

Roche Pension Fund – DB & DC Sections (the “Fund”)

# Climate Change-related Disclosures

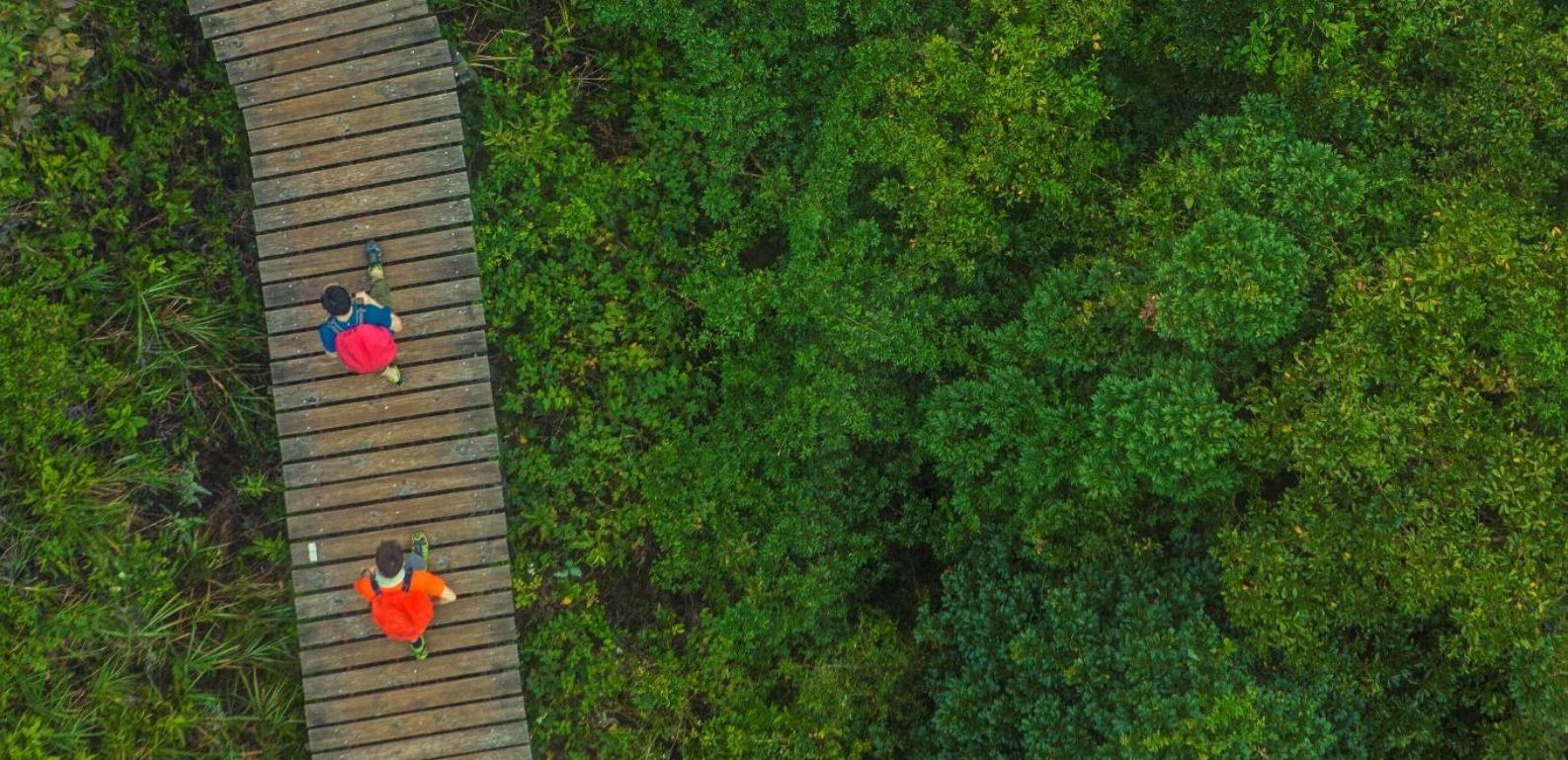
Report Prepared In Line With The  
Recommendations of The Task Force on  
Climate-related Financial Disclosures (TCFD)

September 2024



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## INTRODUCTION

The Trustee of the Roche Pension Fund – DB & DC Sections (“the Fund”) recognises that climate change is one of the most important issues of our time, which will impact all countries, companies and individuals. The Trustee recognises climate change as a significant financial risk that could impact the financial security of members’ benefits if it is not properly measured and mitigated. As well as providing risks to the Fund, the transition to a lower carbon economy and the mitigation of, and adaptation to, the physical risks of climate change may create new investment opportunities if managed appropriately.

This is the Trustee’s second-year report, which has been prepared to comply with the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 and the Occupational Pension Schemes (Climate Change Governance and Reporting), (Miscellaneous Provisions and Amendments) Regulations 2021, using the DWP’s statutory guidance.

The report covers the 12-month period to 31 March 2024 and details how the Trustee is addressing climate change including the progress made since the first report was published last year.

The Trustee supports the recommendations of TCFD as a framework to help manage and report on the actions being taken to identify climate-related financial risks and opportunities in the Fund.

The report explains how the Trustee has established and maintained oversight and processes to satisfy themselves that the Fund’s relevant climate-related risks and opportunities are considered appropriately by all stakeholders involved in the day-to-day management of the Fund including progress made since the report published last year.

The sub-headings in this report address the specific disclosure requirements in the statutory guidance and which are based on the recommendations of the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD).

This report discloses a range of climate-related information pertaining to the Fund with the intent of improving transparency toward members, the Pensions Regulator and the pension sector generally, as well as ensuring that the Trustee is thorough and rigorous in identifying, assessing and managing climate risk.

The Trustee recognise that climate issues can be more relevant and readily implementable for some parts of the portfolio than others. This statement outlines where governance of climate risk and opportunities has been applied. For the DC Section, focusing on (but not limited to) the Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy. We will seek to expand the remit of this reporting to cover the entirety of the portfolio as and when the ability to monitor these risks becomes more achievable via improved availability of data.



## EXECUTIVE SUMMARY

This report covers the following four areas, which comprises the TCFD framework:

- **Governance:** How the Trustee maintains oversight and incorporates climate change into its decision making;
- **Strategy:** How potential future climate warming scenarios could impact the Fund;
- **Risk Management:** How the Trustee incorporates climate-related risk in its risk management processes; and
- **Metrics and Targets:** How the Trustee measures, and monitors progress against different climate related indicators known as metrics and targets.

The key messages from this report are:

### Both Sections

- Climate change risk can have an impact on the long-term outcomes for the Fund (both DB and DC members).
- The Trustee has processes in place to identify, assess and mitigate climate change risk.

### DB

- The Fund is making significant progress towards the Trustee's carbon emission intensity reduction target.
- There has been a strong improvement in the metrics at an individual fund level over the year.

### DC

- Three emissions-based metrics have been chosen to monitor the progress against climate change risk, in addition to this, two sovereign emission-based metrics have been chosen; Sovereign Carbon Intensity and Absolute Emissions.
- Two alignment-based metrics were also included; implied temperature rise and % of portfolio with Science Based Targets Initiative (SBTi) targets as well as one non-emissions-based metric: Data Quality.
- A target to reduce the level of carbon emissions of the Default Investment Option was set in 2022, progress monitored, and actions determined.

### Recent developments - DB

In ensuring ESG is fully integrated within the investment decisions of the DB Section the Trustee over the year has maintained an ESG Policy document and reviewed the ESG ratings of its holdings. The Trustee also maintains an ESG Project Timeline to measure any progress made and to identify areas where action could be taken.

Compared to last year the Trustee has increased the scope of this year's report now including Scope 3 emissions, where available, which provides broader measure of emissions. In addition, this year emissions are now being sorted into corporate and sovereign emissions.

### Recent Developments - DC

During the year to 31 March 2024, the Trustee continued to make significant steps to improve the level of integration of ESG factors in the DC Section.

The Trustee conducted a triennial investment strategy review in 2023. ESG factors, including climate change and the Fund's climate target, played a key role during this review. The Trustee agreed to make further enhancements to the Fund's ESG integration by increasing allocations to ESG-tilted funds. In particular, the BlackRock Emerging Markets Equity Index Fund was replaced with the LGIM Future World Emerging Markets Equity Index Fund in December 2023.

Additionally, the Trustee has also undertaken an annual review of their ESG Policy Document which sets out the Trustee's key ESG principles that have been established and the approach to considering climate risk and other ESG factors.



# EXECUTIVE SUMMARY

## Conclusions and next steps

The Trustee recognises that further progress needs to be made to consider climate-related risks and opportunities in a balanced and proportionate manner. The ultimate responsibility of the Trustee in regards to the DB Section is to pay members their benefits. For the DC Section the ultimate responsibility of the Trustee is to maximise DC member outcomes at retirement and the Trustee is aiming to do this in a sustainable way. The Trustee is aiming to do this in the most sustainable way as possible.

The Trustee supports the goals of the Paris Agreement that seeks to limit warming to well below 2°C relative to pre-industrial temperatures. The Trustee believes that climate risk can have an impact on securing long-term financial returns and considering climate risk is in the best long-term interest of Fund members.

### DB Target and Commentary

**The Trustee has set a target to reduce carbon emissions intensity associated with its total portfolio by at least 45% (from 2019 levels) by 2030 and reach net zero by 2050, which is currently understood to be consistent with limiting global warming to 1.5 degrees above pre-industrial levels.** Further details of the metric and rationale underpinning this target is set out in the “Metrics and Target” section of this report.

The Trustee has considered a number of actions in order to work towards the set target. Over the next 12 months, the Trustee is aiming to undertake the following actions:

- Review Mercer’s progress in engaging with investment managers to understand the steps they are taking to engage with investment managers on voting and engagement activity in respect of climate change and reduce carbon exposure within the Fund’s assets.
- Annual review of Mercer’s ESG policies in the Fund’s governing documentation including the Trustee’s ESG Policy Document.
- Annually consider the suitability of the Fund’s investment arrangements to achieve the agreed carbon reduction target.
- A review of the Fund’s Statement of Investment Principles (SIP), paying particular attention to see if the ESG wording can be enhanced.
- Regularly review the climate-related risks and opportunities in the Fund and maintain compliance with regulatory requirements, with support from the Fund’s advisors.

Over the next 3 years, the Trustee expects to:

- Ensure that they are well equipped with sufficient knowledge of developments around climate change risk through training and a review of skills.

### DC Target and Commentary

**The Trustee has set a target to reduce carbon emissions associated with the Default Investment Option by at least 45% (from 2019 levels) by 2030 and fully (i.e. to net zero) by 2050, which is currently understood to be broadly consistent with limiting global warming to 1.5 degrees above pre-industrial levels.** The Trustee has based its target on the Weighted Average Carbon Intensity (“WACI”). It should be noted that the target applies to Scope 1 and 2 emissions for the assets where WACI data is reportable. It should also be noted that any improvement in the consistency, comparability and quality of climate related data is likely to have an impact on the Fund’s carbon metrics. Further details of the metric and rationale for this target is set out in the “Metrics and Target” section of this report.

Over the next 12 months, the Trustee is aiming to undertake the following actions:

- Engaging with investment managers to understand the steps they are taking to reduce carbon emissions of the Fund’s assets.
- Annual review of ESG policies in the Fund’s governing documentation including the ESG Policy Document.
- Continue engagement with investment managers on voting and engagement activity in respect of climate change.
- The Trustee recognises a balance needs to be maintained between meeting the investment objectives of the Fund and considering these risks and opportunities.

Over the next 3 years, the Trustee expects to:

- Regularly review the climate-related risks and opportunities in the Fund and maintain compliance with regulatory requirements, with support from the Fund’s investment advisers.
- Ensure that they are well equipped with sufficient knowledge of developments around climate change risk through training and a review of skills.
- Continually consider the suitability of the Fund’s investment strategy, focusing on the Default Investment Option, to move to the agreed target reduction in carbon emissions.



# THE TCFD FRAMEWORK

The Financial Stability Board, an international body established by the G20 that monitors and makes recommendations about the global financial system, created the TCFD framework in 2015. TCFD was created to improve and increase reporting of climate-related financial information that can promote more climate-informed investments.

This climate change-related disclosure report is prompted by that drive for transparency and fulfils the Trustee’s regulatory obligation in relation to climate change and governance reporting. The Trustee’s aim is that members and stakeholders can better understand the climate-related risks and opportunities within the Fund through its ownership of companies and other investments.

## Figure 1: TCFD Framework

TCFD recommendations are categorised under four pillars: Governance, Strategy, Risk Management, Metrics and Targets:



### Governance

The Fund’s governance around climate-related risks and opportunities.

### Strategy

The actual and potential impacts of climate-related risks and opportunities on the Fund’s investment.

### Risk Management

The processes used by the Fund to identify, assess, and manage climate-related risks.

### Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Asset owners like the Fund sit at the top of the investment chain and, therefore, have an important role to play in influencing the organisations through which they invest (such as asset managers) and companies in which they ultimately invest to provide better climate-related financial disclosures. Disclosure of climate-related risks and opportunities by asset owners allows beneficiaries and other audiences to assess the asset owner’s investment considerations and approach to climate change.

In setting the Fund’s investment strategy for the DB and DC Section, the Trustee has incorporated the available and relevant climate-related financial information into their investment decision making. The Trustee believes that their climate-related financial disclosures encourage better disclosures across the investment chain, from asset owners to asset managers to underlying companies.



## GOVERNANCE – DB Section

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

The Trustee has the ultimate responsibility for ensuring effective governance of climate-related risks and opportunities. The Trustee maintains a SIP, which details the key beliefs, risks and approach to ESG including climate change. This is reviewed on an annual basis or following a significant change in investment policy. The Trustee maintains a standalone investment beliefs document, which provides details on the Trustee's beliefs in matters such as integration of ESG factors, stewardship and climate change.

