40 years +)	Over the long term, physical impacts become significant, with the Failed Transition resulting in significant falls in asset values and investment returns relative to the baseline. Analysis suggests that members' pot sizes could be c40% lower at retirement under a Failed Transition compared to the baseline, a significant difference and one that could impact members' ability to maintain a comfortable standard of living in retirement.

Differences between the Co-op and Bank Section are as a result of the variation in asset allocations between the Sections (primarily the lower allocation to equities within the Bank Section), with the divergence increasing over time as returns are compounded.

Key conclusions

Conclusion 1 – A successful transition is an imperative

Over the long term for nearly all investors (including the Scheme) a successful transition leads to enhanced projected returns when compared to scenarios associated with higher temperature outcomes, due to lower physical damages under a successful transition scenario.

The quantitative analysis in this report highlights the negative financial impact associated with the Failed Transition (40% impact on pot size after 40 years) and the corresponding need for Trustees to invest to support a successful transition within their fiduciary duty.

Conclusion 2 – Sustainable allocations protect against transition risk, while growth assets are highly vulnerable to physical risk

Asset class returns vary significantly by scenario depending on their respective exposure to transition and physical risks. This is very important for DC Schemes to consider, bearing in mind the continued reliance on growth assets for decades into the future.

Allocating to ESG/sustainable equity (as Pace DC has done) provides material protection from a Rapid Transition scenario, whilst over the long term this does not result in material underperformance relative to the broad market under a Failed Transition scenario.

This finding informs Trustee decision making when selecting suitable sustainable investments.

Conclusion 3 – Sector exposure is key

Climate impacts are naturally sector specific. This finding informs Trustee thinking when making strategic asset allocation decisions. The Trustees can discuss sector exposures with its current investment managers, helping to prioritise areas of focus for engagement or decarbonisation planning.

Conclusion 4 – Investors should be aware of future pricing shocks

Investors, and therefore "the market", look to predict future events / impacts and allow for them in asset prices. As particular events become more likely, market pricing will change before the events occur. This means that longer-term impacts, including transition impacts and particularly physical damages, could impact portfolios earlier than they occur.
The quantitative analysis in this report seeks to demonstrate the impacts of such shocks.

Defined Benefit (DB) Sections

Following the completion of the buy-in transactions for the Bank Section in December 2022 and the Co-op Section in November 2023, the Trustee recognises that the direct management of climate-related transition and physical risks have now largely become the responsibility of the insurers, and the Trustee has no ability to influence the investment strategy pursued by the insurers. The only separate assets remaining are the cash holdings held for both Sections of the Scheme by the Trustee, which, given the very short-term nature of the underlying investments, are not expected to have any material exposure to climate-related risk.

Therefore, quantitative scenario analysis has not been undertaken for the DB sections of Pace. In addition, the Trustee does not believe it appropriate to include the previous quantitative analysis for the DB sections in this report, as it no longer reflects the position of the Scheme.

Instead, the Trustee has considered a qualitative assessment of the impact of different climate scenarios on the assets and liabilities of the Scheme: fundamentally, the funding position of the DB sections will not be impacted by climate-related risks, given the Trustee has purchased buy-in contracts to match the Scheme's liabilities. Members will ultimately be reliant on the covenant of the selected insurers (and the insurance industry more broadly) to ensure their benefits are paid in full and on time, and climate risk was considered alongside other ESG factors in the insurer selection process.

Mercer's qualitative analysis on climate change scenarios for the DB sections has led to the following key findings:

- DB assets and liabilities will largely move in line with each other regardless of which climate scenario ultimately unfolds, given the Scheme holds annuity policies to cover its benefits. Shocks to financial markets will therefore not result in any material change to the funding levels of the DB sections.
- Given the insurer buy-in policies in place, the Scheme is reliant on the insurers taking account of climate-related risks in their management of their asset portfolios. As such, climate-related risks were considered as part of the selection process for the insurers.
- In addition, the Trustee (through their DB investment advisor) has reviewed the insurer's climate disclosures to ensure that the insurers are appropriately managing climate-related risks and opportunities. All of the insurers have published climate reports and have set net zero objectives for their invested assets.
- Reliance on the sponsor covenant is expected to be very low given the annuity policies held to meet benefit payments, and as the Sections still hold residual cash that could meet unanticipated liabilities that emerge.
- The sponsoring employers of Pace, Co-operative Group Limited and others (Co-op Section) and the Co-operative Bank (Bank Section), will be exposed to climate-related risks. When this was last considered in June 2024 and June 2023 for the Co-op and Bank Sections respectively, it was considered that 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 (and given the investment strategy in place for Pace DB, which as above places limited reliance if any on the strength of sponsor covenant).
- The Trustee has received analysis on the financial strength of all insurers the Scheme holds policies with and is happy with their position. The Trustee is also comforted by the regulatory regime in place for protecting against potential losses.

Metrics and Targets

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 five and six 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 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 which temperature warming scenario the portfolio is currently aligned with).

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

Metric	Type of Metric	Description	Reported for DC/DB?
Total carbon emissions	Absolute emissions	Absolute greenhouse gas emissions associated with a portfolio (tCO_2e)	DC and DB
Weighted average carbon intensity (WACI)	Emissions intensity	Exposure to carbon-intensive companies (tCO_2e / $m revenue)	DC and DB
Carbon Footprint	Emissions intensity	Total greenhouse gas emissions, standardised per $m invested ($tCO_2e$ / $m invested)	DC and DB
Implied temperature rise	Alignment metric	An indication of how the portfolio aligns to a global temperature warming level (°C)	DC and DB
Percentage of portfolio with Science Based Targets (SBT)	Alignment metric	% of companies in a portfolio that have submitted climate transition plans that have been approved by the Science Based Targets Initiative	DB only
Data Quality	Non-emissions metric	Represents the proportions of the portfolio for which the Trustee has high quality data	DC and DB

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 advisors 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.

For the Pace DC assets managed by L&G, all metrics have been calculated and reported based on holdings in listed equities, corporate bonds and sovereigns only. L&G provided data for each fund in which Pace DC invests, however they were unable at the current time to report on the Pace Growth (Shariah) Fund (a self-select fund which represents a small proportion of Pace DC's assets).

For Pace DB, all metrics have been provided by the bulk annuity providers for the two Sections, together with the fund manager for the residual cash held.

Pace DC

Manager	Mandate	Data obtained	Scope 1 & 2	Scope 3	Comments where data unavailable or partial data provided
L&G	Pace – Build Your Pot Fund	✓	✓	✓	
L&G	Pace – Consolidate Your Pot Fund	✓	✓	✓	
L&G	Pace – Take Your Pot – as cash	✓	✓	✓	
L&G	Pace – Take Your Pot – as drawdown	✓	✓	✓	
L&G	Pace – Take Your Pot – as annuity	✓	✓	✓	
L&G	Pace Growth (shares) 2021 Fund	✓	✓	✓	
L&G	Pace Growth (Mixed) Fund	✓	✓	✓	
L&G	Pace Growth (Ethical Shares) Fund	✓	✓	✓	
L&G	Pace Growth (Shares) Fund	✓	✓	✓	
L&G	Pace Pre Retirement Inflation Linked Fund	✓	✓	✓	
L&G	Pace Pre Retirement Fund	✓	✓	✓	
L&G	Pace Cash Fund	✓	✓	✓	L&G are currently unable to provide data quality metrics for this fund.
L&G	Pace Growth (Shariah) Fund	✗	✗	✗	L&G are currently unable to provide climate-related metrics for this fund.

Pace DB

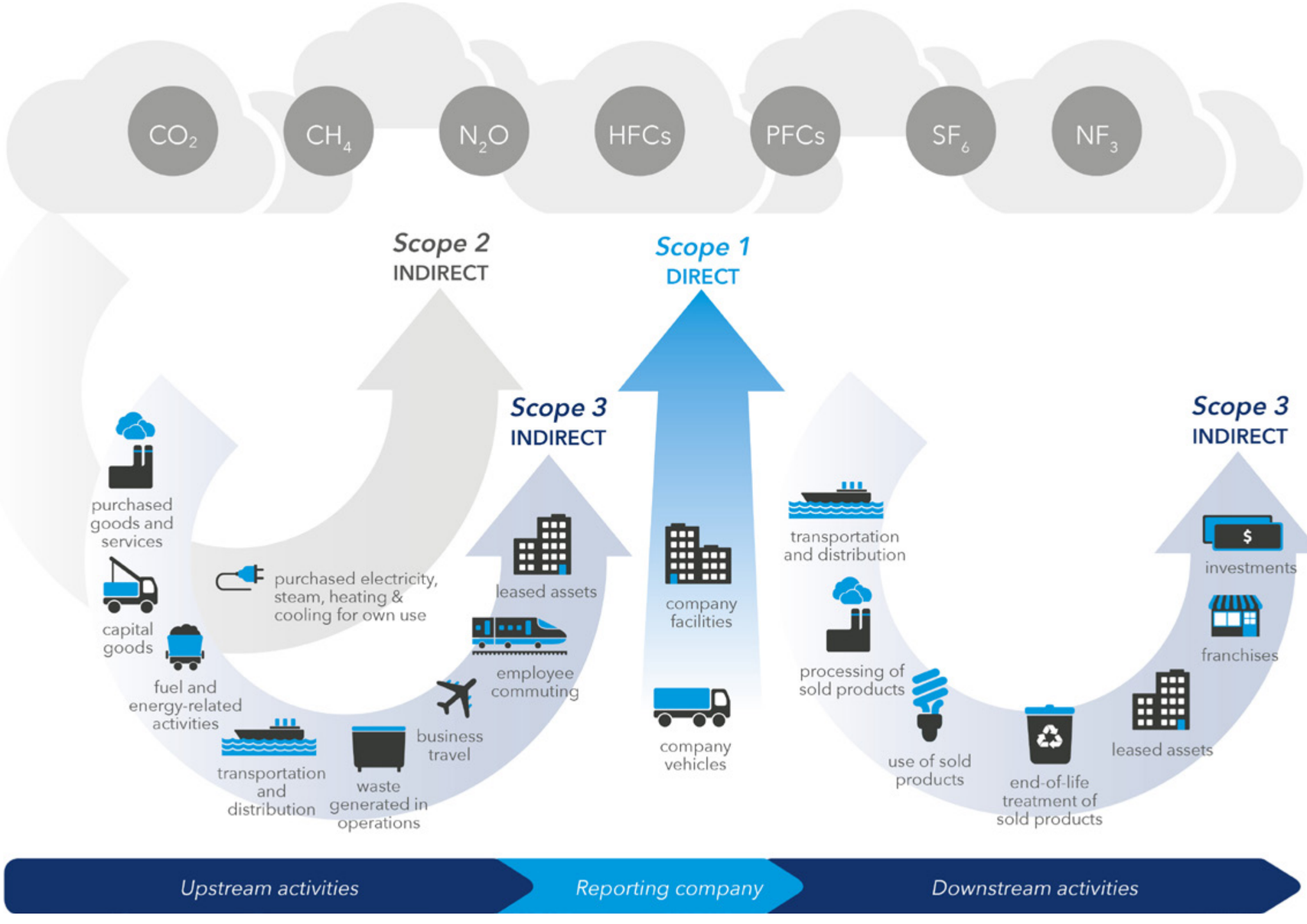
Manager/ Insurance provider	Mandate	Data ob-tained	Scope 1 & 2	Scope 3	Comments where data unavailable or partial data provided
Pension Insurance Corporation ("PIC")	Buy-in	✓	✓	✓	PIC were unable to provide information relating to Sovereign WACI, Science Based Targets, or implied temperature rise.
Aviva	Buy-in	✓	✓	×	Aviva were unable to provide a breakdown of data quality. Aviva were unable to provide information relating to Sovereign WACI, Science Based Targets, or implied temperature rise.
Rothesay	Buy-in	✓	✓	×	The portfolio for Rothesay excludes Money Market/Cash holdings. Rothesay only provide carbon footprint and absolute emissions data at the total portfolio level, and it is therefore not split out between corporate and sovereign exposure. Rothesay were unable to provide a breakdown of data quality.
BlackRock	Pooled Cash Fund	✓	✓	×	BlackRock were unable to provide information on Implied Temperature Rise.