In addition, the Trustee has developed a standalone ESG Policy Document, which set out the Trustee's key ESG principles that have been established and the approach to considering climate risk and other ESG factors. The Trustee's key investment beliefs on ESG are:

- The Trustee believes that a sustainable investment approach is more likely to create and preserve long-term investment capital and, more specifically, that:
- ESG factors may have a material impact on investment risk and return outcomes, and these should be integrated into the investment process.
- Long-term sustainability issues, particularly climate change, present risks and opportunities that increasingly may require explicit consideration.
- Good stewardship can create and preserve value for companies and markets as a whole, hence having the potential to benefit Fund members in long-term.

Research into how climate-related risks and opportunities impact financial markets is constantly evolving and expanding. The Trustee carries out training on a regular basis to keep up-to-date with developments in this space.

#### CLIMATE CHANGE-RELATED DISCLOSURES

Over the course of 2023, the Investment Sub-Committee, whose function is to focus on investment-related matters and provide associated recommendations to the Trustee, had discussed ESG factors, which incorporate climate change considerations, as part of their regular quarterly meetings.

The consideration of climate-related risks and opportunities is integrated into the wider monitoring and decision-making responsibilities of the Trustee and the Investment Sub-Committee. On at least an annual basis, the Trustee reviews the Fund's risk register which includes ESG risks (including climate change). The Trustee will be monitoring the carbon emissions metrics produced in this report and against the agreed carbon emissions reduction target annually and consider climate-related risks and opportunities in conjunction with investment strategy reviews.

The Investment Sub-Committee and the Trustee meet at least four times a year where investment performance and risk management are reviewed, of which climate-related risks form part of the wider assessment. Some of the actions which have led to the improvement in ESG integration over the course of the reporting period include:

- The review of the Fund's ESG Policy to identify areas where action can be taken.
- Carrying out climate change scenario analysis and tracking carbon metrics including a commitment to reduce the level of carbon exposure of the Fund's investment portfolio.
- Undertaking a review of the ESG credentials of all managers the Fund invests with.
- Reviewing voting and engagement activity carried out on its behalf by the sub-investment managers.
- Publishing the first annual TCFD report for the Fund.

The Trustee takes independent investment advice from Mercer to help assess climate risks and opportunities, and looks to ensure that any decisions continue to support the Fund's ability to provide pensions.



## The role of those advising the Trustee on governance activities

Accordingly, Mercer (the Investment Consultant and discretionary investment manager), acting on behalf of the Trustee, seeks to manage the risks and opportunities associated with ESG considerations by selecting industry leaders in investment management in accordance with its Sustainable Investment Policy and against criteria which include ESG considerations.

The Trustee expects the overall approach to climate-related financial risks and opportunities for each of the Fund's investment managers to be consistent with the Financial Stability Board's TCFD framework. Disclosures consistent with the TCFD recommendations are also expected of appointed investment managers.

Mercer provides advice to the Investment Sub-Committee and Trustee on the investment strategy and investment manager appointments (where relevant) and acts to make changes to the portfolio under the agreed delegated authority. This includes managing and monitoring investment-related risks, such as climate change, from a strategic asset allocation perspective and with the appointed sub-investment managers.

Mercer provides climate scenario analysis modelling to model the Fund's investment strategy and funding strategy at least once every three years. In between this three-year period Mercer review the appropriateness of undertaking refreshed climate scenario analysis in light of data availability changes and/or any material changes in the investing strategy.

In addition, Mercer collect data in relation to the Fund's climate metrics annually, assist the Trustee in reviewing the appropriateness of the Fund's current targets and provides progress against these targets. The latter being provided as part of Mercer assisting the Trustee in producing the Fund's climate change-related disclosures report on an annual basis.

Mercer also looks at stewardship on behalf of the Trustee, covered as part of the Trustee's annual Implementation Statement, and the Fund's ESG Policy.

The Scheme Actuary advises on the funding position, including an understanding of the potential funding impact of changes to financial or demographic assumptions driven by climate change; and works with the Fund's other advisors to assist the Trustee in incorporating climate change in its investment and covenant monitoring, and communication with stakeholders as appropriate.

Grant Thornton as the Fund's Covenant Advisor supports the Trustee in a proportionate way to understand as part of its covenant monitoring framework, how climate-related risks and opportunities might affect the Fund's sponsoring employer over the short, medium and long term; and works with the Trustee's other advisers, if and when requested, to assist the Trustee in incorporating climate change in its governance arrangements and monitoring framework as appropriate.

The Investment Sub-Committee and Trustee works with its advisors (in addition to its Investment Consultant) to ensure that climate-related risks and opportunities are considered as part of their integrated risk management framework and expects their advisors (Scheme Actuary and Covenant advisor) to ensure the Trustee is compliant with the regulatory requirements when considering climate change risks and opportunities.





## **The Trustee’s process for ensuring those advising the Trustee take adequate steps to identify and assess any climate-related risks and opportunities**

The Trustee has appointed Mercer Global Investment Europe (“MGIE”) as the delegated investment manager for the Defined Benefit section of the Fund. MGIE is responsible for the appointment and monitoring of a suitably diversified portfolio of specialist third party investment managers. Those managers are in a position to engage directly with underlying companies/issuers in order to improve their performance in the medium to long term. As part of the sub-investment manager selection and monitoring process, MGIE consider the level and extent to which sub-investment managers take into account ESG factors, including climate change, in their investment process and stewardship activities (such as voting and engagement with the underlying companies or issuers they invest in).

Mercer has been set strategic objectives by the Trustee, which include an expectation that climate-related risks and opportunities are given due consideration. An assessment of Mercer against these objectives is carried out by the Trustee annually. The Trustee assess’ the Scheme Actuary and Covenant advisors capabilities around climate change related risk on an ad-hoc basis.

The Trustee has worked with their Investment Consultant, to ensure that the appropriate governance framework is in place to consider climate change and expect to review the processes in place as part of their ongoing review of Fund documentation, notably the SIP and Investment Beliefs document.

MGIE, acting on behalf of the Trustee, will engage with underlying investment managers where they are perceived to be lagging their peers in terms of ESG integration and climate risk management, and to ensure the investment managers are voting and engaging with the investee companies.

The Trustee, with support from the sponsoring employer’s benefits team, is responsible for ensuring that sufficient time is allocated for consideration and discussion of climate matters by the Trustee and its advisers. Climate change topics, amongst other ESG topics, form a standing annual agenda item on the Trustee’s meeting schedule, covering the various workstreams listed below. Those responsible for each workstream will make sure any documents or information is distributed in advance of the meeting to allow the Trustee time to digest the advice.



# GOVERNANCE – DC Section

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

The Trustee has the ultimate responsibility for ensuring effective governance of climate-related risks and opportunities. The Trustee maintains a Statement of Investment Principles (SIP), which details the key policies, risks and approach to ESG including climate change. This is reviewed on an annual basis or more frequently as required. A copy of the SIP is available at: <https://www.rochepensionfund.co.uk/dc-active/library>. The Trustee maintains a standalone investment beliefs document, which provides details on the Trustee’s beliefs in matters such as integration of ESG factors, stewardship and climate change.

The Trustee has also developed a standalone ESG Policy Document, which sets out the Trustee’s key ESG principles that have been established and the approach to considering climate risk and other ESG factors. The Trustee’s key investment beliefs on ESG are:

- May 2023: Considered ESG and climate change in the context of the Triennial Investment Strategy Review.
- September 2023: The 2023 DC TCFD report was finalised. Climate Metrics, Scenario Analysis and progress vs. the Climate Target were discussed in detail.
- December 2023: Reviewed the ESG Project Summary including reviewing the ESG ratings for the funds.

The Trustee will continue to receive training on climate-related risk as appropriate. ESG (including climate change) is an explicit agenda item, at least annually, for the Trustee and the Investment Sub-Committee.

The consideration of climate-related risks and opportunities is integrated into the wider monitoring and decision-making responsibilities of the Trustee and the Investment Sub-Committee. On at least an annual basis, the Trustee reviews the Fund’s risk register which includes ESG risks (including climate change). The Trustee monitors carbon metrics against the agreed carbon emissions reduction target annually and considers climate-related risks and opportunities in conjunction with setting the investment strategy.

The Investment Sub-Committee and the Trustee both meet at least four times a year where investment performance and risk management are reviewed, of which ESG factors, stewardship and climate change form part of the wider assessment. Some of the actions which have led to the improvement in ESG integration over the period include:

- Implementing the investment strategy changes in December 2023 which incorporated funds with stronger ESG credentials.
- Reviewing and updating the ESG Policy Document.
- Carrying out annual climate change scenario analysis and analysing climate metrics.
- Undertaking a review of the ESG credentials of all managers the Fund invests with.
- Reviewing voting and engagement activity carried out on its behalf by the Fund’s investment managers.

1. The Trustee believes that a sustainable investment approach is more likely to create and preserve long-term investment capital and, more specifically, that:

2. ESG factors may have a material impact on investment risk and return outcomes and should be integrated into the investment process.

3. Long-term sustainability issues, particularly climate change, present risks and opportunities that increasingly may require explicit consideration.

4. Good stewardship can create and preserve value for companies and markets as a whole, hence having the potential to benefit members in the long term.

Research into how climate-related risks and opportunities impact financial markets is constantly evolving and expanding. The Trustee carries out training on a regular basis to keep up-to-date with developments in this space.

Over 2023 the Trustee had several meetings where ESG (including climate change) training was an explicit agenda item. These are set out in the top right of this page.



## The role of those advising the Trustee on governance activities

**Role of Trustee:** the Trustee maintains oversight of climate related risks and opportunities by ensuring sufficient knowledge and understanding of climate change to fulfil their statutory and fiduciary obligations, and that they are keeping this knowledge and understanding up to date, putting in place effective climate governance arrangements and identifying and assessing the main climate-related risks and opportunities for the Fund in the Plan's Risk Register.

**Role of Investment Sub-Committee ("ISC"):** the ISC has oversight and decision-making responsibility for the implementation of the investment strategy as well as monitoring and managing ESG risk and opportunities including climate change. The terms of reference sets out the ISC's role and responsibilities.

**Role of advisers:** the Investment Adviser provides advice to the ISC and Trustee on the investment strategy and investment manager appointments. This includes advice on managing and monitoring investment-related risks, such as ESG factors, stewardship and climate from a strategic asset allocation perspective and with the appointed investment managers. The Investment Adviser provides climate-related scenario analysis, advice and training on the selection of climate-related metrics for the Fund to monitor. The Investment Adviser will assist the Trustee in producing the Fund's climate change-related disclosures report on an annual basis. The Trustee works with its DC Section advisers (Investment Adviser, Mercer and Governance Adviser, Aon) to ensure that climate-related risks and opportunities are considered as part of their risk management framework.

**Role of in-house support:** the Reward Team provides support to the Trustee as well as acting as liaison between the Trustee and the Company. Their primary role is to provide challenge to recommendations to ensure advice provided to the Trustee will facilitate effective decision-making.

The role of the Actuarial and Covenant Adviser are covered in the DB Section of this report.

## The Trustee's process for ensuring those advising the Trustee take adequate steps to identify and assess any climate-related risks and opportunities.

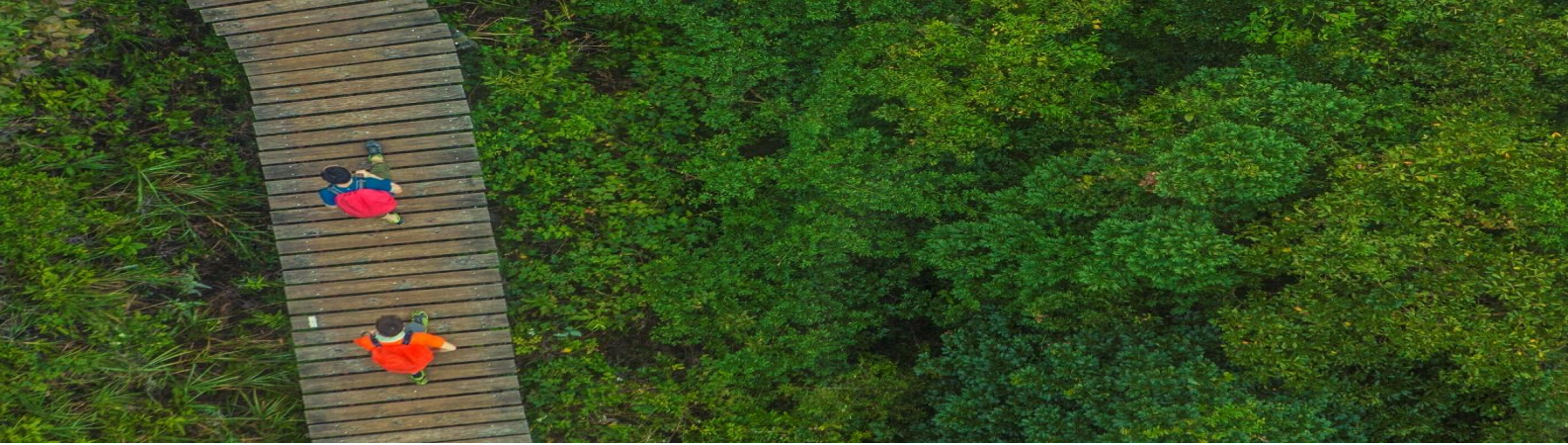
The Trustee monitors the investment managers on a regular and ongoing basis, including with respect to ESG factors, stewardship and climate change. This includes the Investment Adviser's ESG ratings which are an assessment of how well each underlying investment manager embeds ESG considerations and active ownership into their investment processes. The investment managers have been appointed based on their credentials, which includes the integration of ESG factors (where relevant).

The Investment Adviser has been set strategic objectives by the Trustee, which includes an expectation that ESG factors, stewardship and climate change risks are given due consideration. An assessment of these objectives (and an assessment of the Investment Adviser against these objectives) is carried out by the Trustee on an annual basis.

The Trustee has worked with their Investment Adviser to ensure that the appropriate governance framework is in place to consider climate risks and expect to review the processes in place regularly.

The Trustee or the Investment Adviser, acting on behalf of the Trustee, will engage with underlying investment managers where they are perceived to be lagging their peers in terms of ESG integration and climate risk management, and to ensure the investment managers are voting and engaging with the investee companies in accordance with the principles underlying the UK Corporate Governance Code and the UK Stewardship Code, in respect of all resolutions at annual and extraordinary meetings.

The Trustee applies the appropriate amount of scrutiny, challenge and discussion to advice relating to climate related risks. Further, the Trustee is satisfied that the amount of governance time spent is reasonable and will allocate more time at future meetings if any analysis or wider industry research requires additional review and consideration.



# STRATEGY – DB SECTION

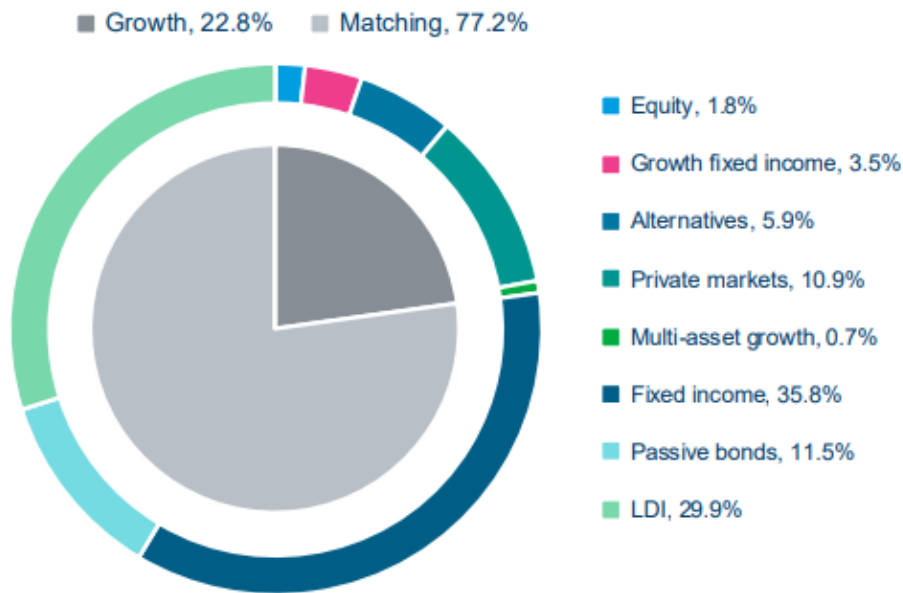
## Summary of the Fund’s DB Section Assets

The Trustee has appointed Mercer Global Investment Europe (“MGIE”) as delegated investment manager for the Defined Benefit section of the Fund.

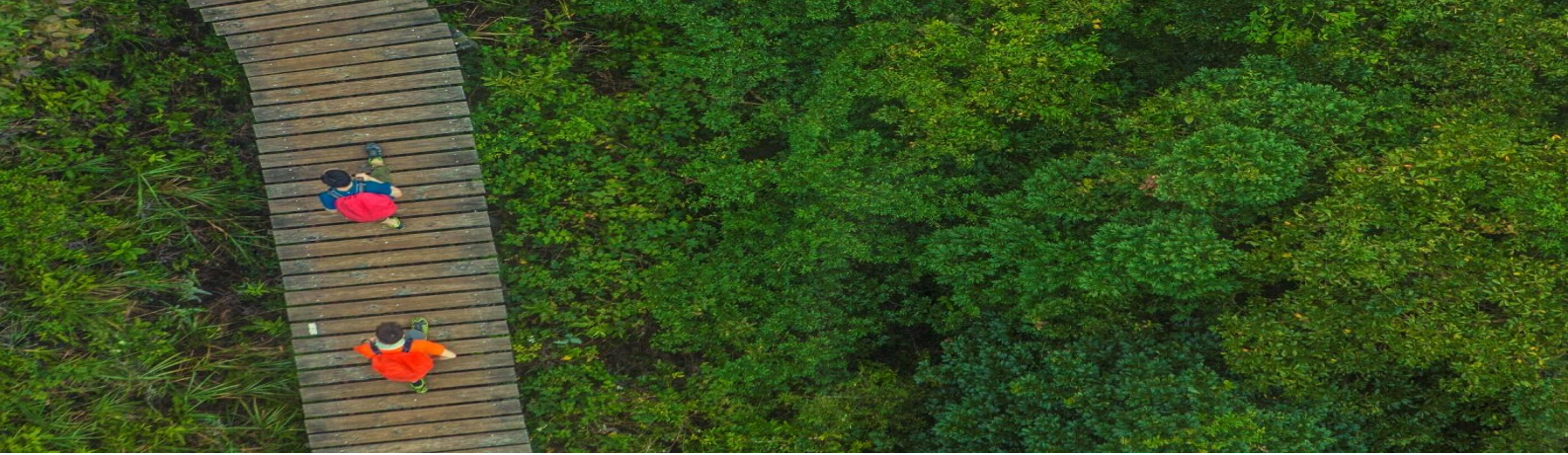
The Trustee has implemented a de-risking framework in order to reduce the level of risk in the investment strategy as the funding position improves. De-risking triggers have been agreed that when reached, will automatically reduce the allocation of growth assets in favour of matching assets.

As at 31 December 2023, the target allocation was 25.0% in growth assets (2022: 37.3%) and 75% in matching assets (2022: 62.7%). The reduction in the allocation to growth assets is a result of de-risking which occurred over the year.

**Figure 2: Summary of assets within the investment strategy as at 31 December 2023.**



*May not sum to 100.0% due to rounding.*



**Time periods which the Trustee have determined should comprise the short, medium and long term:**

The Trustee believes it is important to understand how the Fund’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 Fund.

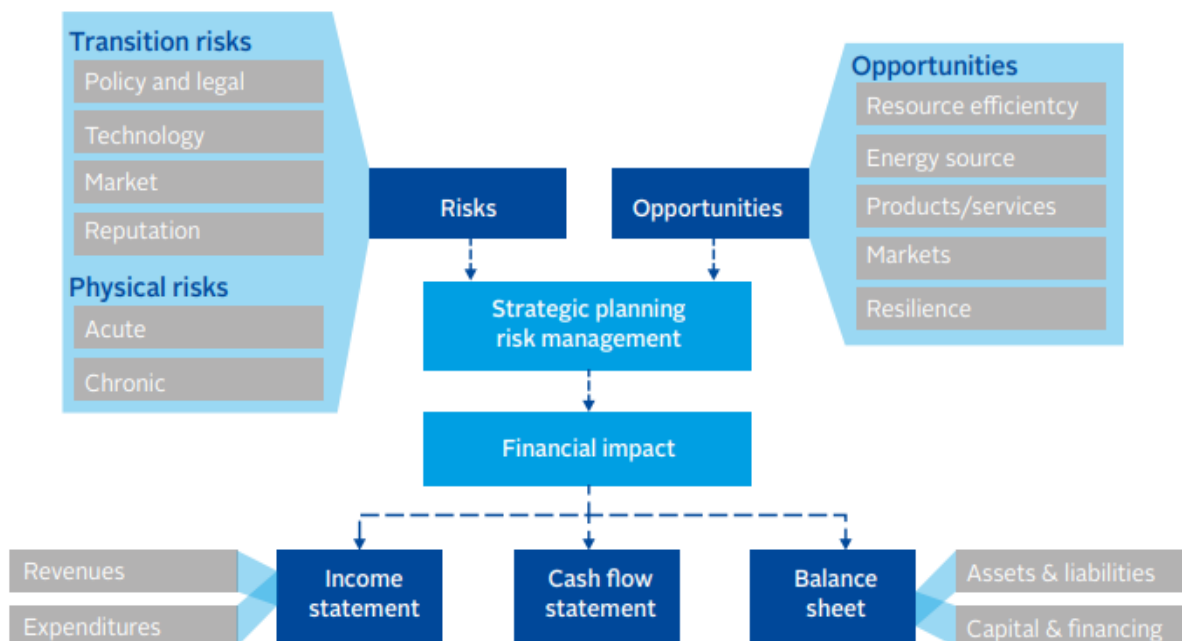
To help with this assessment, the Trustee has defined short-, medium- and long-term horizons for the Fund, which are detailed below:

Term	Duration
Short	5 years (covers the period to 2028, when the Trustee expects to have made progress towards reaching full funding on the low-risk basis)
Medium	20 years (covers the period to 2043, when the Trustee expects to reach full funding on the low-risk basis)
Long	40 years (covers the period where the total benefits paid will reduce as the membership ages)

**Climate-related risks and opportunities the Trustee has identified over the short, medium and long term**

The Trustee recognises that the risks and opportunities arising from climate change are diverse and continuously evolving. This is demonstrated well in Figure 3 which was taken from the Final Report issued by the TCFD.

**Figure 3: Climate-related risk and opportunities.**



Source: Final Report, Recommendations of the Task force on Climate-related Financial Disclosures (June 2017).



## Describe the climate-related risks and opportunities the Fund has identified over the short, medium and long term

Climate change presents risks over the short, medium and long-term, which the Trustee aims to better understand and mitigate where possible. The Trustee will consider the following short, medium and long-term drivers of risk going forward.

**Over the short term**, 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 below 2°C scenario occurring becoming higher and driving the transition risk to occur.
- If policy changes unexpectedly surprise markets. For example, if a carbon price or significant regulatory requirements are introduced across key markets to which the Fund's assets are exposed.
- Perceived or real increased pricing of greenhouse gas emissions.
- Substitution of existing products and services with lower emission alternatives may impact funds available through the DB Section of the Fund.
- Litigation risk relating to dangerous warming becoming more prevalent.
- Increases in the energy/heat efficiency of buildings and infrastructure.
- Investments in transition aligned strategies may provide the DB Section of the Fund with a partial hedge against climate transition risks.

The ability of the Trustee, MGIE and investment managers to consider these short-term changes can position the Fund favourably, for example taking advantage of the climate transition by avoiding and reducing investment in high-emitting carbon sensitive businesses that do not support the transition to a low carbon economy (where available and appropriate).

**Over the medium term**, the importance of physical risk will be increasing and over taking transition risks. In relation to transition risks, policy, legislation and regulation are likely to also play a key role at the international, national and subnational level. Technology and policy changes are likely to produce winners and losers both between and within sectors. Advancement of transition is likely to have started to crystallise stranded asset risks. In relation to physical risk, material long term physical risks could be priced in by markets. The ability of the Trustee, MGIE and investment managers to understand these changes and price drivers can position the Fund favourably, for example by increasing investments in new emerging technologies while avoiding exposures to physical risks. MGIE seeks to select managers and choose indices (where available and appropriate) that can identify potential emergence of low carbon opportunities and the decline of some traditional sectors.

**Over the long term**, physical risks are expected 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. A changing climate may directly impact the viability of some assets or business models (for example, flood risk for real estate, or drought / fire risk for timberland assets). The ability of the Trustee, MGIE and investment managers to understand these changes can position the Fund favourably, for example by increasing investments in infrastructure projects that display a high level of climate resilience (where available and appropriate).



## Describe the climate-related risks and opportunities relevant to the Fund over the agreed time periods and the impact of these on the Fund's investment strategy.

### Climate-related Risks

One of the greatest impacts to the Fund from climate change is investment risk. The performance of the Fund's investments is directly aligned to the value of the underlying assets, which are increasingly impacted by climate-related risks and opportunities.

MGIE ensures that the Fund's investment strategy is well-diversified and applies ratings to the investment managers to reflect that they have an appropriate understanding of both the companies and assets in which they invest in and the risks to which they are exposed.

The Trustee monitors on an annual basis the carbon intensity of the Fund's portfolio and how this changes over time, where the information is available. The carbon intensity for each of the component funds has been reported (where available) within the "Metrics and Targets" section of this report. This has been improved in this year's reporting to include scope 3 emissions.

### Climate-related Opportunities

There are significant opportunities for investing in companies and assets that may benefit as financial markets transition to a lower carbon environment.

The Fund is currently invested in the Mercer Global Sustainable Equity Fund, which seeks to access listed equity investments. In addition, the Fund has an allocation to PIP IV Sustainable Opportunities since 2017, which targets unlisted investments. More recently, over 2023 the Fund introduced an allocation to the Mercer Sustainable Listed Infrastructure UCITS CCF, which invests in infrastructure projects.

Under the fiduciary management arrangement, MGIE assesses whether there are attractive sustainability-orientated investment opportunities on an ongoing basis.