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.



Source: GHG Protocol

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_2e).

As per reports since 2022, scope 1, 2 and 3 emissions have been reported in this year's report, as required by regulation; in the Trustee's first climate change risk assessment report in 2021 only scope 1 and 2 emissions were reported.

- **Scope 1 'direct' emissions**: those from sources owned or controlled by the company (e.g. direct combustion of fuel from vehicles).
- **Scope 2 'indirect' emissions**: those caused by the generation of energy (e.g. electricity) purchased by the company.
- **Scope 3 'indirect' emissions**: emissions associated, not with the company itself, but what the organisation is indirectly responsible for, up and down its value chain.

Scope 3 emissions are included within the metrics analysis of this report. However, given the disclosure of scope 3 emissions remains in its infancy, scope 3 metrics have not to date been used by the Trustee for setting any base line target metrics or for monitoring progress against existing targets. In the view of the Trustee, the availability of scope 3 disclosure remains insufficient to use reliably in carbon foot-printing analysis, and the inclusion of scope 3 emissions can lead to 'double counting' at the portfolio level.

The Trustee will continue to work with Mercer, LCP and the investment managers/insurers to improve scope 3 data in future reports.

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

2. Carbon Footprint

This metric reflects total carbon emissions for a portfolio, weighted to take account of the size of the investment (tCO_2e /$m invested).

Portfolio Alignment 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).

Non-emissions based metric

Data Quality

Data Quality aims to represent the proportions of the portfolio for which the Trustee has high quality data. The Trustee has considered whether the underlying emissions data has been verified by a third party, reported by the company, estimated by the data provider, or unavailable to determine how representative the analysis is of the Scheme's actual portfolio.

Data Quality also assists the Trustee in monitoring quality of reporting over time, as companies are expected to continually improve their reporting on climate-related metrics. As the quality of data improves, the decision usefulness of the climate metrics reported on the Scheme's portfolio increases. In addition, the Trustee is able to identify the companies in the portfolio that are not currently reporting emissions data and use this as the basis for engagement.

Progress relative to Targets

Pace DC

Previously, the Trustee has set a long-term target for the DC default option of 'net zero' emissions by 2050 and a short-term target of 50% carbon reduction (scope 1 & 2) by 2030, using a base year of 2021 and measured using WACI. This target applies to listed equities and corporate bonds.

Despite now having four years of data, it is difficult to draw meaningful conclusions from the metrics data alone given the quality of data that can be obtained.

Nonetheless, when comparing the progression of the Scheme against these targets using the 2021 baseline, all of the funds have seen a reduction in WACI. The WACI for the 'Pace Build Your Pot Fund' (the largest overall allocation in the default investment strategy) for the Co-op and Bank Sections has fallen from 152.8 to 103.8 (32.1% reduction) relative to the 2021 baseline. Global real-world emissions continue to rise, therefore, whilst the focus is to decarbonise the investment portfolio over time, understanding how underlying companies are expected to transition to a low carbon economy (via our portfolio alignment metric) is also important.

Given Pace DC's assets are invested in pooled funds, the Trustee has engaged with L&G in relation to the alignment of the funds underlying the Pace DC fund range with this objective.

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 absolute emissions (scope 1 & 2) by 2030 (2021 baseline), which both the Co-op Section and Bank Section have already achieved as at 31 December 2024, with reductions of 50.0% and 49.9% respectively.

It is worth noting that the investment strategy for the DB sections has fundamentally changed, moving from a low risk LDI/Credit-based strategy to one almost entirely comprising buy-in policies covering the known DB liabilities. However, we have presented analysis in the remainder of this section that demonstrates the change in emissions over the last four reporting periods. The fall in absolute emissions will be driven by a range of factors including market movements (notably the sharp rise in bond yields since the end of 2021), as well as changes in investment strategy (notably the completion of the buy-in transactions).

Following the buy-in transactions implemented for Pace DB, future progress versus the legacy objectives is (largely) contingent on the decarbonisation pathways followed by the three bulk annuity providers – each of which are broadly aligned with, or more ambitious than the Trustee's own policy (in the case of Aviva, which has a 2040 net zero target).

Given the nature of the insurance policies held, the Trustee has limited control over its ability to achieve its climate targets beyond the initial selection of the insurers. A wide range of factors will affect whether the Trustee is able to achieve its targets. 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.

Pace DC – as at 31 December 2024, completed by LCP and CPD using underlying holdings data provided by L&G. Scope 1 and 2

Mandate	Corporate/ Sovereign	Manager	Allocation (%)	Absolute emissions (tCO_2e based on value of investment) [1]		Carbon footprint (tCO_2e per $1 million EVIC)[1]		WACI [1,2] (tCO_2e/$million sales)		Implied Temperature Rise (°C) [3]	
				Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2	Coverage (%)	Scope 1 + 2	Coverage (%) [3,4]	ITR
Pace – Build Your Pot Fund	Corporate	L&G	51.3	90	33,334	90	52	92	104	93.1	2.6
	Sovereign			N/A	3,492	N/A	104	N/A	231		
Pace – Consolidate Your Pot Fund	Corporate	L&G	23.3	72	10,413	72	39	76	79	84.1	2.5
	Sovereign			N/A	5,267	N/A	104	N/A	231		
Pace – Take Your Pot – as cash	Corporate	L&G	9.6	45	2,413	45	16	48	32	22.6	2.4
	Sovereign			N/A	659	N/A	91	N/A	201		
Pace – Take Your Pot – as drawdown	Corporate	L&G	0.1	63	60	63	34	66	68	63.5	2.5
	Sovereign			N/A	25	N/A	101	N/A	226		
Pace – Take Your Pot – as annuity	Corporate	L&G	0.1	40	31	40	36	46	54	61.0	2.0
	Sovereign			N/A	19	N/A	60	N/A	126		
Pace Pre-Retirement Fund	Corporate	L&G	0.0	42	12	42	46	49	68	80.7	2.0
	Sovereign			N/A	9	N/A	60	N/A	126		
Pace Growth (Ethical Shares) Fund	Corporate	L&G	1.4	98	659	98	36	99	65	98.5	2.6
Pace Growth (Mixed) Fund	Corporate	L&G	8.4	72	3,777	72	39	76	79	84.1	2.5
	Sovereign			N/A	1,910	N/A	104	N/A	231		
Pace Growth (Shares) Fund	Corporate	L&G	0.1	95	74	95	54	95	105	93.3	2.7
Pace Pre-Retirement Inflation-Linked Fund	Corporate	L&G	0.0	32	12	32	42	37	63	85.0	2.0
	Sovereign			N/A	17	N/A	60	N/A	126		
Pace Growth (Shares) 2021 Fund	Corporate	L&G	3.6	97	2,654	97	56	99	113	97.0	2.7
Pace Cash Fund	Corporate	L&G	1.9	36	58	36	0	38	1	N/A	1.9
	Sovereign			N/A	32	N/A	60	N/A	126		
Co-op Section – Popular Arrangement (aggregate)[5]	**Corporate**	**L&G**	**81.4**	**84**	**45,025**	**84**	**47**	**87**	**95**	**83.4**	**2.6**
	Sovereign			**N/A**	**9,090**	**N/A**	**103**	**N/A**	**229**		
Bank Section – Popular Arrangement (aggregate)[5]	**Corporate**	**L&G**	**9.9**	**80**	**4,830**	**80**	**45**	**83**	**90**	**81.8**	**2.5**
	Sovereign			**N/A**	**1,598**	**N/A**	**104**	**N/A**	**230**		

Source: L&G, LCP and Mercer only for conversion of carbon footprint and WACI metrics from £m to $m. Data as at 31 December 2024; totals may not sum to 100%

[1]Coverage for Scope 1 and Scope 2 emissions only. [2]WACI stands for Weighted Average Carbon Intensity. The metric has been derived on a per $1m of GDP basis for sovereign assets. [3]L&G has not provided temperature alignment separately for sovereign assets therefore the figure shown in the sovereign row includes all Fund assets. [4]We have reported on data coverage for Implied Temperature Rise. This reflects that the metric is calculated by L&G where data is available, and so the typical data quality "estimated/reported/unavailable" breakdown does not apply. [5] The "popular arrangements" use the underlying funds set out in the table; as a result total allocations do not sum to 100% - approximately 91.3% of assets are held through the default options, with the remaining 8.7% via self select funds or other lifestyle options.