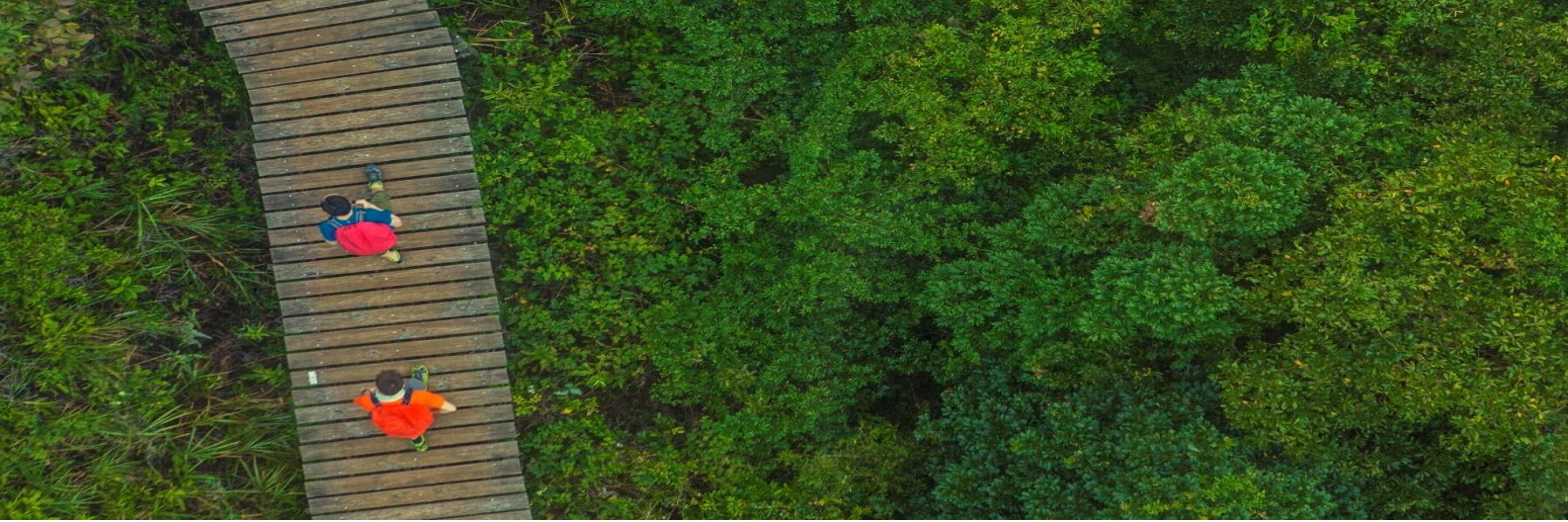
### Addressing Future Risks and Opportunities

In partnership with MGIE, the Fund seeks to make further progress in this area specifically for reducing climate-related risks over the short to medium term. For example:

1. Liaising with investment managers around reducing the carbon exposure of their portfolios (where available and appropriate);
2. Allocating to more sustainable assets;
3. Investing with managers that can demonstrate a higher degree of integration for Environmental, Social and Governance issues (as measured by Mercer's ESG ratings).

The Trustee expects Mercer, as the Fund's investment advisor, to provide support and consider potential investment and implementation opportunities to reduce the Fund's exposure to climate-related risks over time.

However, the Trustee recognises a balance is needed to be maintained between meeting the investment objectives of the DB Section of the Fund and considering these risks. Climate-related risks, but also opportunities, will be monitored as part of regular investment strategy reviews for the Fund.



## Covenant Scenario Analysis

The principal sponsor of the Fund, Roche Products Limited (RPL) is part of Roche AG (the Group) a global healthcare business, head quartered in Switzerland, with long-standing strength in oncology medicines, supported by its development into other therapeutic areas (such as immunology, neuroscience and haemophilia) and its position as a world leader in diagnostics.

For context, the Group has again been recognised as one of the most sustainable companies in the Pharmaceuticals Index of the Dow Jones Sustainability Indices (DJSI). Credit Rating Agencies continue to give the Group a strong investment grading, and whilst some adverse comments are made on Social and Governance matters, no specific concerns are raised on Environmental issues.

RPL sells the Group's pharmaceutical products in the UK; and is reimbursed for the development of the Group's products. Therefore, it is reasonable to expect that RPL and the other sponsoring employers (Roche Diagnostics Limited and Roche Diabetes Care Limited) of the Fund will be exposed to similar climate-related risks and opportunities as the wider Group due to this operating and financing structure.

The Group prepares its own TCFD and Sustainability reports, which our covenant adviser: Grant Thornton has considered, along with the Group's FY23 annual accounts to frame the comments below:

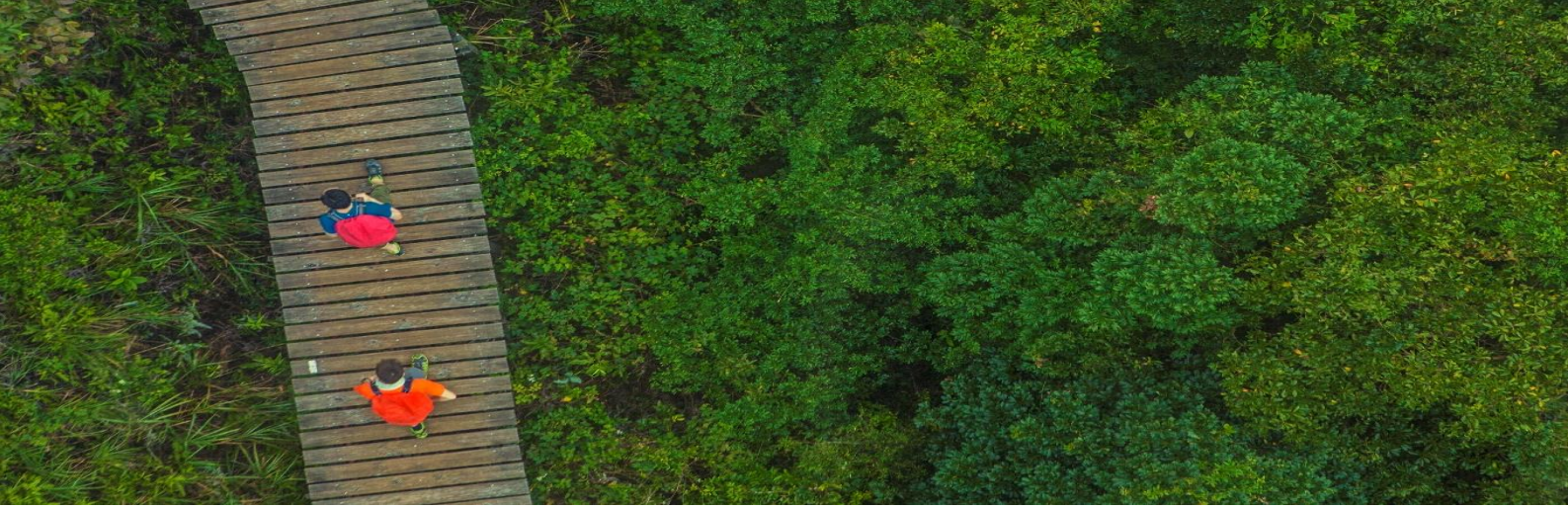
### Risks and Opportunities

The Group considers its potential exposure to climate risks (which are quantified where possible) and mitigating actions that it could take, as well as opportunities. These risks are centred around six physical climate related hazards, which then drive a range of scenarios such as issues with the Group's manufacturing facilities, reduction in the productivity of its employees and disruption to its transportation, supply lines and delivery networks.

The Group's TCFD report notes: "Thorough risk assessments have been conducted looking at various scenarios related to climate change. Measures to mitigate the worst climate change related risks are in place at Roche and are managed professionally. Consequently, the total value at risk is in the range of less than 700 MCHF [Million Swiss Franc] (around 1 % of our sales). The probability of one of the significant risks materializing is estimated to be less than once every ten years (worst-case scenario). Thus, the risk value per year is less than 70 MCHF and therefore negligible".

The Group also note that: "[It does] not see any significant opportunities due to climate change for [the] company short- to mid-term (5 – 15 years). Long-term the global pattern of diseases might change with the changing climate. This may lead to a need for more and other medicines and diagnostics, which could offer opportunities for our business to grow".





## Covenant Scenario Analysis

### Metrics and Targets

The Group's Sustainability Report for the year ended FY23 noted that its main environmental goals (and RPL's ESG strategy is aligned closely with the Group's) were as follows:

- Reduce greenhouse gas (GHG) emissions to zero by 2050.
- Reduce carbon dioxide (CO<sub>2</sub>) emissions by 40% by 2025 from 2019 levels and by 92% by 2029 (from a base level of 2004). In 2023, CO<sub>2</sub> emissions were reduced by c.7%.
- In 2023 the Group began developing a 'decarbonisation roadmap', this included to reduce supply chain emissions (scope 3). In 2023, the Group's scope 3 emissions decreased by 7.4% overall.

The Group measures its environmental impact using an eco-balance metric, which references both the consumption of energy and resources and the level of emissions and waste arising from the business. The environmental impact is then allocated across the work force to calculate the environmental impact per employee. The Group's target is to reduce this environmental impact by 36% by 2025 and 50% by 2029. The Group has currently achieved an overall reduction in environmental impact per employee of 32.8%, including a 2% reduction in FY23.

RPLs accounts for FY23 reflect similar wording to that of the Group for its metrics and targets.

### Conclusion

The DJSI continues to rank the Group strongly from a sustainability perspective against its peers and competitors. Given this together with the information from the Group's TCFD report and Sustainability report, the Trustee, alongside its covenant adviser Grant Thornton, considers that the overall covenant risk arising from climate related factors continues to be low at this point in time. In particular, with the Fund's strong funding position. However, this will be monitored regularly.



## Scenario analysis

**Describe the resilience of the Fund’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario**

The Trustee supports the goals of the Paris Agreement that deliver a well below 2°C temperature increase and believes that climate-risk may impact on securing long-term financial returns and considering climate-risk is in the best long-term interests of members.

The Trustee undertook climate scenario analysis for its prior report to test the resilience of the investment strategy adopted by the Trustee, it has been updated this year given the significant de-risking to the investment strategy since the initial modelling was carried out.

Climate change scenario analysis, as modelled by Mercer, has been undertaken on the Strategic Asset Allocation of the Fund’s portfolio, to assess the potential implications of climate change under three scenarios (Rapid, Orderly, and Failed Transitions) and over three time periods (5, 20 and 40 years).

- **A Rapid Transition** – Average temperature increase of 1.5°C by 2100 in line with the Paris Agreement. This scenario assumes sudden large-scale downward re-pricing across multiple securities in 2026. This could be driven by a change in policy or realisation that policy change is inevitable, consideration of stranded assets or expected cost. To a degree the shock is sentiment driven and is therefore followed by a partial recovery across markets. The physical damages are most limited under this scenario.
- **An Orderly Transition** – Average temperature increase of less than 2.0°C by 2100. This scenario assumes political and social organisations act in a co-ordinated way to implement the recommendations of the Paris Agreement to limit global warming to below 2°C. Transition impacts do occur but are relatively muted across the broad market.
- **A Failed Transition** – Average temperature increase above 4°C by 2100. This scenario assumes the world fails to co-ordinate a transition to a low carbon economy and global warming exceeds 4°C above pre-industrial levels by 2100. Physical climate impacts cause large reductions in economic productivity and increasingly negative impacts from extreme weather events. These are reflected in re-pricing events in the late 2020s and late 2030s.

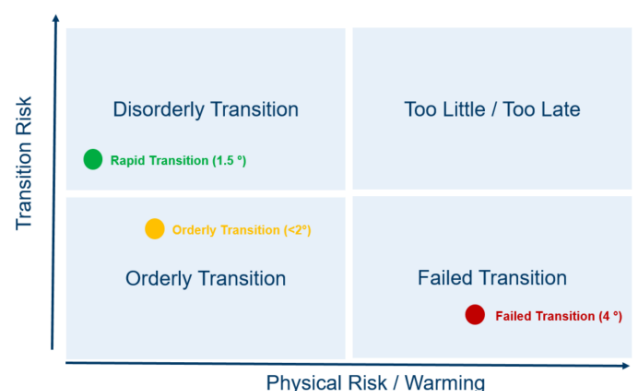
At a market level transition risks are reasonably priced in, however longer-term physical risks are more likely to be mispriced. Transition risks remain at sector level and at the market level due to the potential for more extreme transition scenarios to occur. We express this view by modelling scenarios relative to a baseline scenario. Mercer’s baseline assumes a composite scenario with the following weightings priced in: 40% Orderly Transition, 10% Rapid Transition, 10% Failed Transition, the remaining 40% represents low impact scenarios and the potential for the transition to have an overall positive impact.

### Figure 4: Mercer’s Climate Scenarios

One way to illustrate scenarios is by plotting the transition risk against the physical risk. This is shown in the chart below, which builds upon the Climate Scenarios Framework developed by the Network for Greening the Financial System.

Looking at example uses of the scenarios, each tests key elements of climate resilience:

- Is the portfolio resilient to the financial effects of the rapid decarbonisation of the economy to meet Paris Agreement goals (**Rapid Transition**)?
- What is the exposure to the risks/opportunities from the systemic drivers of an orderly transition and locked-in physical risk (**Orderly Transition**)?
- Is the portfolio resilient to the risks of plausible, severe climate change impacts (**Failed Transition**) and is the Fund’s stewardship strategy consistent with the need to avoid the scenario?





## Figure 5: Strategic Asset Allocation

The chosen scenarios help the Trustee understand the resilience of the Fund's portfolio to different potential warming pathways covering eventual temperature increases over different timeframes. While a lower warming pathway (sub-2°C scenario) is one which governments, businesses and society should aim for, there is a possibility that a failure to reduce greenhouse gas emissions quickly enough could set off irreversible feedback loops that significantly warms the planet (4°C scenario or greater).

The Trustee notes that the modelling may understate the true level of risk and uncertainty is likely to be greater for higher warming scenarios, in particular due to the difficulty in being able to accurately predict the future. Please note, climate-related scenario analysis is an ever evolving space and as such the scenarios modelled may be subject to review in future periods.

The table below shows the asset allocation as at 31 December 2023 modelled for the Roche Pension Fund, DB Section. The allocation is a set of target allocations for various asset classes and is focussed more on the long-term returns of the Fund's portfolio. The projections assume no further de-risking of the investment strategy. The projections also take into account the Fund's liabilities, hence charts plot the Funds gilts + 0.25% basis funding level.