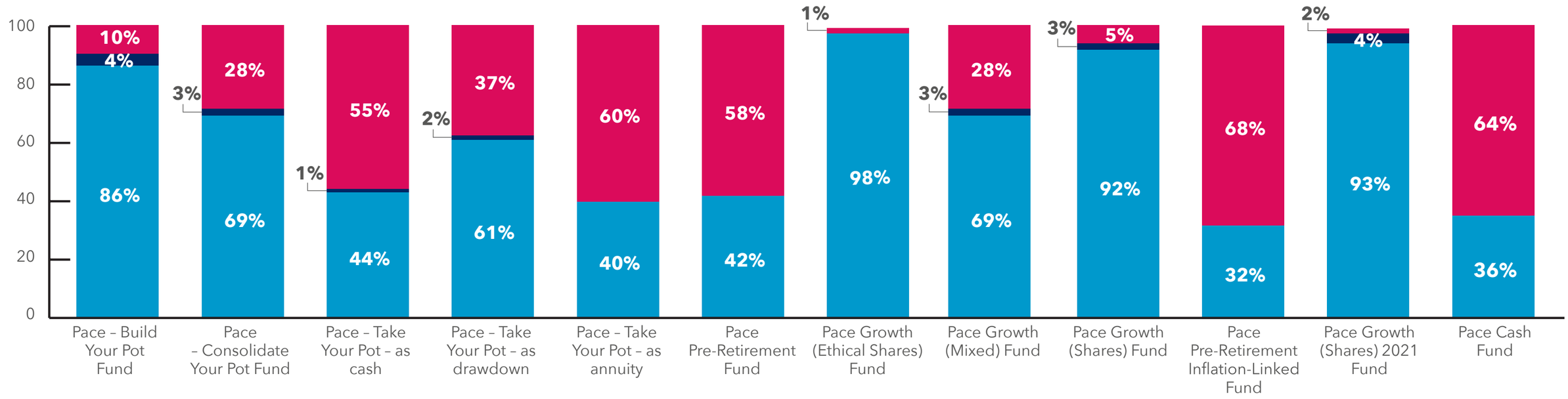
Scope 3

Mandate	Manager	Allocation (%)	Absolute emissions (tonnes CO_2e)	Total Carbon Footprint (tonnes CO_2e per $1 million EVIC)	WACI[1] (tCO_2e/$million sales)
Pace – Build your Pot Fund	L&G	51.6	490,896	775	1,321
Pace – Consolidate Your Pot Fund	L&G	23.3	133,448	534	1,031
Pace – Take Your Pot – as cash	L&G	9.6	24,569	379	1,440
Pace – Take Your Pot – as drawdown	L&G	0.1	663	497	1,129
Pace – Take Your Pot – as annuity	L&G	0.1	296	483	1,198
Pace Pre-Retirement Fund	L&G	0.0	131	542	1,063
Pace Growth (Ethical Shares) Fund	L&G	1.4	9,052	490	843
Pace Growth (Mixed) Fund	L&G	8.4	48,405	534	1,031
Pace Growth (Shares) Fund	L&G	0.1	872	665	1,058
Pace Pre-Retirement Inflation-Linked Fund	L&G	0.0	150	581	1,151
Pace Growth (Shares) 2021 Fund	L&G	3.6	40,107	851	1,417
Pace Cash Fund	L&G	1.9	122,649	275	1,710
Co-op Section – Popular Arrangement (aggregate)	**L&G**	**81.4**	**634,402**	**669**	**1,253**
Bank Section – Popular Arrangement (aggregate)	**L&G**	**9.9**	**104,673**	**591**	**1,162**

Source: L&G, LCP and Mercer only for conversion of carbon footprint and WACI metrics from £m to $m. Data as at 31 December 2024. Coverage for scope 3 emissions was not available at the time of writing.
[1]WACI stands for Weighted Average Carbon Intensity.

While estimates suggest that scope 3 accounts for over 80% of total emissions in the median MSCI World company, we do not believe that scope 3 data is particularly informative at this stage as data quality is poor. In particular, there are a number of complex challenges around scope 3 emissions that require careful handling. However, there has been a requirement for schemes to report scope 3 emissions since the second year of climate change risk assessment reporting.

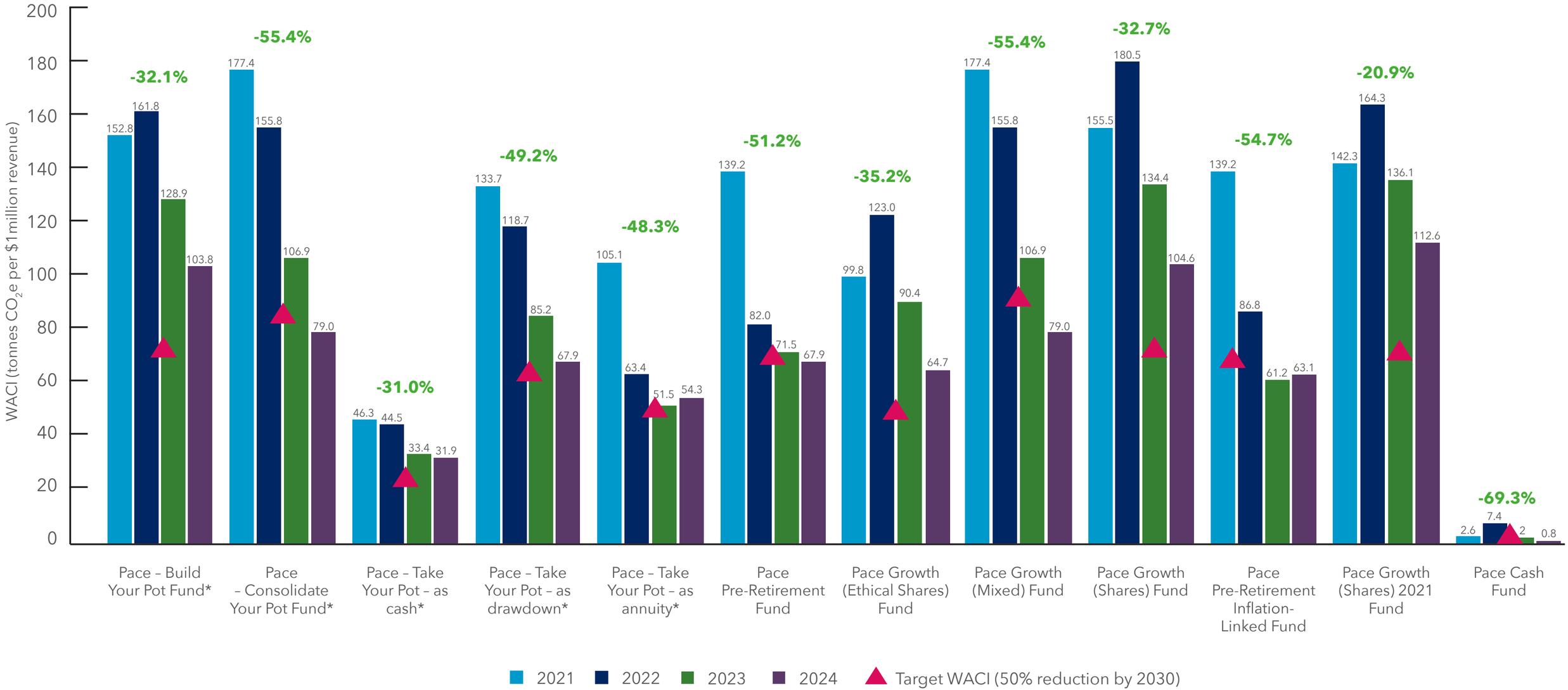
Data Quality (absolute emissions and carbon footprint)



Source: LCP Data as at 31 December 2024. Data quality reported for corporate holdings only.

Metrics Evolution

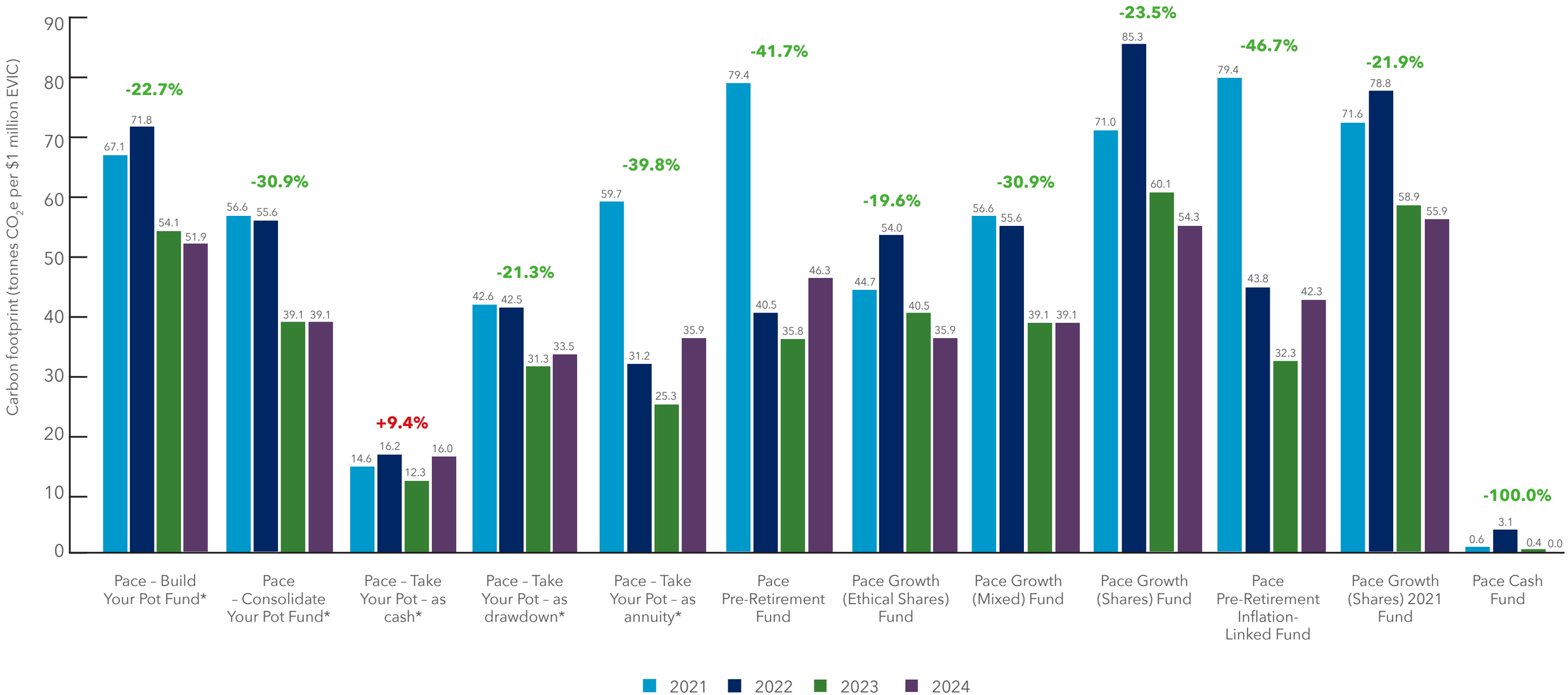
Weighted Average Carbon Intensity (WACI)



Source: LCP, L&G and Mercer only for conversion of 2024 carbon footprint and WACI metrics from £m to $m as at 31 December 2021, 31 December 2022, 31 December 2023 and 31 December 2024. Given the low data quality for sovereign assets, we have only shown year on year changes for corporate assets.

*Please note that these funds were launched in Q3 2023. Therefore data shown prior to this has been calculated using underlying holdings data.

Total Carbon Footprint



Source: LCP, L&G and Mercer only for conversion of 2024 carbon footprint and WACI metrics from £m to $m as at 31 December 2021, 31 December 2022, 31 December 2023 and 31 December 2024. Given the low data quality for sovereign assets, we have only shown year on year changes for corporate assets

*Please note that these funds were launched in Q3 2023. Therefore data shown prior to this has been calculated using underlying holdings data.

Conclusions

- The provision of these metrics is still in its infancy and therefore there are some data gaps.
- The total absolute carbon emissions are given for each of Pace DC's funds. Naturally, the funds with the largest asset values have the largest total absolute carbon emissions.
- The equity funds have seen decreases in carbon footprint over the year with this increasing for fixed income funds over the year. In 2022, L&G implemented ESG tilts and exclusions to the underlying funds for the Pace Pre-Retirement Fund and Pace Pre-Retirement Inflation-Linked Fund, through their range of Future World index funds which has impacted positively on carbon footprint for the funds.
- Almost all funds have seen decreases in WACI over the year on a Scope 1 and 2 basis. We have also included the target WACI based on a 50% reduction by 2030 in the chart – almost all of the funds are on track to be ahead of this target, with some already ahead. We note that data is still subject to noise from poor data quality (and the chart does not include WACI for sovereign data) however, we expect trends to become clearer as data quality improves over time.