## Figure 6: Strategy Modelling

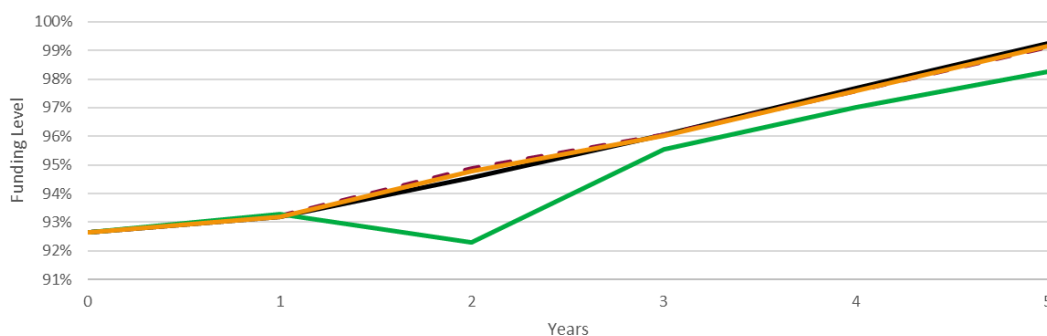
Modelling Asset Class	Current Asset Allocation (%)
MSCI World Equity	0.13%
UK Equity	0.11%
Europe Equity	0.15%
China Equity	0.13%
Emerging Markets Equity	0.30%
MSCI ACWI ESG Equity	0.26%
Multi Asset Credit	3.03%
Absolute Return Fixed Income	0.15%
Global High Yield Credit	0.73%
Global Investment Grade Credit	35.80%
UK Sovereign Bonds	41.86%
EMD Hard Currency	0.15%
EMD Local Currency	0.14%
Global Private Debt	6.14%
Private Infra Global	1.87%
UK Real Estate	3.19%
Listed Infrastructure	0.08%
Sustainable Infrastructure	0.62%
Private Equity	2.32%
Hedge Fund	2.85%

*\*The sovereign bonds allocation also includes any cash collateral positions supporting the Liability Driven Investments.*

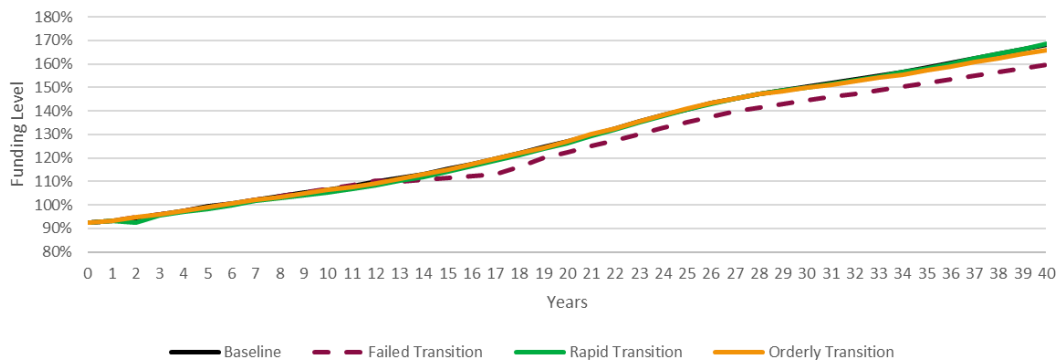


**Figure 7: Funding Level Projection**

**5 Years Projection**



**40 Years Projection**



The two graphs above show the projected funding level of the Fund on the gilts + 0.25% basis over a 5, 20 and 40 year period taking into account the different transition scenarios alongside the baseline.

**Key points at different time frames**

**5 Years** - Over this time period, transition risk dominates. Accordingly, the scenario which presents the largest impact is the rapid transition.

Overall, the baseline funding level as at 99% is reduced by 1.0% due to the impacts of Rapid Transition relative to baseline. The fairly modest impact reflects the fact that the Fund has de-risked over the year with a significant allocation to bonds, which typically present lower climate sensitivity compared to growth assets (e.g. equities).

**20 Years** - As longer term physical damages begin to be priced in, the Failed Transition becomes the most impactful scenario. The Failed Transition reduces the funding level to 122% from 127% in the baseline scenario.

**40 Years** - Over the long term, physical damages are the dominant driver and the Failed Transition is the worst scenario. The Failed Transition reduces the funding level to 160% from 168% in the baseline scenario.



## Summary

### Figure 8: Impact Summary

The table below sets out the funding level impact of the three climate scenarios compared to their respective baseline of the asset allocation modelled (the impact on asset returns is set out in the appendix):

	Funding Level	
	Baseline	Climate Impact
<b>Rapid Transition</b>		
Impact at 5 years	<u>99%</u>	<b>-1.0%</b>
Impact at 20 years	<u>127%</u>	<b>-0.6%</b>
Impact at 40 years	<u>168%</u>	<b>0.3%</b>
<b>Orderly Transition</b>		
Impact at 5 years	<u>99%</u>	<b>0.0%</b>
Impact at 20 years	<u>127%</u>	<b>-2.4%</b>
Impact at 40 years	<u>168%</u>	<b>-4.2%</b>
<b>Failed Transition</b>		
Impact at 5 years	<u>99%</u>	<b>-0.1%</b>
Impact at 20 years	<u>127%</u>	<b>-4.7%</b>
Impact at 40 years	<u>168%</u>	<b>-8.7%</b>

The funding level analysis above takes into account the impact of interest rates and inflation expectations upon the value of the liabilities. Of note, realised inflation is expected to be elevated under the Failed Transition, resulting from damages to agriculture and changes in food prices, increasing the value of benefits with inflation-linked increases. These impacts are fully hedged by the Fund's allocation to Liability Driven Investment holdings. It does not, however, explicitly take into account the impact of changes to mortality. Initial research commissioned by Mercer suggests that climate impacts, solely from temperature changes (e.g. hot/cold related deaths), are unlikely to significantly impact a typical UK DB scheme's funding. This does not, however, take into account wider macro-economic and health related impacts of climate change, which remains an area of active investigation

**The Fund's portfolio is well insulated against the impact of climate change under each scenario, with the funding level estimated to be over 100% under every scenario and timeframe longer than 5 years, and just under 100% over a 5 year period under all scenarios. The Trustee acknowledges that this analysis is subject to assumptions and limitations (see appendix for details) and will continue to monitor developments in the area of climate scenario analysis so that the resilience of the investment and funding strategy reflect the latest available information.**



# STRATEGY – DC SECTION

## Summary of the Fund’s DC Section Assets

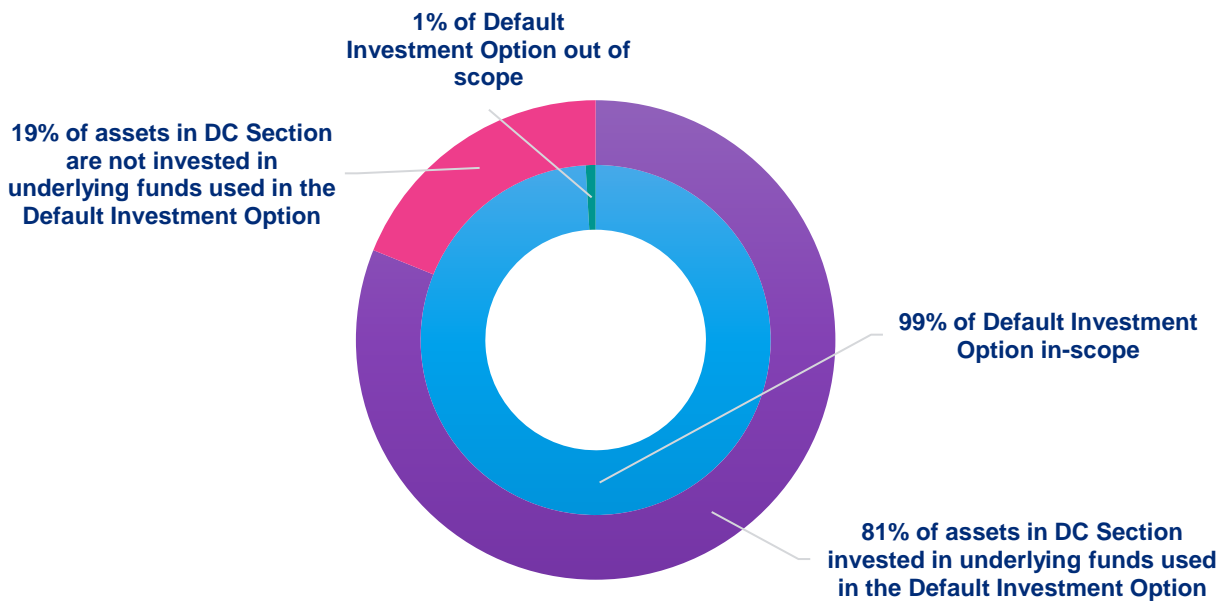
The DC Section’s investment arrangements are managed and provided by Fidelity International Limited (“Fidelity”) under a bundled arrangement.

As a minimum, the scope of reporting for DC arrangements is expected to cover popular arrangement(s), which is considered to meet one of the following criteria:

- £100m or more of invested DC assets; or
- accounts for 10% or more of the assets used to provide money purchase benefits.

For the purposes of this report, the Trustee has considered the component funds of the Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy, as in aggregate, this strategy meets both of the criteria listed above. Note that the BlackRock Cash Fund has not been included in the analysis contained in this report (c.2% of total DC Section assets and c.1% of the Roche Flexible Retirement Lifestyle Strategy).

**Figure 2: Summary of assets within the Default Investment Option as at 31 December 2023.**



The vast majority of assets in the DC Section of the Fund are invested in the Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy. The underlying funds that make up the Default Investment Option have c.81% of assets invested, more details on this can be found in the Appendix. The remaining c.19% of assets (this includes alternative lifestyles and self-select fund assets) have not been included within the analysis contained in this report.

Note that only the component funds of the Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy, have been included in the analysis contained in this report, and this excludes the BlackRock Cash Fund. Cash funds typically hold short dated fixed income instruments, the turnover in these portfolios is extremely high and the duration of these instruments can be as short as a few weeks, therefore in our view, conducting climate analysis on a cash fund at a single point in time could be misleading regarding its actual decarbonisation progress.



## Climate change time horizons: allowing for the dynamic nature of climate change

The time horizons identified by the Trustee for the purposes of the scenario analysis contained in this report are detailed below. The Trustee has selected these time horizons in order to represent members of the Fund at different stages of their careers.

Term	Duration	Definition
Short	5 years	Representative of a member at or very close to retirement age
Medium	10 years	Representative of a member approaching retirement age
Long	20 years	Representative of a member in the “mid-career” stage

## Climate-related risks and opportunities the Trustee has identified over the short, medium and long term

The Trustee recognises that the risks and opportunities arising from climate change are diverse and continuously evolving. This is demonstrated well in Figure 3 which was taken from the Final Report issued by the TCFD.

Figure 3: Climate-related risk and opportunities.



Source: Final Report, Recommendations of the Task force on Climate-related Financial Disclosures (June 2017).



## Climate-related risks and opportunities relevant to the Fund over the agreed time periods and the impact of these on the Fund's investment strategy.

### Climate-related Risks

One of the greatest impacts to the Fund from climate change is investment risk. The performance of the Fund's investments is directly aligned to the value of the underlying assets, which are increasingly impacted by climate-related risks and opportunities. The Trustee ensures that the Fund's investment strategy is well-diversified, and that the investment managers have an appropriate understanding of both the companies and assets in which they invest in and the risks to which they are exposed. The Trustee aims to, where possible and appropriate, seek to maximise exposure to positive ESG factors and seek to reduce carbon exposure within the Fund's Default Investment Option.

The Trustee monitors on an annual basis the carbon emissions of the Fund's Default Investment Option and how this changes over time, where the information is available. The carbon emissions for each of the component funds used in the Default Investment Option has been reported within the "Metrics and Targets" section of this report.

### Climate-related Opportunities

There are significant opportunities for investing in companies and assets that may benefit as we transition to a lower carbon environment. As part of the DC Section's triennial investment strategy review that was carried out in 2023, the Trustee agreed to make further enhancements to the Fund's ESG integration by increasing allocations to ESG-tilted funds. The following changes were implemented in December 2023:

- Replacing the existing BlackRock Emerging Markets Fund with an ESG tilted version, the L&G Future World Emerging Markets Equity Index Fund.
- Incorporating absolute return bonds alongside the existing passive corporate bond fund by creating a white-labelled "Roche World Bond Fund". The BNY Mellon (Newton) Global Dynamic Bond Fund, introduced as part of this blend, incorporates ESG and sustainable themes from a top-down thematic perspective to allow for a more robust level of ESG integration in portfolio construction.

The investment strategy changes were made to the Default Investment Option as well as the alternative lifestyles and self-select fund range.

### Addressing Future Risks and Opportunities

The Trustee acknowledges that further progress can be made in this area specifically for reducing climate-related risks over the short to medium term. For example:

1. Adjusting benchmarks that the passive funds track to lower carbon intensive benchmarks (where available and appropriate);
2. Allocating to more sustainable assets within the Default Investment Option, additional lifestyle strategies and self-select fund range;
3. Switching out of funds with the highest carbon emissions to lower carbon intensive funds, acknowledging the limited impact this approach would have on real-world emission reductions.

Having taken into account the Fund's investment strategy, the following risks and opportunities have been identified:

1. 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 investment strategy. Over this time period, opportunities are most likely to occur in transition related investment such as climate solutions.
2. 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 damage) could be material.
3. Over the long-term, the Trustee has identified physical risk as the key driver.

The Trustee has investigated the potential impacts of these risks and opportunities in the scenario analysis that follows.