Co-op Section (DB) – as at 31 December 2024

Scope 1 and 2

Asset Class	Manager	Mandate	Whole Mandate Actual Allocation	Eligible Actual Allocation (for respective asset class)	Absolute Emissions (tons CO_2e) Scope 1+2		Carbon Footprint (tons CO_2e / $M invested) Scope 1+2		WACI (tons CO_2e / $M revenue) Scope 1+2		% of Portfolio with Science Based Targets	Implied Temperature Rise (°C)	
					Coverage	Metric	Coverage	Metric	Coverage	Metric	Metric	Coverage	Metric
Mixed Asset Classes Excluding Sovereign	**Aviva[1]**	Buy In Policy	15.0%	12.0%	95.0%	24,997	95.0%	33.7	95.3%	83.1	39.0%	63.0%	2.2°C
	PIC[2]	Buy In Policy	11.1%	6.8%	56.5%	21,100	56.5%	63.6	59.1%	213.9	19.0%	37.0%	2.1°C
	Rothesay[3]	Buy In Policy	67.7%	42.4%	87.0%	287,669	87.0%	68.7	91.0%	120.0	44.0%	87.0%	1.8°C
Total Excluding Sovereign				**61.2%**	**85.2%**	**333,765**	**85.2%**	**61.2**	**88.3%**	**123.3**	**40.2%**	**76.7%**	**-**
Sovereign	**Aviva[1]**	Buy In Policy	15.0%	3.1%	92.0%	28,923	92.0%	153.3	-				
	PIC[2]	Buy In Policy	11.1%	4.2%	99.0%	24,950	99.0%	95.0					
Total Sovereign				**7.3%**	**96.1%**	**53,874**	**96.1%**	**119.4**	**-**				
Cash	**BlackRock**	**Cash**	**6.1%**	**6.1%**	**95.8%**	**140**	**95.8%**	**0.4**	**95.8%**	**2.3**	**3.6%**	**-**	**-**
Total (absolute emissions)			**100%**	**-**	**-**	**387,779**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Source: Investment managers, MSCI, Mercer calculations. Data as at 31 December 2024.

[1] For Aviva, the reported ITR for credit and equities is 2.2°C and 3.0°C for sovereigns Aviva only considers £225.4bn for the climate metrics portion of the total AUM of £406.9bn (they include external assets that are managed on behalf of third parties). All metrics consider Shareholder (SH), With-profits (WP), Policyholder (PH). The coverage for ITR is based on the AUM included in the statement of financial position for £313.0bn. Please note that the WACI & Carbon Footprint has been calculated as per Mercer Methodology.

[2] For PIC, the SBTi Allignment considers approved and commited targets. The metrics for PIC are based on the whole portfolio instead of the matching adjustment portfolio, as the asset class breakdown was only available for the former.

[3] The portfolio for Rothesay excludes the UCTIS MM Fund/Cash. Please note that the manager has provided a carbon footprint at a total portfolio level, which includes the sovereign portion and hence the Absolute Emissions has been calculated based on Carbon Footprint as per Mercer Methodology. The coverage for the Carbon Footprint & the Absolute Emissions are also at the Total Portfolio level. The Weighted Average Carbon Intensity (WACI) has also been calculated in accordance with Mercer methodology and the metrics provided for WACI excludes the sovereign portion.

The Absolute Emissions for all the funds has been calculated using the Carbon Footprint and the Invested Amount. Carbon Footprint has been recalculated to $M invested for Aviva, PIC and Rothesay as the Carbon Footprint figures provided were under a £M invested basis.

Note that the managers' corporate and sovereign data provided is under the same units; the Absolute Emissions have been recalculated based on Carbon Intensity metrics to separate sovereign from the remaining asset classes except for Rothesay where breakdown for the Carbon Footprint has not been provided. Metrics calculated directly by Mercer differentiate corporate from sovereign metrics as our methodology considers them to have different units. For Sovereign, Mercer calculates Intensity on a $M PPP-Adjusted GDP basis, and Equity/Corporate as $M invested, contrarily to the manager data provided which considers all asset classes under a tCO_2/$M basis.

The SBTi allignment for Aviva, Rothesay and BlackRock considers approved only targets.

Please note that the valuation for Aviva, PIC & Rothesay is as of 5th April, 2025 and the valuation for the BlackRock Cash is as of 31 December 2024.

Scope 3

Manager	Mandate	WACI (tCO_2e /$million revenue) Scope 3		Carbon Footprint (tCO_2e /$million investment) Scope 3		Absolute emissions (tCO_2e based on value of investment) Scope 3	
		Coverage	Metric	Coverage	Metric	Coverage	Metric
Aviva	Buy In Policy	-	-	-	-	-	-
PIC[1]	Buy In Policy	37.0%	442.0	37.0%	182.8	37.0%	125,263
Rothesay	Buy In Policy	-	-	-	-	-	-
BlackRock	Cash	-	-	-	-	-	-

Scope 3 emissions are shown here separately from other metrics tables as, given that the disclosure of scope 3 emissions remains in its infancy, scope 3 metrics are not used by the Trustee for setting any baseline target metrics or for monitoring progress against existing targets.

Aviva, Rothesay and BlackRock were not able to provide scope 3 data at this time.

Source: Investment managers, MSCI, Mercer calculations. Data as at 31 December 2024.

[1] The metrics for PIC are based on the whole portfolio instead of the matching adjustment portfolio, as the asset class breakdown was only available for the former. The Scope 3 metrics incude Sovereign Bonds metrics as a breakdown was not available. For Scope 3, there is a 37% coverage for carbon footprint, and 46% of these 37% is actual company reported data. The same applies to WACI, with 37% coverage, and 28% of these 37% is actual company reported data. Scope 3 figures do not differentiate between upstream and downstream.

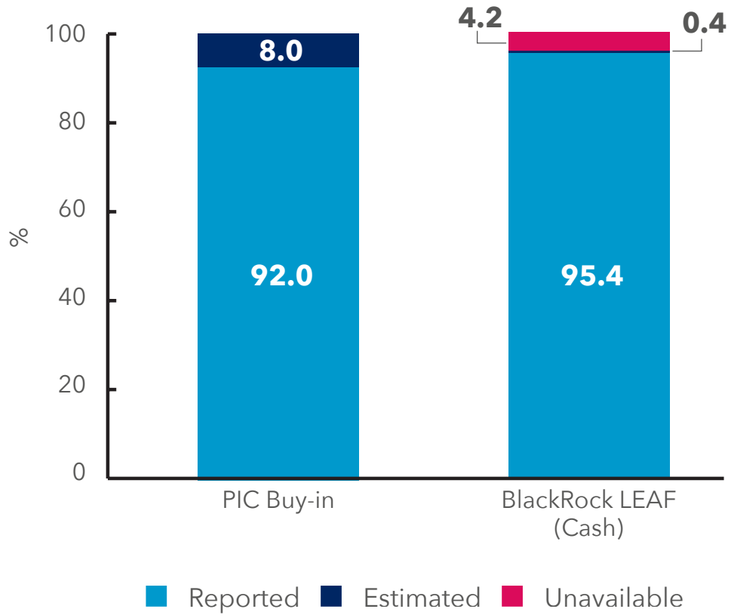
The Absolute Emissions for all the funds has been calculated using the Carbon Footprint and the Invested Amount. Carbon Footprint has been recalculated to $M invested for Aviva, PIC and Rothesay as the Carbon Footprint figures provided were under a £M invested basis.

Note that the managers' corporate and sovereign data provided is under the same units; the Absolute Emissions have been recalculated based on Carbon Intensity metrics to separate sovereign from the remaining asset classes except for Rothesay where breakdown for the Carbon Footprint has not been provided. Metrics calculated directly by Mercer differentiate corporate from sovereign metrics as our methodology considers them to have different units. For Sovereign, Mercer calculates Intensity on a $M PPP-Adjusted GDP basis, and Equity/Corporate as $M invested, contrarily to the manager data provided which considers all asset classes under a tCO_2/$M basis.

The SBTi allignment for Aviva, Rothesay and BlackRock considers approved only targets.

Please note that the valuation for Aviva, PIC & Rothesay is as of 5th April, 2025 and the valuation for the BlackRock Cash is as of 31 December 2024.

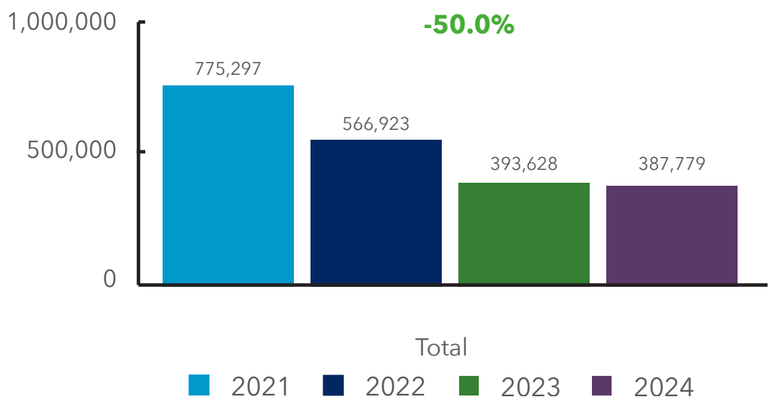
Data Quality (absolute emissions and carbon footprint)



Source: Investment managers. Data as at 31 December 2024.
Aviva and Rothesay do not provide data quality metrics in the same format as PIC and BlackRock, instead reporting a data quality score based on the Partnership of Carbon Accounting Financials (PCAF) 1-5 scale. As such, we have not included these providers in the chart above. A score of 1 represents data that is of the highest quality and has been verified by an independent 3rd party. A score of 5 represents data that involves a significant degree of estimation and may not have been verified. Aviva and Rothesay's overall 2024 PCAF data quality scores were 2.5 and 2.3, respectively.

Metrics Evolution

Absolute Emissions



Conclusions

- Absolute emissions for reported mandates have declined by 50.0% since 2021 and 1.5% since last year, meaning that the Section has met the 2030 interim target of a 50% reduction of scope 1 + 2 absolute emissions. This compares absolute emissions from the legacy investment strategy (previously covering LDI, Corporate Bonds and PIC buy-in policy) against the current investment strategy (close to 100% buy-in policies).
- Following the buy-in transactions, the Trustee no longer has any ability to influence progress towards the target.
- Absolute emissions are based on the value of investment and therefore will decline as the asset values decrease, all else being equal. Due to the change in methodology to calculate absolute emissions last year and changing availability of data, we cannot be totally certain upon the cause of the reduction in absolute emissions.
- However, the reduction in observed absolute emissions since 2021 is likely to be partly attributable to the decrease in the total asset value of the Co-op Section as a result of rising gilt yields, as well as the investment of the majority of Section assets in a buy-in policy with Rothesay Life that exhibits a low carbon intensity relative to the legacy investments and other buy-in policies.

Bank Section (DB) – as at 31 December 2024

Scope 1 and 2

Asset Class	Manager	Mandate	Whole Mandate Actual Allocation	Eligible Actual Allocation (for respective asset class)	Absolute Emissions (tons CO_2e) Scope 1+2		Carbon Footprint (tons CO_2e / $M invested) Scope 1+2		WACI (tons CO_2e / $M revenue) Scope 1+2		% of Portfolio with Science Based Targets	Implied Temperature Rise (°C)	
					Coverage	Metric	Coverage	Metric	Coverage	Metric	Metric	Coverage	Metric
Mixed Asset Classes Excluding Sovereign	**PIC[1]**	Buy In Policy	21.2%	13.1%	56.5%	8,486	56.5%	63.6	59.1%	213.9	19.0%	37.0%	2.1°C
	Rothesay[2]	Buy In Policy	77.0%	48.1%	87.0%	68,542	87.0%	68.7	91.0%	120.0	44.0%	87.0%	1.8°C
Total Excluding Sovereign				**61.2%**	**80.5%**	**77,028**	**80.5%**	**67.6**	**84.2%**	**140.1**	**38.7%**	**76.3%**	**-**
Sovereign	**PIC[1]**	Buy In Policy	21.2%	8.1%	99.0%	10,035	99.0%	95.0			-		
Total Sovereign				**8.1%**	**99.0%**	**10,035**	**99.0%**	**95.0**			-		
Cash	**BlackRock**	**Cash**	**1.8%**	**1.8%**	**95.8%**	**9**	**95.8%**	**0.4**	**95.8%**	**2.3**	**3.6%**	**-**	**-**
Total (absolute emissions)			**100%**	**-**	**-**	**87,071**	**-**	**-**	**-**				

Source: Investment managers, MSCI, Mercer calculations. Numbers may not sum due to rounding. Data is as at 31 December 2024.
Notes: Scope 1+2 only. % of fund directly analysed reflects coverage under the MSCI tool used in this analysis.

[1] For PIC, the SBTi Alignment considers approved and committed targets. The metrics for PIC are based on the whole portfolio instead of the matching adjustment portfolio, as the asset class breakdown was only available for the former.
[2] The portfolio for Rothesay excludes the UCTIS MM Fund/Cash. Please note that the manager has provided a carbon footprint at a total portfolio level, which includes the sovereign portion and hence the Absolute Emissions has been calculated based on Carbon Footprint as per Mercer Methodology. The coverage for the Carbon Footprint & the Absolute Emissions are also at the Total Portfolio level. The Weighted Average Carbon Intensity (WACI) has also been calculated in accordance with Mercer methodology and the metrics provided for WACI excludes the sovereign portion.

The Absolute Emissions for all the funds has been calculated using the Carbon Footprint and the Invested Amount. Carbon Footprint has been recalculated to $M invested for PIC and Rothesay as the Carbon Footprint figures provided were under a £M invested basis.
Note that the managers' corporate and sovereign data provided is under the same units; the Absolute Emissions have been recalculated based on Carbon Intensity metrics to separate sovereign from the remaining asset classes except for Rothesay where breakdown for the Carbon Footprint has not been provided. Metrics calculated directly by Mercer differentiate corporate from sovereign metrics as our methodology considers them to have different units. For Sovereign, Mercer calculates Intensity on a $M PPP-Adjusted GDP basis, and Equity/Corporate as $M invested, contrarily to the manager data provided which considers all asset classes under a tCO_2/$M basis.
The SBTi alignment for Rothesay and BlackRock considers approved only targets.
Please note that the valuation for PIC & Rothesay is as of 5th April, 2025 and the valuation for the BlackRock Cash is as of 31 December 2024.

Scope 3 (absolute emissions and carbon footprint)

Manager	Mandate	WACI (tCO_2e /$million revenue) Scope 3		Carbon Footprint (tCO_2e /$million investment) Scope 3		Absolute emissions (tCO_2e based on value of investment) Scope 3	
		Coverage %	Metric	Coverage %	Metric	Coverage %	Metric
PIC[1]	Buy In Policy	37.0%	442.0	37.0%	182.8	37.0%	50,380
Rothesay	Buy In Policy	-	-	-	-	-	-
BlackRock	Cash	-	-	-	-	-	-

Scope 3 emissions are shown here separately from other metrics tables as, given that the disclosure of scope 3 emissions remains in its infancy, scope 3 metrics are not used by the Trustee for setting any base line target metrics or for monitoring progress against existing targets.

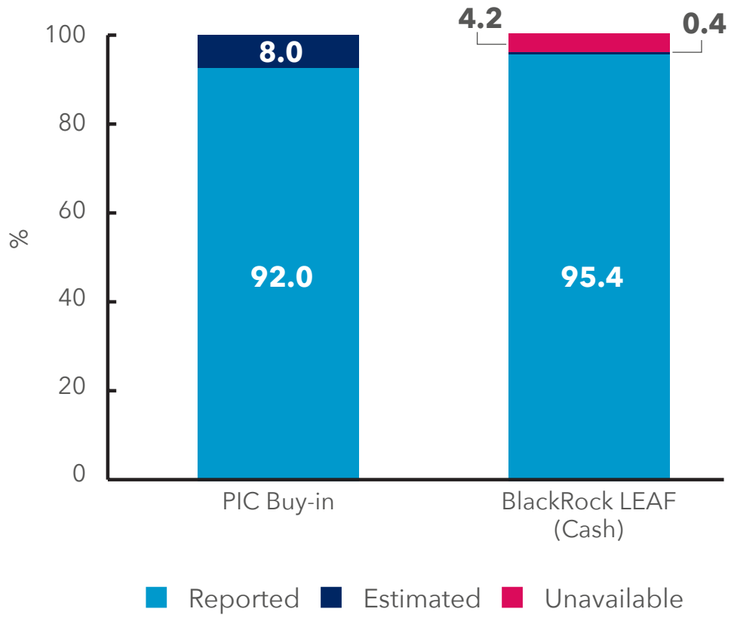
Rothesay and BlackRock were not able to provide scope 3 data at this time.

Source: Investment managers, MSCI, Mercer calculations. Numbers may not sum due to rounding. Data is as at 31 December 2024.

[1] The metrics for PIC are based on the whole portfolio instead of the matching adjustment portfolio, as the asset class breakdown was only available for the former. The Scope 3 metrics include Sovereign Bonds metrics as a breakdown was not available. For Scope 3, there is a 37% coverage for CF, and 46% of these 37% is actual company reported data. The same applies to WACI, with 37% coverage, and 28% of these 37% is actual company reported data. Scope 3 figures do not differentiate between upstream and downstream.

The Absolute Emissions for all the funds has been calculated using the Carbon Footprint and the Invested Amount. Carbon Footprint has been recalculated to $M invested for PIC and Rothesay as the Carbon Footprint figures provided were under a £M invested basis.
Note that the managers' corporate and sovereign data provided is under the same units; the Absolute Emissions have been recalculated based on Carbon Intensity metrics to separate sovereign from the remaining asset classes except for Rothesay where breakdown for the Carbon Footprint has not been provided. Metrics calculated directly by Mercer differentiate corporate from sovereign metrics as our methodology considers them to have different units. For Sovereign, Mercer calculates Intensity on a $M PPP-Adjusted GDP basis, and Equity/Corporate as $M invested, contrarily to the manager data provided which considers all asset classes under a tCO_2/$M basis.
The SBTi alignment for Rothesay and BlackRock considers approved only targets.
Please note that the valuation for PIC & Rothesay is as of 5th April, 2025 and the valuation for the BlackRock Cash is as of 31 December 2024.

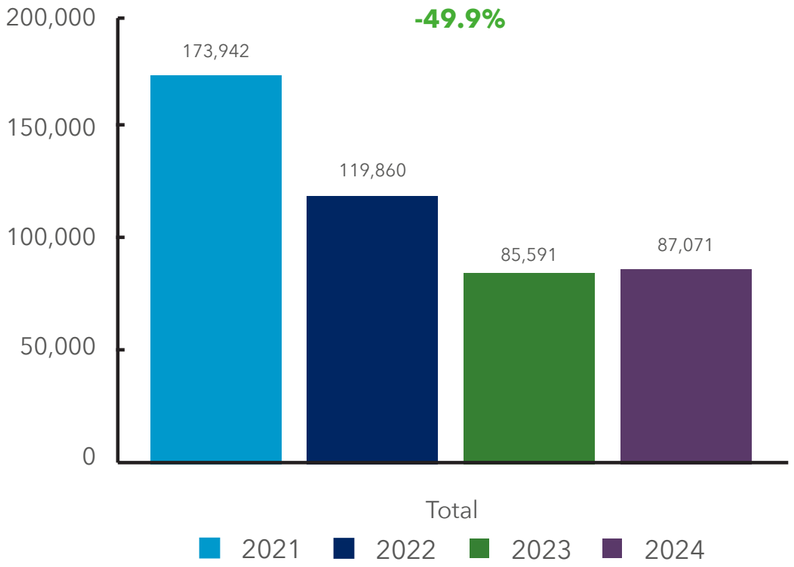
Data Quality



Source: Investment managers. Data as at 31 December 2024.
Rothesay do not provide data quality metrics in the same format as PIC and BlackRock, instead reporting a data quality score based on the Partnership of Carbon Accounting Financials' (PCAF) 1-5 scale. As such, we have not included these providers in the chart above. A score of 1 represents data that is of the highest quality and has been verified by an independent 3rd party. A score of 5 represents data that involves a significant degree of estimation and may not have been verified. Rothesay's overall 2024 PCAF data quality score was 2.3.

Metrics Evolution

Absolute Emissions



Conclusions

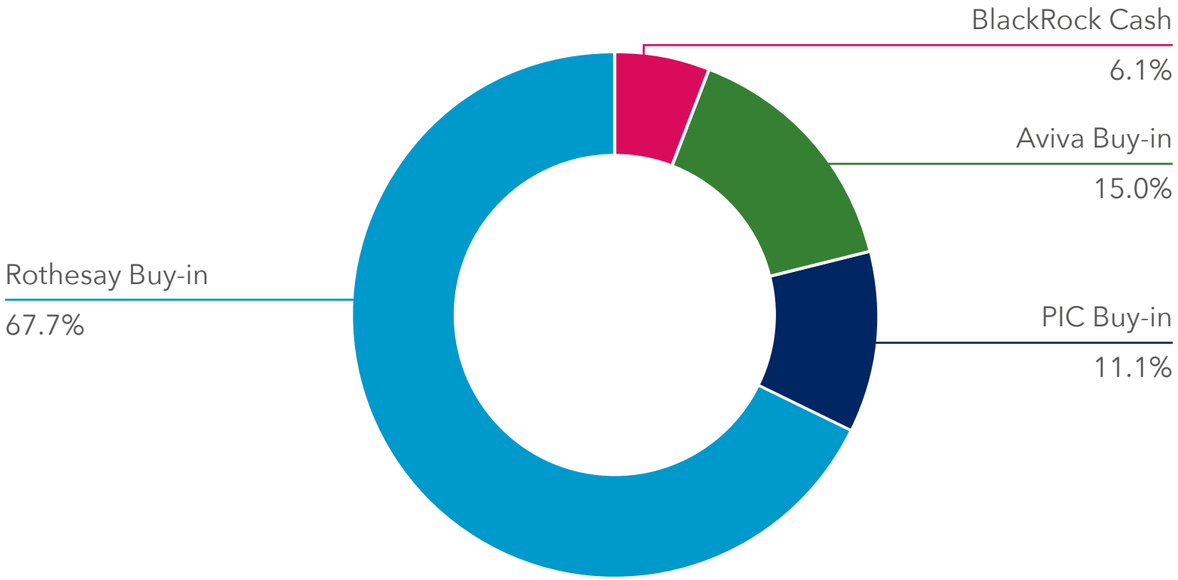
- Absolute emissions across all mandates have declined by 49.9% since 2021 and has increased 1.7% since last year, meaning that the Section has broadly met the 2030 interim target of a 50% reduction of scope 1 + 2 absolute emissions. This compares absolute emissions from the legacy investment strategy (previously covering LDI, Corporate Bonds and PIC buy-in policy) against the current investment strategy (close to 100% buy-in policies).
- Following the buy-in transaction, the Trustee no longer has any ability to influence progress towards the target.
- Absolute emissions are based on the value of investment and therefore will decline as asset values decrease, all else being equal. Due to the change in methodology to calculate absolute emissions last year and changing availability of data, we cannot be fully certain upon the cause of the reduction in absolute emissions.
- However, the reduction is likely to be partly attributable to the decrease in the total asset value of the Bank Section over the period as a result of rising gilt yields, as well as the investment of the majority of section assets in a buy-in policy with Rothesay Life that exhibits a low carbon intensity relative to the legacy investments and other buy-in policies.