**The Trustee recognises a balance is needed to be maintained between meeting the investment objectives of the Fund and considering these risks.**





## Scenario analysis

### Testing the resilience of the investment strategy

The Trustee supports the goals of the Paris Agreement to deliver a “well below” 2°C temperature increase and believes that climate-risk may impact long-term financial returns and considering climate-risk is in the best long-term interests of DC members.

Climate change scenario analysis has been undertaken on the strategic asset allocation of three different phases of the Fund’s Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy: Growth/Mid-career (20 years to retirement), De-risking (10 years to retirement) and very close to retirement (5 years to retirement). This analysis aims to assess the potential implications of climate change under four scenarios (“Rapid”, “Orderly”, “Limited” and “Failed” Transitions) and over different stages of a member’s journey to retirement.

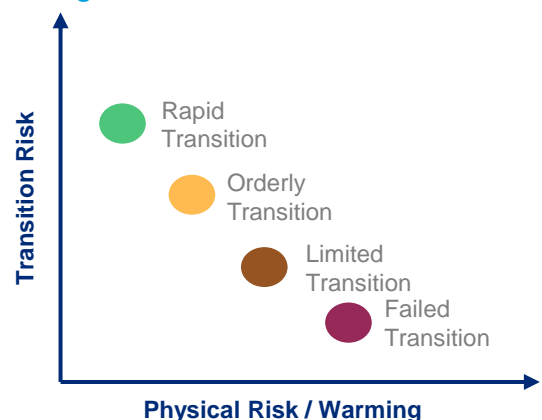
- **A Rapid Transition – Average temperature increase of 1.5°C by 2100 in line with the Paris Agreement.** This scenario assumes sudden large-scale downward re-pricing across multiple securities in 2026. This could be driven by a change in policy or realisation that policy change is inevitable, consideration of stranded assets or expected cost. To a degree the shock is sentiment driven and is therefore followed by a partial recovery across markets. The physical damages are most limited under this scenario.
- **An Orderly Transition – Average temperature increase of less than 2.0°C by 2100.** This scenario assumes political and social organisations act in a co-ordinated way to implement the recommendations of the Paris Agreement to limit global warming to below 2°C. Transition impacts do occur but are relatively muted across the broad market.
- **A Limited Transition – Average temperature of around 2.8°C by 2100.** This scenario assumes that policymakers implement limited NDCs (Nationally Determined Contributions) and fall short of meeting the Paris Agreement goals. The attempted transition translates in a slight downward re-pricing of securities in the late 2020s and slightly mitigates physical damage (relative to a failed transition). Physical damages are priced in to a degree in the late 2020s and the late 2030s.
- **A Failed Transition – Average temperature increase above 4°C by 2100.** This scenario assumes the world fails to co-ordinate a transition to a low carbon economy and global warming exceeds 4°C above pre-industrial levels by 2100. Physical climate impacts cause large reductions in economic productivity and increasingly negative impacts from extreme weather events. These are reflected in re-pricing events in the late 2020s and late 2030s.

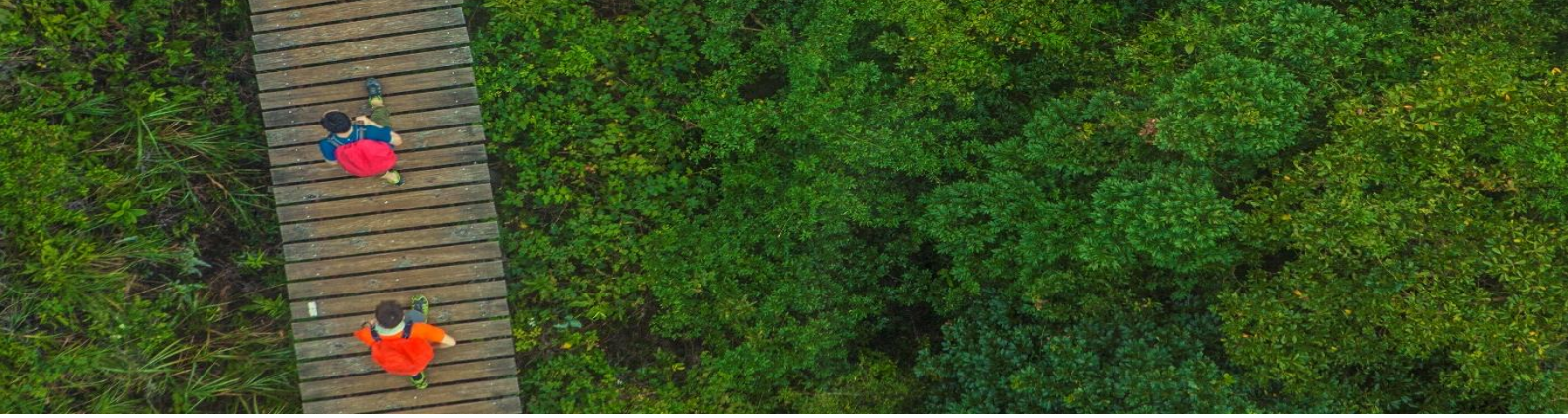
At a market level, transition risks are considered to be reasonably priced in, however longer term physical risks are more likely to be mispriced. We express this view by modelling scenarios relative to a baseline scenario. Mercer’s baseline assumes a composite scenario with the following weightings priced in: 10% Rapid Transition, 40% Orderly Transition, 10% Failed Transition, the remaining 40% represents a range of low impact scenarios. One way to illustrate scenarios is by plotting the transition risk against the physical risk. This is shown in the chart below, which builds upon the Climate Scenarios Framework developed by the Network for Greening the Financial System.

Looking at example uses of the scenarios, each tests key elements of climate resilience:

- Is the portfolio resilient to the financial effects of the rapid decarbonisation of the economy to meet Paris Agreement goals (**Rapid Transition**)?
- Can the transition happen without material damage to financial returns under an **Orderly Transition**?
- How is the portfolio expected to perform under current policies and action as defined under the **Limited transition**?
- Is the portfolio resilient to the risks of plausible, severe climate change impacts (**Failed Transition**) and is the stewardship strategy consistent with the need to avoid this scenario?

Figure 4: Mercer’s Climate Scenarios





### Figure 5: Strategic Asset Allocation

The chosen scenarios help the Trustee understand the resilience of the Fund’s Default Investment Option to different potential warming pathways covering eventual temperature increases over different timeframes. While a lower warming pathway (sub-2°C scenario) is one which governments, businesses and society should aim for, there is a possibility that a failure to reduce greenhouse gas emissions quickly enough could set off irreversible feedback loops that significantly warms the planet (i.e. the Failed Transition scenario).

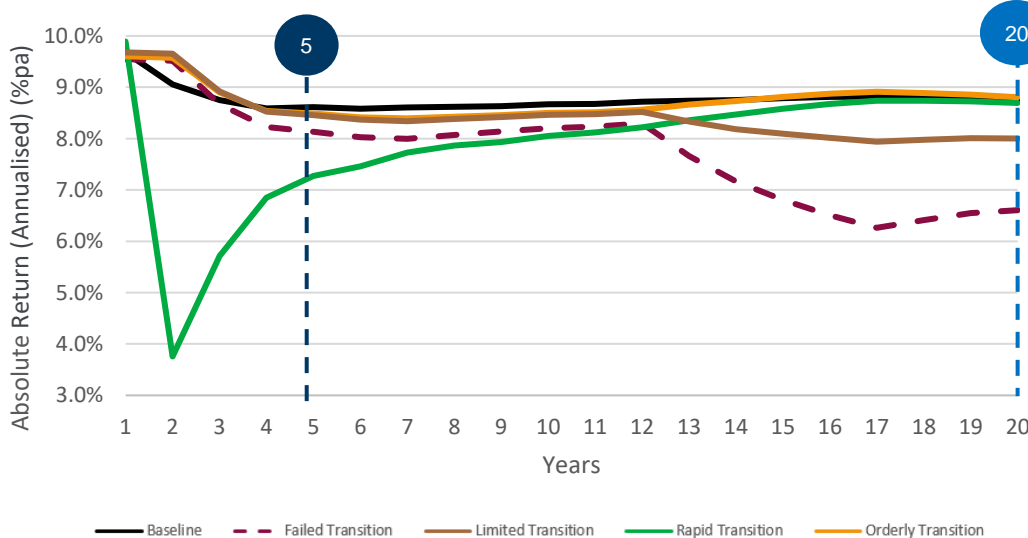
The Trustee notes that the modelling may understate the true level of risk and that uncertainty is likely to be greater for higher warming scenarios, in particular, due to the difficulty in being able to accurately predict the future. Please note, climate-related scenario analysis is an ever evolving space and as such the scenarios modelled may be subject to review in future periods.

The table below shows the high-level asset allocation for the Roche Flexible Retirement Lifestyle Strategy, further details on the underlying strategic asset allocation modelled for each of the component funds is in the Appendix. We assume a starting asset value of £100 with no contributions, this allows for assessment of the climate impact upon investment returns only.

Asset Class	Years to retirement (%)																				
	20+	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Equity	100	96.0	92.1	88.3	84.6	80.9	77.3	73.8	70.3	66.9	63.6	60.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0
DGF	0	4.0	7.9	11.7	15.4	19.1	22.7	26.2	29.7	33.1	36.4	40.0	40.0	40.0	40.0	40.0	40.0	40.0	36.7	33.3	30.0
Bonds	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	10.0	15.0	20.0	25.0	25.0	25.0	25.0
Cash	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	16.7	25.0

### Figure 6: Annualised Returns

Roche Flexible Retirement Lifestyle Strategy - Growth/Mid-career (20 years to retirement)



The graph shows the impact on annualised returns in Absolute terms in the Growth/Mid-career phase of the default investment option (i.e. from 20 years to retirement).

Over the 5 year period, transition risk dominates. The Rapid Transition is the most impacted scenario. Under this scenario there is a significant shock to returns in year 2 followed by a partial recovery. Overall, annualised returns are reduced by 1.3% p.a. over the 5 year period (relative to baseline) in the Rapid Transition.

Over the long term (20 years), physical damages are the dominant driver and the Failed Transition becomes the most impacted scenario. This causes a reduction in annualised return of around 2.1% p.a. (relative to baseline) over the 20 year period.

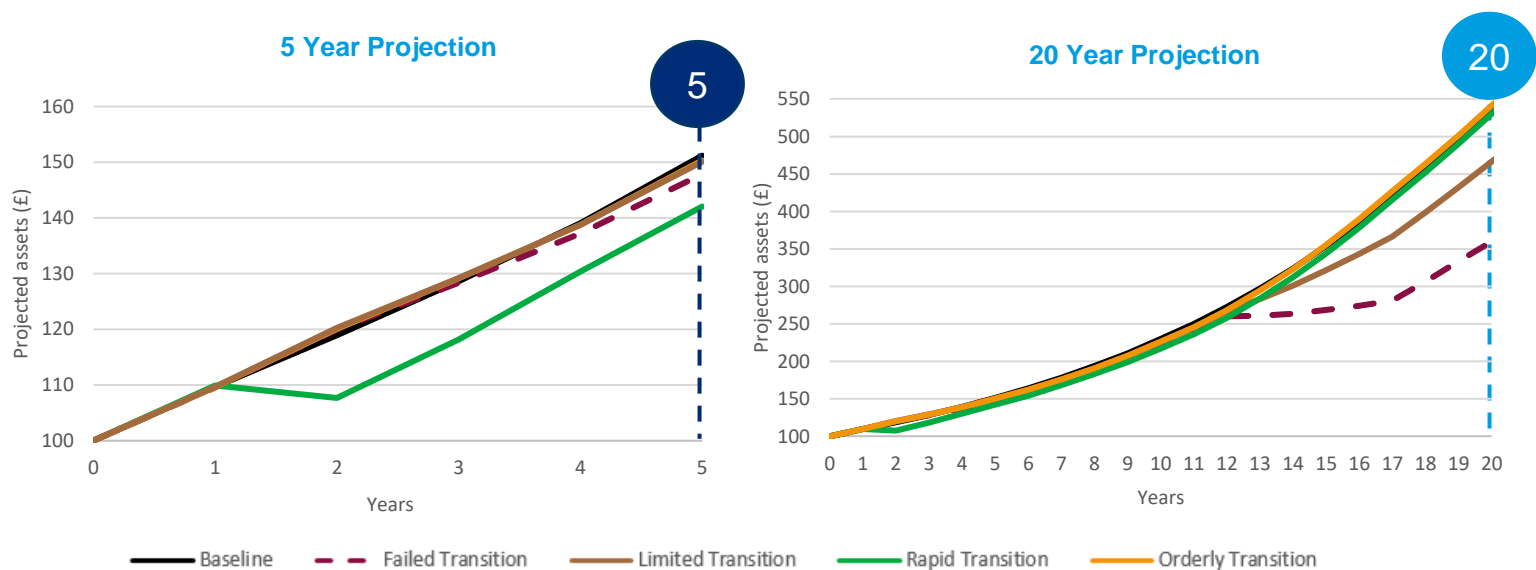


The charts below represent the output of the Trustee's quantitative analysis of the Growth/Mid-career phase of the DC Section's popular arrangement, the Roche Flexible Retirement Lifestyle Strategy. The charts represent projections of an asset value of £100 from an analysis date of 31 December 2023 over a period of 20 years to retirement and ignore the impact of future contributions. Further detail on the underlying asset allocations and limitations associated with climate scenario analysis are set out in the Appendix.

The projection allows for the glidepath followed by the Roche Flexible Retirement Lifestyle Strategy. The first chart on the left is a 'zoomed in' version of the chart on the right to allow a more detailed understanding of climate impacts over the first 5 years.