Technical Section

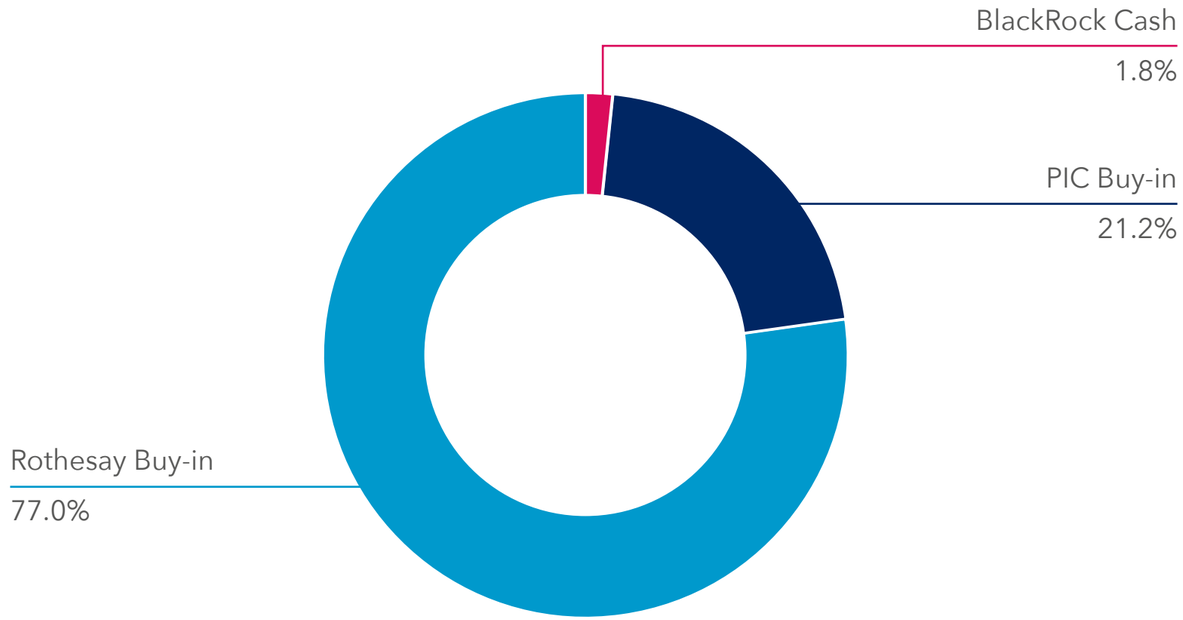
Asset allocation

Defined Benefit Sections

The chart below shows the asset allocation for the Co-op Section. Allocations are derived from valuations as at 31 December 2024 for BlackRock cash and as at 5 April 2025 for the buy-in policies.



The chart below shows the asset allocation for the Bank Section. Allocations are derived from valuations as at 31 December 2024 for BlackRock cash and as at 5 April 2025 for the buy-in policies.

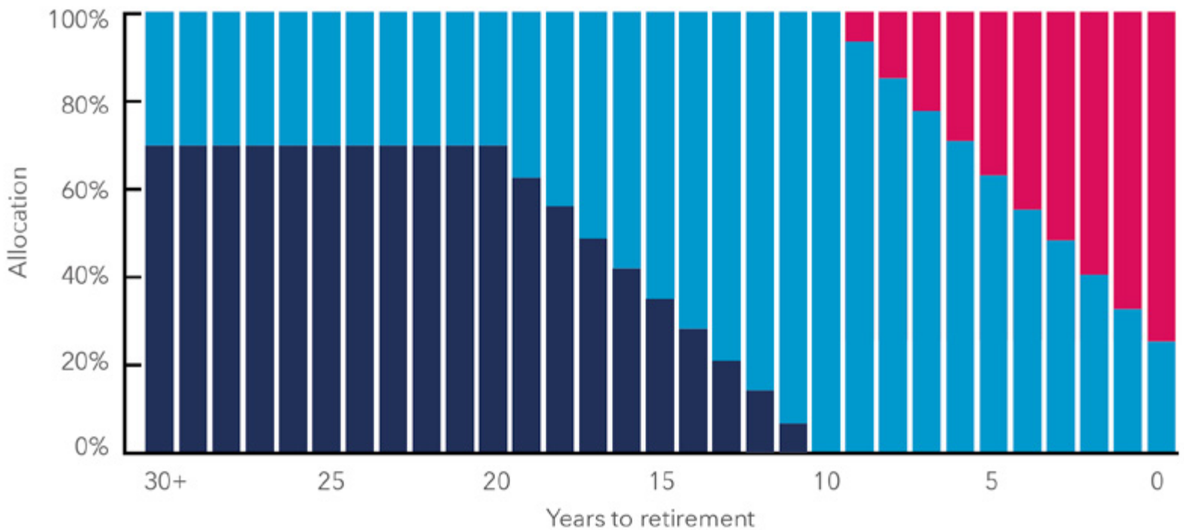


Numbers may not sum due to rounding.

Pace DC: Default Lifestyle Glidepaths

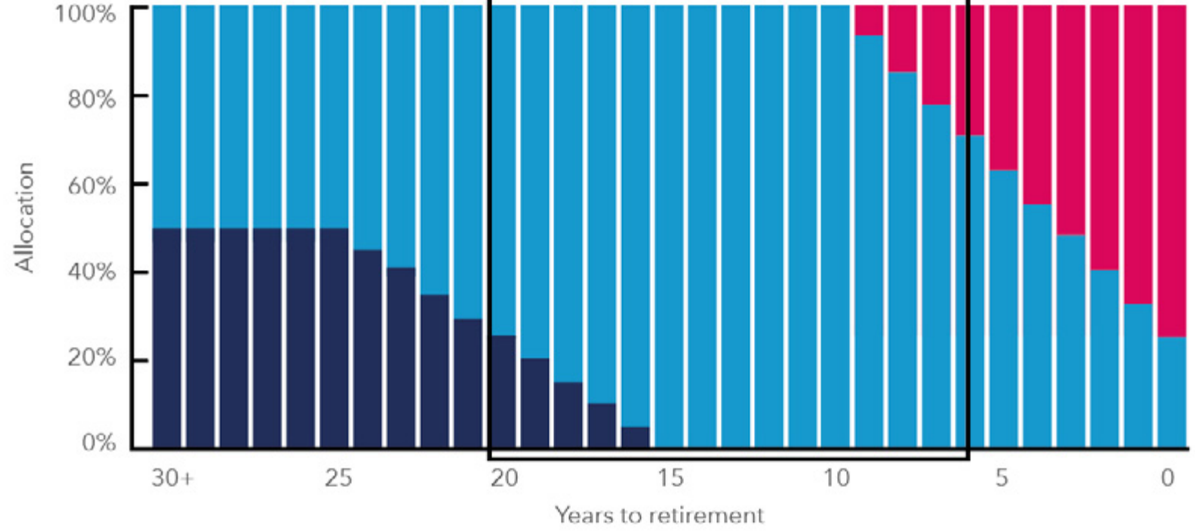
Co-op Section

Recommended default strategy – underlying funds



Bank Section

Current – 25 year de-risking



Pace Growth (Shares) 2021 Fund
Pace Growth (Mixed) Fund
Pace Cash Fund

Metrics – Data limitations and assumptions

Data sources

All climate-related metrics data has been requested directly from the investment managers and bulk annuity providers.

Scope of emissions

Scope 1, 2 and 3 emissions data has been included in this report. While Scope 3 emissions are now included, 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 | (**ghgprotocol.org**)

The Trustee will continue to work with Mercer, LCP and the investment managers to obtain more accurate 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 liquid 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 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 evolution

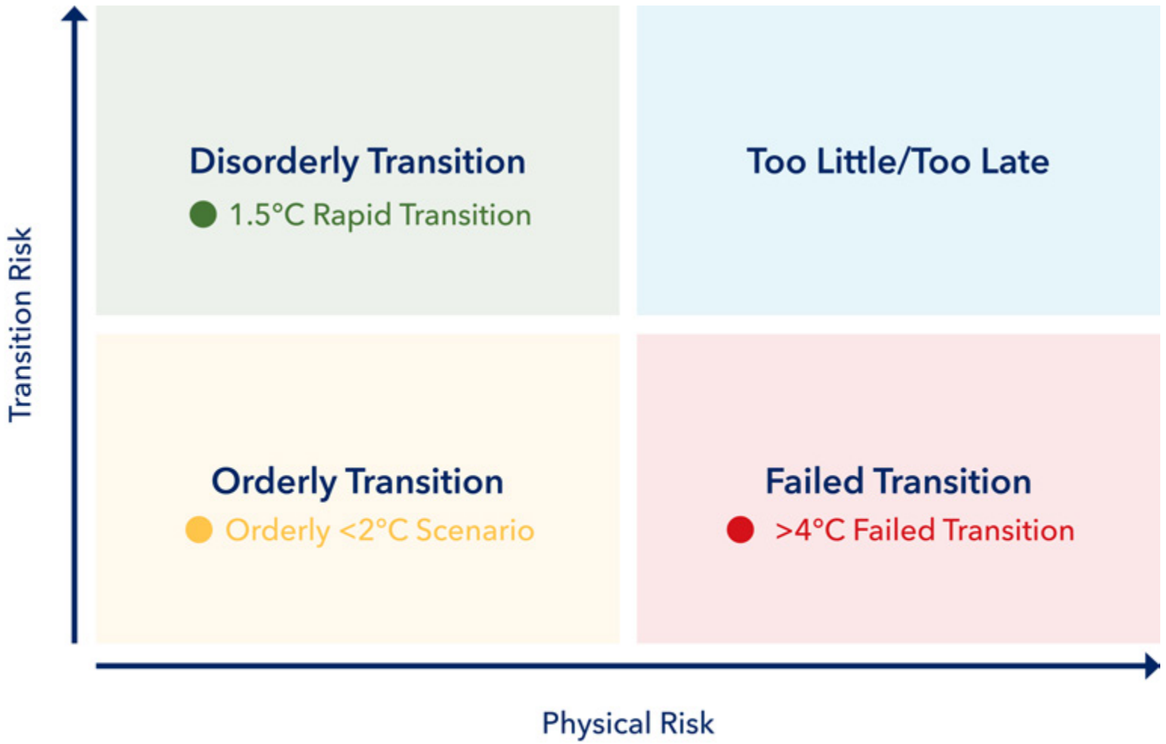
The percentage figures above the bars on the metrics evolution charts represent the change since the baseline.

Climate scenario modelling approach

Is your portfolio resilient to the financial effects of the rapid decarbonisation of the economy to meet Paris Agreement goals (**Rapid Transition**)?

Is your portfolio resilient to the risks of plausible, severe climate change impacts (**Failed Transition**) and is your stewardship strategy consistent with the need to avoid this scenario?

Can the decarbonisation transition happen without material damage to financial returns under an **Orderly Transition**?



Source: Mercer

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. 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 adaption required to avoid material warming of the planet.
4. Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.

Modelling Assumptions – Narratives

	Failed Transition	Rapid Transition	Orderly Transition
Summary	**The world fails to meet the Paris Agreement goals and global warming reaches 4.3°C above pre-industrial levels by 2100. Physical climate impacts cause large reductions in economic productivity and increasing impacts from extreme weather events.**	**Sudden divestments in 2025 to align portfolios to the Paris Agreement goals have disruptive effects on financial markets with sudden repricing followed by stranded assets and a sentiment shock.**	**Political and social organisations act quickly and predictably to implement the recommendations of the Paris Agreement to limit global warming to below 2°C.**
Temperature change	Expected increase of 4.3°C, with a high-likelihood range of an increase between 3.4°C and 5.6°C by 2100.	Average temperature increase stabilises at 1.5°C around 2050.	This scenario includes additional economic damage consistent with 1.8°C of average temperature rise – peaking in 2070.
Cumulative emissions	c5,000 $GtCO_2$ (2020-2100)	c400 $GtCO_2$ (2020-2100)	The additional damage under this scenario could be associated with further human emissions or greater impacts from feedback loops and tipping points.
Key policy & tech assumptions	Existing policy regimes are continued with the same level of ambition.	An ambitious policy regime is pursued to encourage greater decarbonisation of the electricity sector and to reduce emissions across all sectors of the economy. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation. This is earlier and more effective under a Rapid Transition than the Orderly Transition, which allows for less investment in energy efficiency and bioenergy with carbon capture and storage.	
Financial climate modelling	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years).	Pricing in of transition and physical risks of the coming 40 years occurs within one year in 2025. As a result of this aggressive market correction, a confidence shock to the financial system takes place in the same year.	Pricing in of transition and physical risks associated with 1.5°C up to 2050 takes place over the first 4 years. The additional damage, beyond 1.5°C, impacts asset performance on a year-by-year basis with no advance pricing in.
Physical risks considered	Physical risks are regionally differentiated, consider variation in expected temperature increase per region and increase dramatically with rising average global temperature. Physical risks are built up from: • Gradual physical impacts associated with rising temperature (agricultural, labour, and industrial productivity losses) • Economic impacts from climate-related extreme weather events Current modelling does not capture environmental tipping points or knock-on effects (e.g., migration and conflict).		

How to interpret the climate-aware baseline – understanding results relative to the baseline

In designing scenario analysis a fundamental decision is whether to assume that any climate impacts are priced in today. There is compelling academic evidence to suggest that climate impacts are being priced in to some extent.

The implication is that all return impacts within this report are presented in terms of how they are different to what we are assuming is priced in today.*

Our baseline represents what we are assuming the market is currently pricing in.*

This means that the impacts of the Orderly and Rapid Transition scenarios tend to be smaller (relative to a model that assumes nothing is priced in) as some of the impact is already priced in and the impact of a Failed Transition can be positive for sectors that the market is expecting to be negatively impacted by a transition (this is set out on the next page).

When interpreting the charts within this report, the important element to focus on is how outcomes differ under the different scenarios (represented by different coloured lines) versus the black baseline.

Our analysis assumes:

At a market level transition risks are reasonably priced in, however, over the longer term physical risks are more likely to be mispriced. Transition risks remain at sector level and at the market level due to the potential for more extreme transition scenarios to occur.

We express this view by modelling scenarios relative to a climate aware baseline.

*In terms of what is priced in today we give a 10% weight to a Failed Transition, 40% weight to an Orderly Transition,10% to a Rapid Transition and 40% weight to a range of low impact scenarios.

Summary – Co-op & Bank Sections

This table sets out the annualised return impact of the three climate scenarios compared to their respective baseline on the asset allocation modelled.

	Co-op Section				Bank Section				
	Annualised Returns (%)		Asset Values		Annualised Returns (%)		Asset Values		
	Expected Return (Baseline)	Climate Impact*	Impact (%)*	Absolute Impact (£)	Expected Return (Baseline)	Climate Impact*	Impact (%)*	Absolute Impact (£)	
Rapid Transition					**Rapid Transition**				
Impact at 5 years	8.9%	**-1.2%**	*-5.4%*	*-8*	Impact at 5 years	8.6%	**-1.1%**	*-4.8%*	*-7*
Impact at 20 years	9.8%	**-0.2%**	*-3.2%*	*-21*	Impact at 20 years	9.4%	**-0.2%**	*-2.7%*	*-16*
Impact at 40 years	8.0%	**-0.1%**	*-2.1%*	*-46*	Impact at 40 years	7.7%	**-0.0%**	*-1.7%*	*-33*
Orderly Transition					**Orderly Transition**				
Impact at 5 years	8.9%	**-0.5%**	*-2.4%*	*-4*	Impact at 5 years	8.6%	**-0.4%**	*-2.0%*	*-3*
Impact at 20 years	9.8%	**-0.1%**	*-1.2%*	*-8*	Impact at 20 years	9.4%	**0.0%**	*-0.8%*	*-5*
Impact at 40 years	8.0%	**-0.2%**	*-5.6%*	*-122*	Impact at 40 years	7.7%	**-0.1%**	*-4.9%*	*-95*
Failed Transition					**Failed Transition**				
Impact at 5 years	8.9%	**+0.1%**	*0.3%*	*+0.4*	Impact at 5 years	8.6%	**+0.0%**	*+0.2%*	*+0.3*
Impact at 20 years	9.8%	**-1.6%**	*-26.0%*	*-169*	Impact at 20 years	9.4%	**-1.4%**	*-22.2%*	*-134*
Impact at 40 years	8.0%	**-1.0%**	*-32.1%*	*-699*	Impact at 40 years	7.7%	**-0.9%**	*-28.1%*	*-545*

*Relative to the baseline

Strategy Modelled – Co-op Section

This table sets out the allocation that has been used for each point in the lifestyle glide path.

Modelling Asset Class	Years to retirement																			
	40-21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
MSCI World Equity	0.9%	1.1%	1.2%	1.4%	1.6%	1.8%	2.0%	2.2%	2.4%	2.6%	2.8%	2.6%	2.4%	2.2%	2.0%	1.8%	1.6%	1.3%	1.1%	0.9%	0.7%
MSCI ACWI ESG Equity	70.0%	63.0%	56.0%	49.0%	42.0%	35.0%	28.0%	21.0%	14.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI Paris Aligned Equity	11.1%	13.6%	16.2%	18.8%	21.4%	24.0%	26.5%	29.1%	31.7%	34.3%	36.9%	34.1%	31.3%	28.6%	25.8%	23.0%	20.3%	17.5%	14.7%	12.0%	9.2%
UK Investment Grade Credit	2.9%	3.6%	4.2%	4.9%	5.6%	6.3%	6.9%	7.6%	8.3%	9.0%	9.6%	8.9%	8.2%	7.5%	6.7%	6.0%	5.3%	4.6%	3.9%	3.1%	2.4%
US Investment Grade Credit	2.3%	2.8%	3.4%	3.9%	4.4%	5.0%	5.5%	6.1%	6.6%	7.1%	7.7%	7.1%	6.5%	5.9%	5.4%	4.8%	4.2%	3.6%	3.1%	2.5%	1.9%
Global High Yield Credit	1.8%	2.2%	2.7%	3.1%	3.5%	3.9%	4.4%	4.8%	5.2%	5.6%	6.1%	5.6%	5.2%	4.7%	4.2%	3.8%	3.3%	2.9%	2.4%	2.0%	1.5%
Global Investment Grade Credit	0.6%	0.7%	0.9%	1.0%	1.2%	1.3%	1.4%	1.6%	1.7%	1.9%	2.0%	1.9%	1.7%	1.6%	1.4%	1.3%	1.1%	1.0%	0.8%	0.7%	0.5%
US Sovereign Bonds	0.8%	0.9%	1.1%	1.3%	1.5%	1.6%	1.8%	2.0%	2.2%	2.3%	2.5%	2.3%	2.1%	1.9%	1.8%	1.6%	1.4%	1.2%	1.0%	0.8%	0.6%
UK Sovereign Bonds	0.9%	1.2%	1.4%	1.6%	1.8%	2.0%	2.2%	2.5%	2.7%	2.9%	3.1%	2.9%	2.6%	2.4%	2.2%	1.9%	1.7%	1.5%	1.2%	1.0%	0.8%
Europe Sovereign Bonds	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	0.9%	1.0%	1.1%	1.2%	1.3%	1.2%	1.1%	1.0%	0.9%	0.8%	0.7%	0.6%	0.5%	0.4%	0.3%
Europe Green Sovereign Bonds	1.8%	2.2%	2.6%	3.0%	3.4%	3.9%	4.3%	4.7%	5.1%	5.5%	5.9%	5.5%	5.0%	4.6%	4.2%	3.7%	3.3%	2.8%	2.4%	1.9%	1.5%
EMD Hard Currency	0.7%	0.9%	1.0%	1.2%	1.4%	1.5%	1.7%	1.8%	2.0%	2.2%	2.3%	2.2%	2.0%	1.8%	1.6%	1.5%	1.3%	1.1%	0.9%	0.8%	0.6%
EMD Local Currency	1.8%	2.2%	2.6%	3.0%	3.4%	3.8%	4.3%	4.7%	5.1%	5.5%	5.9%	5.5%	5.0%	4.6%	4.1%	3.7%	3.3%	2.8%	2.4%	1.9%	1.5%
Cash	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	7.8%	15.3%	22.8%	30.2%	37.7%	45.2%	52.7%	60.1%	67.6%	75.1%
Global Real Estate	1.8%	2.2%	2.6%	3.0%	3.4%	3.8%	4.2%	4.6%	5.0%	5.5%	5.9%	5.4%	5.0%	4.5%	4.1%	3.7%	3.2%	2.8%	2.3%	1.9%	1.5%
Listed Infrastructure	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	0.7%	0.7%	0.8%	0.7%	0.7%	0.6%	0.6%	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%
Sustainable Infrastructure	1.4%	1.8%	2.1%	2.4%	2.8%	3.1%	3.4%	3.8%	4.1%	4.4%	4.8%	4.4%	4.0%	3.7%	3.3%	3.0%	2.6%	2.3%	1.9%	1.5%	1.2%
Private Equity	0.6%	0.8%	0.9%	1.1%	1.2%	1.3%	1.5%	1.6%	1.8%	1.9%	2.1%	1.9%	1.8%	1.6%	1.4%	1.3%	1.1%	1.0%	0.8%	0.7%	0.5%

The analysis has been completed based on an analysis date of 30th September 2023, Mercer's capital market assumptions as at 30th September 2023 and Ortec's climate scenarios as at 31st December 2022.