## Roche Flexible Retirement Lifestyle Strategy – Growth/Mid-career (20 years to retirement)

Figure 7: Asset Projection



\*The projections assume £100 initial asset value, with the baseline following Mercer's capital market assumptions' return expectations.

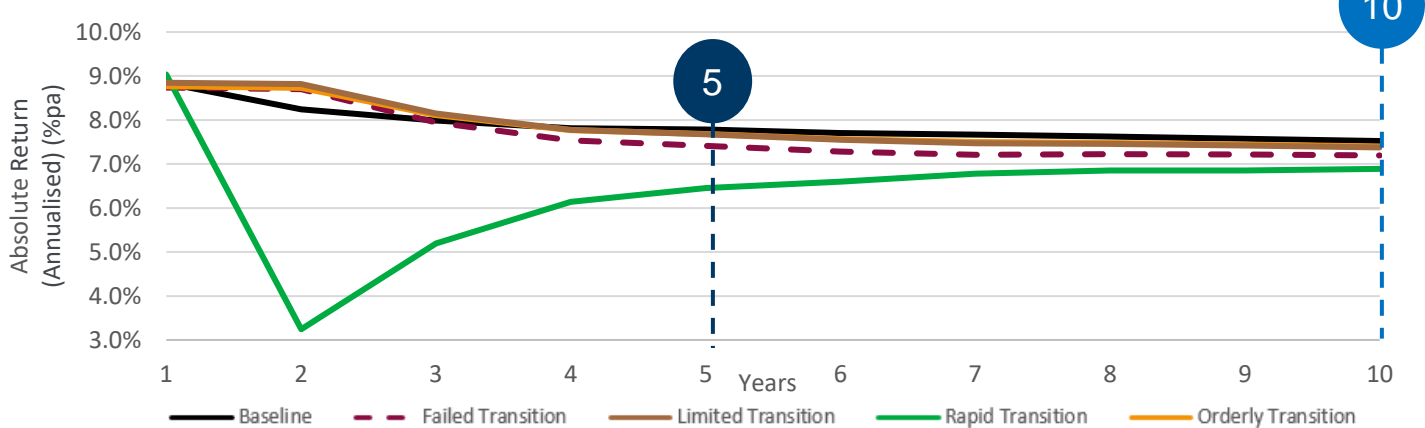
### Key points at different time frames (all values expressed relative to baseline)

- 5
**5 Years** – Over this time period, transition risk dominates. The Rapid Transition is the most impacted scenario. Under this scenario there is a shock to asset values of about 9.5% in year 2 followed by a recovery in the following year. Overall, projected asset values at the 5 year point are reduced by 6.0% in the Rapid Transition.
- 20
**20 years** – As longer term physical damages begin to be priced in, the Failed Transition becomes the most impacted scenario. Failed Transition reduces the asset value by 32.9%. Alongside this, from 12 years onwards, the Limited Transition tapers off from the baseline, consistent with the physical damages materialising in this scenario.



**Figure 8: Annualised Returns**

**Roche Flexible Retirement Lifestyle Strategy – De-risking (10 years to retirement)**

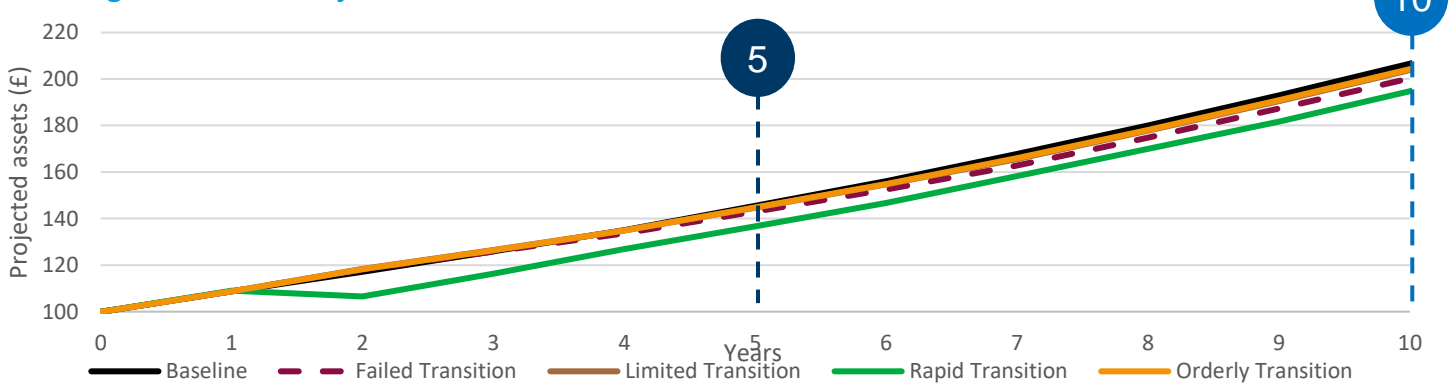


The graph above shows the impact on annualised returns in Absolute terms in the De-risking Phase (10 years to retirement). Over the 5 year period, there is a shock to returns under the Rapid Transition of about 6.0% p.a. in year 2. This is marginally less than the Growth/Mid-career phase. Overall, annualised returns are reduced by 1.3% p.a. over the 5 year period (relative to baseline) in the Rapid Transition.

Over the 10 years, transition risks are still the most significant and therefore the Rapid Transition is most impacted. This causes a reduction in annualised return of around 0.6% p.a. (relative to baseline) over the 10 year period. The impact of the Orderly Transition and Limited Transition is small on the basis that transition costs and impacts are largely priced in.

**Roche Flexible Retirement Lifestyle Strategy – De-risking (10 years to retirement)**

**Figure 9: Asset Projection**

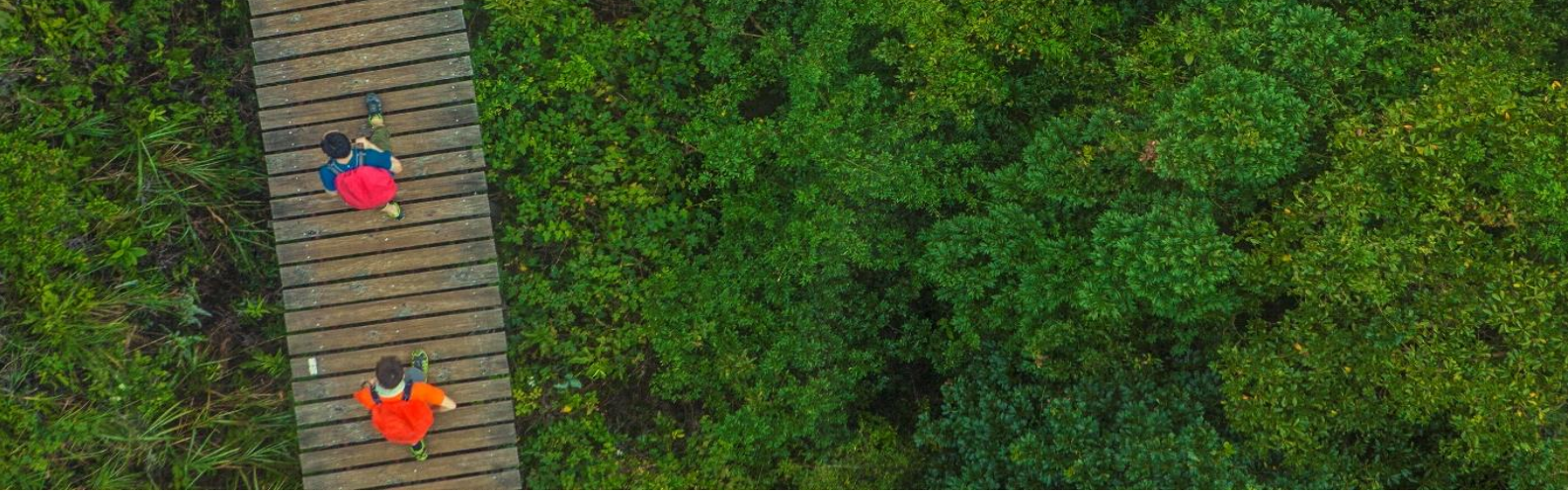


\*The projections assume £100 initial asset value, with the baseline following Mercer's capital market assumptions' return expectations.

**Key points at different time frames (all values expressed relative to baseline)**

**5** **5 Years** – Over this time period, transition risk dominates. The Rapid Transition is the most impacted scenario. Overall, projected asset values at this time point are reduced by 6.0% in the Rapid Transition.

**10** **10 years** – Transition risks are still the most significant and therefore the Rapid Transition is most impacted. However, the Failed Transition is becoming more impactful and future Physical damages start to be priced in. Under the Rapid Transition asset values are reduced by 5.7%. Under the Failed Transition the asset value are reduced by 3.0%.



**Figure 10: Impact Summary – Growth/Mid-career (20 years)**

	Asset Value Absolute Impact (£)	Climate Impact Annualised Returns (% p.a.)
<b>Rapid Transition</b>		
Impact at 5 years	-£9	-1.3%
Impact at 20 years	-£5	-0.1%
<b>Orderly Transition</b>		
Impact at 5 years	-£1	-0.1%
Impact at 20 years	+£5	+0.1%
<b>Limited Transition</b>		
Impact at 5 years	-£1	-0.2%
Impact at 20 years	-£69	-0.8%
<b>Failed Transition</b>		
Impact at 5 years	-£3	-0.5%
Impact at 20 years	-£176	-2.1%

**Figure 11: Impact Summary – De-risking (10 years)**

	Asset Value Absolute Impact (£)	Climate Impact Annualised Returns (% p.a.)
<b>Rapid Transition</b>		
Impact at 5 years	-£9	-1.3%
Impact at 10 years	-£12	-0.6%
<b>Orderly Transition</b>		
Impact at 5 years	-£1	-0.1%
Impact at 10 years	-£2	-0.1%
<b>Limited Transition</b>		
Impact at 5 years	-£1	-0.1%
Impact at 10 years	-£3	-0.1%
<b>Failed Transition</b>		
Impact at 5 years	-£2	-0.4%
Impact at 10 years	-£6	-0.3%

The tables on this page set out the annualised return impact of the climate scenarios relative to the baseline.

- Over 5 years, transition risk dominates and could decrease the asset value by £9 under the Rapid Transition scenario for both the Growth/Mid-career phase and De-risking phase.
- Over 10 years, physical impacts and, to a lesser extent, transition risks are evident. The asset value could decrease by £6 under a Failed Transition for the De-risking phase, indicating that physical risks are more dominant.
- Over 20 years, physical impacts and, to a lesser extent, transition risks are evident. The asset value could decrease by £176 under a Failed Transition for the Growth/Mid-career phase, indicating that physical risks are more dominant.

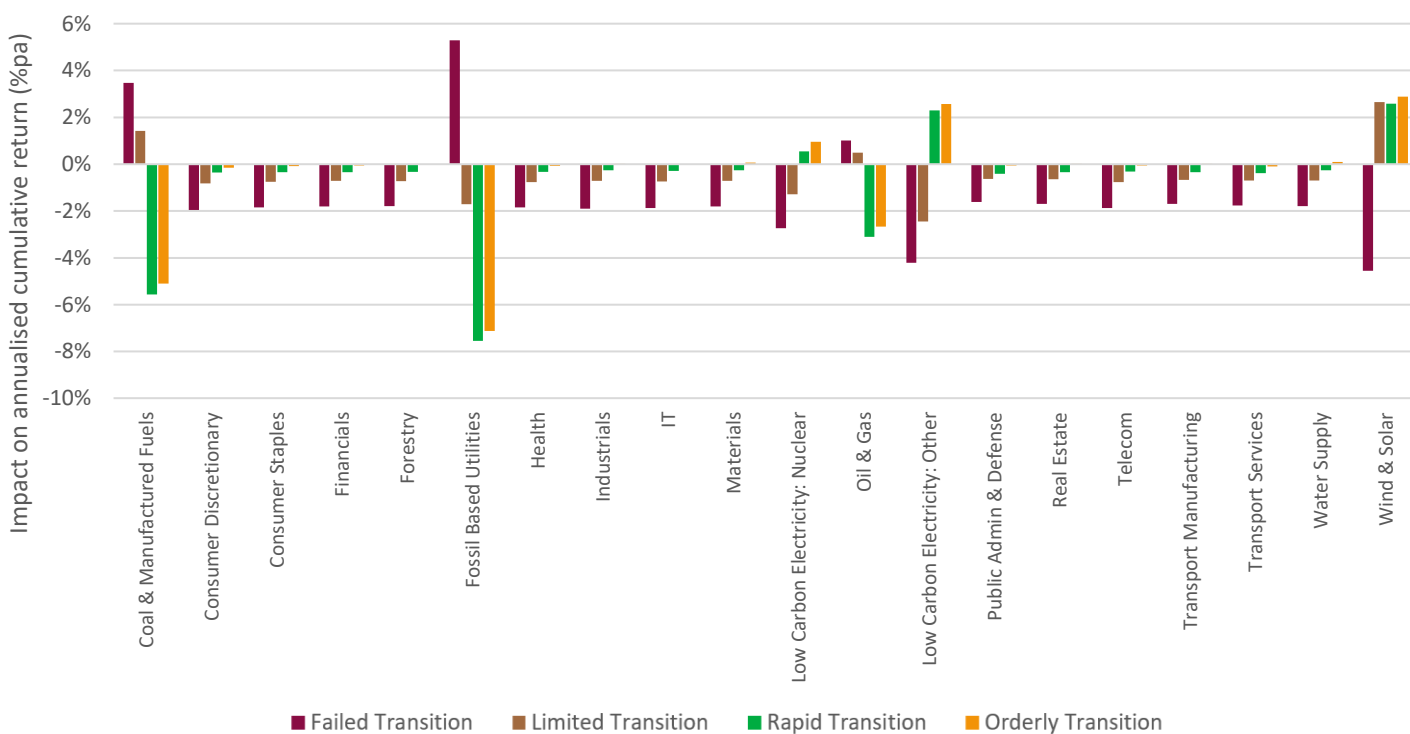
**Highlights from the scenario analysis**

- Our analysis illustrates that a Failed Transition is by far the worst in terms of long term returns.
- This supports the view that long term investors collectively trying to bring about an effective transition is aligned to their fiduciary duty to seek the best return within risk, liquidity and complexity restraints.