Strategy Modelled – Bank Section

This table sets out the allocation that has been used for each point in the lifestyle glide path.

Modelling Asset Class	Years to retirement																			
	40-26	25	24	23	22	21	20	19	18	17	16-11	10	9	8	7	6	5	4	3	2	1
MSCI World Equity	1.4%	1.6%	1.7%	1.8%	2.0%	2.1%	2.3%	2.4%	2.6%	2.7%	2.8%	2.6%	2.4%	2.2%	2.0%	1.8%	1.6%	1.3%	1.1%	0.9%	0.7%
MSCI ACWI ESG Equity	50.0%	45.0%	40.0%	35.0%	30.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI Paris Aligned Equity	18.4%	20.3%	22.1%	24.0%	25.8%	27.6%	29.5%	31.3%	33.2%	35.0%	36.9%	34.1%	31.3%	28.6%	25.8%	23.0%	20.3%	17.5%	14.7%	12.0%	9.2%
UK Investment Grade Credit	4.8%	5.3%	5.8%	6.3%	6.7%	7.2%	7.7%	8.2%	8.7%	9.2%	9.6%	8.9%	8.2%	7.5%	6.7%	6.0%	5.3%	4.6%	3.9%	3.1%	2.4%
US Investment Grade Credit	3.8%	4.2%	4.6%	5.0%	5.4%	5.7%	6.1%	6.5%	6.9%	7.3%	7.7%	7.1%	6.5%	5.9%	5.4%	4.8%	4.2%	3.6%	3.1%	2.5%	1.9%
Global High Yield Credit	3.0%	3.3%	3.6%	3.9%	4.2%	4.5%	4.8%	5.2%	5.5%	5.8%	6.1%	5.6%	5.2%	4.7%	4.2%	3.8%	3.3%	2.9%	2.4%	2.0%	1.5%
Global Investment Grade Credit	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%	1.7%	1.8%	1.9%	2.0%	1.9%	1.7%	1.6%	1.4%	1.3%	1.1%	1.0%	0.8%	0.7%	0.5%
US Sovereign Bonds	1.3%	1.4%	1.5%	1.6%	1.8%	1.9%	2.0%	2.1%	2.3%	2.4%	2.5%	2.3%	2.1%	1.9%	1.8%	1.6%	1.4%	1.2%	1.0%	0.8%	0.6%
UK Sovereign Bonds	1.6%	1.7%	1.9%	2.0%	2.2%	2.3%	2.5%	2.6%	2.8%	3.0%	3.1%	2.9%	2.6%	2.4%	2.2%	1.9%	1.7%	1.5%	1.2%	1.0%	0.8%
Europe Sovereign Bonds	0.7%	0.7%	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.2%	1.2%	1.3%	1.2%	1.1%	1.0%	0.9%	0.8%	0.7%	0.6%	0.5%	0.4%	0.3%
Europe Green Sovereign Bonds	3.0%	3.3%	3.6%	3.9%	4.2%	4.4%	4.7%	5.0%	5.3%	5.6%	5.9%	5.5%	5.0%	4.6%	4.2%	3.7%	3.3%	2.8%	2.4%	1.9%	1.5%
EMD Hard Currency	1.2%	1.3%	1.4%	1.5%	1.6%	1.8%	1.9%	2.0%	2.1%	2.2%	2.3%	2.2%	2.0%	1.8%	1.6%	1.5%	1.3%	1.1%	0.9%	0.8%	0.6%
EMD Local Currency	3.0%	3.3%	3.5%	3.8%	4.1%	4.4%	4.7%	5.0%	5.3%	5.6%	5.9%	5.5%	5.0%	4.6%	4.1%	3.7%	3.3%	2.8%	2.4%	1.9%	1.5%
Cash	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	7.8%	15.3%	22.8%	30.2%	37.7%	45.2%	52.7%	60.1%	67.6%	75.1%
Global Real Estate	2.9%	3.2%	3.5%	3.8%	4.1%	4.4%	4.7%	5.0%	5.3%	5.6%	5.9%	5.4%	5.0%	4.5%	4.1%	3.7%	3.2%	2.8%	2.3%	1.9%	1.5%
Listed Infrastructure	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%	0.7%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%
Sustainable Infrastructure	2.4%	2.6%	2.9%	3.1%	3.3%	3.6%	3.8%	4.0%	4.3%	4.5%	4.8%	4.4%	4.0%	3.7%	3.3%	3.0%	2.6%	2.3%	1.9%	1.5%	1.2%
Private Equity	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%	1.8%	1.9%	2.0%	2.1%	1.9%	1.8%	1.6%	1.4%	1.3%	1.1%	1.0%	0.8%	0.7%	0.5%

The analysis has been completed based on an analysis date of 30th September 2023, Mercer's capital market assumptions as at 30th September 2023 and Ortec's climate scenarios as at 31st December 2022.

Modelling Assumptions – Cumulative Climate Return Impacts

	Failed Transition			Rapid Transition			Orderly Transition		
Asset Class	5 Years	20 Years	40 Years	5 Years	20 Years	40 Years	5 Years	20 Years	40 Years
MSCI World Equity	1.7%	-30.4%	-41.7%	-10.9%	-9.4%	-6.8%	-3.8%	-3.1%	-9.9%
MSCI ACWI ESG Equity	0.4%	-32.9%	-46.0%	-7.0%	-4.4%	-0.6%	-3.1%	-1.9%	-9.3%
MSCI Paris Aligned Equity	0.0%	-28.5%	-40.2%	-4.5%	-1.6%	1.7%	-2.6%	-1.3%	-7.7%
UK Investment Grade Credit	-0.4%	-0.1%	-0.3%	-2.2%	-2.3%	-2.7%	0.2%	0.6%	-0.9%
US Investment Grade Credit	-0.3%	0.3%	-1.2%	-2.4%	-2.1%	-3.1%	0.3%	1.0%	-2.2%
Global High Yield Credit	-0.5%	0.9%	-0.1%	-6.2%	-6.6%	-7.8%	1.0%	1.0%	-2.5%
Global Investment Grade Credit	-0.2%	-0.5%	-1.7%	-2.2%	-1.5%	-2.0%	0.3%	1.5%	-0.8%
US Sovereign Bonds	0.2%	-1.0%	-2.8%	-0.7%	1.0%	0.4%	-0.1%	1.2%	-2.4%
UK Sovereign Bonds	0.5%	-0.5%	-0.4%	-0.6%	0.8%	1.1%	-0.6%	1.2%	0.8%
Europe Sovereign Bonds	0.3%	-1.3%	-2.5%	-0.2%	1.7%	2.4%	-0.4%	1.5%	1.3%
Europe Green Sovereign Bonds	0.3%	-1.3%	-2.4%	-0.4%	1.5%	2.2%	-0.4%	1.5%	1.3%
EMD Hard Currency	-0.3%	-2.3%	-10.1%	-3.9%	-2.1%	-0.6%	0.2%	-0.9%	-7.6%
EMD Local Currency	0.7%	-3.6%	-7.7%	-3.2%	1.2%	2.9%	-0.4%	2.9%	-1.1%
Cash	0.0%	-2.9%	-5.9%	-0.3%	2.9%	2.7%	0.1%	2.8%	-0.1%
Global Real Estate	-0.2%	-23.7%	-33.3%	-2.7%	-0.3%	2.7%	-1.0%	0.6%	-2.9%
Listed Infrastructure	4.1%	-23.2%	-41.6%	-8.0%	-5.0%	4.9%	-5.5%	-3.9%	-3.0%
Sustainable Infrastructure	-1.9%	-32.0%	-39.5%	-3.0%	1.4%	1.5%	-0.2%	3.2%	-3.8%
Private Equity	2.1%	-44.1%	-60.8%	-7.2%	-3.3%	0.4%	-7.3%	-6.1%	-18.8%

Modelling Assumptions – Capital Market Assumptions

Asset Class	CMAs 30/09/2023		
	5 Years	20 Years	40 Years
MSCI World Equity	9.4%	10.4%	9.1%
MSCI ACWI ESG Equity	9.4%	10.4%	9.1%
MSCI Paris Aligned Equity	9.4%	10.4%	9.1%
UK Investment Grade Credit	5.9%	6.8%	6.7%
US Investment Grade Credit	5.5%	6.3%	5.0%
Global High Yield Credit	7.8%	9.1%	7.8%
Global Investment Grade Credit	5.5%	6.3%	5.0%
US Sovereign Bonds	4.7%	5.6%	4.4%
UK Sovereign Bonds	4.5%	5.7%	5.6%
Europe Sovereign Bonds	3.0%	3.8%	4.2%
Europe Green Sovereign Bonds	3.0%	3.8%	4.2%
EMD Hard Currency	7.6%	8.5%	7.1%
EMD Local Currency	8.2%	9.1%	7.8%
Cash	4.8%	5.7%	4.4%
Global Real Estate	8.0%	8.9%	7.6%
Listed Infrastructure	8.3%	8.9%	9.3%
Sustainable Infrastructure	9.0%	9.7%	10.1%
Private Equity	11.9%	12.7%	11.4%

Notes on data, assumptions, risk identification and model – climate scenario analysis

This analysis complies with the requirements of the technical actuarial standard TAS 100 version 2.

Data

The data used in the analysis presented in this report is detailed on pages 48 and 49. This includes the asset allocation modelled (including how it will develop over time).

Assumptions

The key assumptions used in carrying out the analysis shown in this report are assumptions for the returns on assets under the base case. The climate scenarios are defined by assumed impacts on asset returns, yield curves and inflation experience relative to the base case. These base assumptions and climate impacts are set out on pages 50 and 51. In addition, the assumptions on page 50 help summarise the narratives behind our scenarios set out on page 45.

Risk identification

This analysis is focused specifically on climate risk. Other risks should be considered as part of a wider review which may include asset liability modelling. Our climate scenarios are not necessarily "extremes" and so should not be construed as illustrating the maximum risk exposure.

Model

An overview of our model is covered above, while more information on the model and the underlying scenarios is available at the following link **Mercer Climate Scenarios**. The key limitations of the model are:

- Not all physical risks are captured and so physical damage could be understated. This includes positive feedback loops that could accelerate warming and systemic impacts of warming for example relating to migration and war.
- We have only illustrated 3 scenarios, therefore there is a wide range of possible outcomes not covered.

Comparison with previous projects

The scheme previously carried out analysis in 2021. Since then we have updated our model materially. The fundamental conclusions around the financial need to transition, the importance of sector allocation and the potential benefit of sustainable tilts in controlling transition risks are consistent between both models.

Glossary

In this document, when we say:	We mean:
Buy-in	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. 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.
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.
Popular Arrangements	The investment arrangement in the DC section which is most used by members. This is usually the default investment strategy, which members are put into automatically.

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