**Figure 12: Sector divergence (impact on different sectors within developed global equities over a 20 year period)**

Naturally, climate exposure varies by sector. This is illustrated in the chart below which shows the cumulative impact on different sectors within developed global equities over a 20 year time frame (the below charts are not specific to the Fund). Under the Failed Transition there is a positive return impact for coal & manufactured fuels, fossil based utilities and oil & gas. Under the Orderly and Rapid Transitions there is a positive impact for renewable energy (nuclear, other and wind & solar) that is naturally expected to gain.

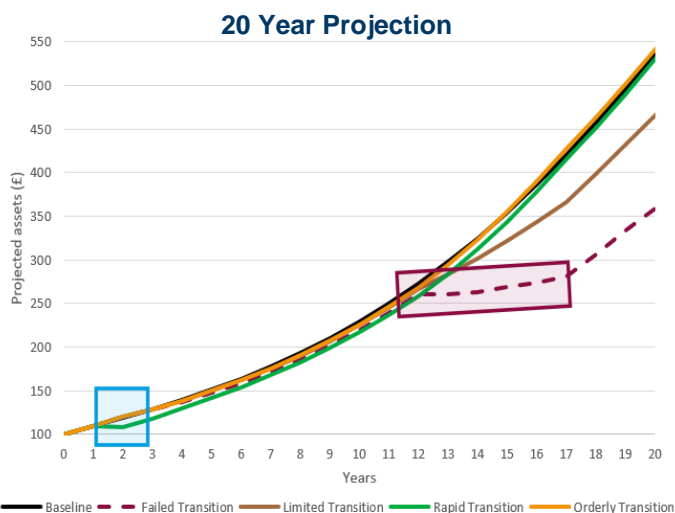


**Figure 13: Climate stress testing**

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.

Our Rapid Transition includes a shock around 2026 pricing in (and initially overreacting to a degree) to transition costs. Our Failed Transition includes shocks towards the end of the 2020s and 2030s pricing in future damage. While the exact timing of such shocks is unknowable, considering such shocks is important to risk analysis.





## Climate-related risks and opportunities the Fund has identified over different time horizons

As a long-term investor, the Trustee recognises the risks and opportunities arising from climate change are diverse and continuously evolving. Climate change presents risks over the short, medium and long-term, which the Trustee aims to better understand and mitigate where possible.

**Over the short term (5 years)** – transition risks may present themselves through rapid market re-pricing relating to climate transition as scenario pathways become clearer, market awareness grows, policy changes unexpectedly surprise markets and perceived or real increased pricing of greenhouse gas emissions, litigation risk relating to dangerous warming becoming more prevalent and increases in the energy/heat efficiency of buildings and infrastructure.

The ability of the Trustee and investment managers to consider these short-term changes can position the Fund favourably, for example taking advantage of the climate transition by avoiding and reducing investment in high-emitting carbon sensitive businesses that do not support the transition to a low carbon economy (where available and appropriate). Therefore, investments in transition aligned strategies may provide the Default Investment Option a partial hedge against climate transition risks.

**Over the medium term (10 years)** – transition risks associated with the transition to a low carbon economy are still likely to dominate. These include the development of technology and low carbon solutions. Policy, legislation and regulation are likely to also play a key role at the international, national and subnational level.

Technology and policy changes are likely to produce winners and losers both between and within sectors. Advancement of transition is likely to have started to crystallise stranded asset risks over the medium term.

Over the medium term, the risks and expected impacts associated with transitioning to a low carbon economy gradually give way to the physical impacts associated with climate change.

Figure 12 highlights (using benchmark indices) how the sector exposures of the equity components of the Default Investment Option are expected to perform across the various scenarios. The ability of the Trustee and investment managers to understand the potential impacts within different sectors can position the Fund favourably. The Trustee seeks to select managers and choose indices (where available and appropriate) that can identify potential emergence of low carbon opportunities and the decline of some traditional sectors.

**Over the long term (20+ years)** – physical risks are expected to come to the fore. 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. A changing climate may directly impact the viability of some assets or business models (for example, flood risk for real estate, or drought / fire risk for timberland assets).

Over the long term, physical impacts become increasingly significant, with the Failed Transition resulting in significant falls in asset value. Despite the short-term negative impacts associated with a Rapid Transition scenario, it's notable (from Figure 10) that the physical risks under the Failed Transition significantly outweigh these over the long-term.

The results of the scenario analysis highlight the importance of the Trustee continuing to monitor the risks and opportunities associated with climate change on behalf of members. The Trustee will continue to weigh up these risks and opportunities (and how they're likely to present themselves over the short, medium and long-term) against the wider array of risks to be considered in helping members achieve their long-term retirement goals. As part of this process, the Trustee will engage with the underlying investment managers to ensure these risks and opportunities are being appropriately considered.



## RISK MANAGEMENT – DB SECTION

### Describe the Trustee's process for identifying and assessing climate change-related risks

The Trustee recognises that climate-related risks can be financially material and that the due consideration of climate risk falls within the scope of the Trustee's fiduciary duty. Given the long-dated nature of the Fund's investments and the timeframe in which climate risks could materialise, a total portfolio approach to risk management covering all sectors and all relevant asset classes has been taken.

The Investment Sub-Committee and the Trustee seek to identify and assess climate change-related risks from both a top down and bottom up perspective. The climate change scenario modelling (described in the previous section) provides a top down strategic assessment of climate change risks. From a bottom up perspective, the Trustee and MGIE seeks to identify key sources of company and sector-level carbon risks using carbon emissions analysis and non-carbon emissions climate-related metrics (described in the next section).

The Trustee receives quarterly investment performance reporting, which includes ESG investment manager ratings produced by Mercer for the Fund's investment managers. These ratings assess the degree to which managers integrate ESG considerations, including climate change, into their investment processes and active ownership activities. If a manager is considered to be "lagging the market", Mercer will engage with the relevant investment manager(s) to strongly encourage that they improve in policies and practises in this area.

The Trustee also receives annually an ESG Manager Ratings review which analyses the ESG ratings of the funds available through the DB Section comparing these against the wider universe of strategies across various asset classes that are researched by the Investment Consultant.

A summary of the managers' voting statistics and a selection of the most significant votes cast over the year are disclosed in the DB Section Implementation Statement which is reviewed on an annual basis by the Trustee.

The Trustee is actively considering ways to further enhance the process of identifying and assessing climate-related risks and opportunities. The Trustee annually reviews Fund documentation including the SIP, investment beliefs and risk register. The Trustee has strengthened its policy in relation to ESG within the SIP and ESG risks (including climate change) are reflected in the Fund's investment beliefs and risk register. The risk register is used to effectively identify, prioritise, manage and monitor risks associated with the Fund and the escalations of risk are managed by internal controls in place.

### Describe the Trustee's process for managing climate change-related risks

The Trustee manages risk by prioritising those risks that it believes may be most financially material. These risks are identified in the SIP. In addition, the Trustee reviews the Fund's risk register annually to ensure that risks are effectively managed.

The Trustee's approach to climate change risk management is guided by climate change scenario modelling, carbon emissions analysis and an assessment of a manager's ability to integrate ESG issues, including climate change considerations, into their investment processes.

The Trustee and MGIE equally sees its target to reduce the level of carbon intensity within the Fund, as a means to manage climate transition risks. Equally, the Trustee and MGIE expects companies in which it invests to manage climate change risks.

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 consultant and investment managers to continuously improve the approach to assessing and managing risks over time as more data becomes available.

The Trustee does not directly use stewardship to manage climate-related risks, rather MGIE, as the Fund's fiduciary manager, is expected to employ stewardship as a risk management tool on behalf of the Trustee.





## Describe how processes for identifying, assessing and managing climate change-related risks are integrated into the Fund’s overall risk management

Both climate change-related risks and wider investment risks are considered as very important by the Trustee. Where possible, climate change and wider investment risks are treated in a holistic manner by recognising they are often interrelated. The Trustee adopts an integrated approach to climate risk management across assets, covenant and liabilities. The below table summarises the primary climate-related risk management processes and activities.

 <p><b>Governance</b></p>	<ul style="list-style-type: none"> <li>The Trustee’s <b>Statement of Investment Principles</b> is reviewed at least annually and sets out how ESG risks including climate change are managed and monitored.</li> <li>The Trustee maintains a <b>risk register</b> to monitor and mitigate financially material risks to the Fund. On at least an annual basis, the Trustee reviews the Fund’s risk register which includes reference to ESG risks (including climate change) to ensure the assessment of the likelihood and impact continue to remain appropriate for the Fund.</li> <li>The Investment Sub-Committee and Trustee receive regular <b>training</b> 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 Fund.</li> <li>MGIE as the Fund’s fiduciary manager, publishes a Sustainable Investment Policy, which is updated on an annual basis.</li> <li>The Trustee has developed a standalone <b>ESG Policy Document</b>, which sets out the Trustee’s key ESG principles that have been established and the approach to considering climate risk and other ESG factors.</li> </ul>
 <p><b>Strategy</b></p>	<ul style="list-style-type: none"> <li>The Investment Consultant, Mercer, will take an integrated approach involving the impact to the Fund’s liabilities, covenant and assets when taking climate-related risks and opportunities into account as part of any <b>wider strategic investment advice</b> provided to the Trustee. This includes highlighting the expected change in climate-risk exposure through proposed asset allocation changes. Additionally, MGIE as the Fund’s fiduciary manager take account of climate-related issues when considering portfolio construction.</li> <li><b>Climate scenario analysis</b> for the Fund will be reviewed regularly. A summary of the Trustee’s latest climate scenario analysis has been included in this report and is the primary tool to help the Trustee understand the materiality of climate-related risks that could impact the Fund over time.</li> <li>The Trustee has set <b>strategic objectives for its Investment Consultant</b> which includes an expectation that climate-related risks and opportunities are given due consideration. An assessment against these objectives is carried out by the Trustee on an annual basis.</li> </ul>
 <p><b>Reporting</b></p>	<ul style="list-style-type: none"> <li>Annual reports of <b>climate-related metrics</b> and progress against climate-related targets will be reviewed by the Trustee. The Trustee may use the information to engage with the investment managers and will take the information into account in investment strategy reviews.</li> <li>The Trustee produces an annual <b>Implementation Statement</b> which includes commentary on how the investment managers choose to vote and engage on climate-related issues (among other ESG issues), where applicable.</li> </ul>
 <p><b>Manager selection and retention</b></p>	<ul style="list-style-type: none"> <li>MGIE will consider an investment manager’s firm-wide and strategy-specific approach to managing climate-related risks and opportunities alongside other ESG factors when either <b>appointing</b> a new manager, in the ongoing <b>review</b> of a manager’s appointment, or as a factor when considering the <b>termination</b> of a manager’s appointment.</li> <li>MGIE reviews investment managers on the extent of <b>integration of ESG factors</b> (including climate change) into their investment processes. A manager’s stewardship process forms part of the rating assessment. This is considered at the firm level and at the investment strategy/fund level. The ratings are presented in quarterly investment performance reports and are reviewed by the Trustee. The Trustee also receives annually an ESG Manager Ratings review which analyses the ESG ratings of the funds comparing these against the wider universe of strategies across various asset classes.</li> </ul>



## RISK MANAGEMENT – DC SECTION

### Process for identifying and assessing climate-related risks

The Trustee recognises that climate-related risks can be financially material and that consideration of climate risk falls within the scope of the Trustee's fiduciary duty. Given the long-dated nature of the Fund's investments and the timeframe in which climate risks could materialise, a total portfolio approach to risk management covering all sectors and all relevant asset classes should be taken, with specific focus given to the Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy, since over 81% of the total DC Section assets are invested in this investment strategy.

The Trustee seeks to identify and assess climate-related risks from both a top down and bottom up perspective. The climate change scenario modelling (described in the previous section) provides a top down strategic assessment of climate risks. From a bottom up perspective the Trustee seeks to identify key sources of company and sector-level risks using climate-related metrics (summarised in the next section).

The Trustee receives quarterly investment performance reporting, which includes ESG investment manager ratings produced by the Investment Adviser. These ratings assess the degree to which managers integrate ESG considerations, including climate change, into their investment processes and stewardship activities. If a manager is considered to be "lagging the market", the Investment Adviser will engage with the relevant investment manager(s) to encourage that they improve their policies and practises in this area.

The Trustee receives an annual ESG Manager Ratings review which analyses the ESG ratings of the funds available through the DC Section comparing these against the wider universe of strategies across various asset classes.

As part of the DC Section's triennial investment strategy review that was carried out in 2023, the Trustee agreed to make further enhancements to the Fund's ESG integration by increasing allocations to ESG-tilted funds, details of which are set out on page 10 of this report.

A summary of the investment managers' voting statistics for all funds (with equity holdings) and significant votes for the Default Investment Option cast over the year are disclosed in the Fund's Implementation Statement which is reviewed on an annual basis by the Trustee.

The Trustee annually reviews Fund documentation including the SIP, the ESG Policy Document, investment beliefs and risk register. The Trustee has strengthened its policies in relation to ESG within the SIP and this is also reflected in the Fund's investment beliefs and risk register. The risk register is used to identify, prioritise, manage and monitor risks associated with the Fund and the escalations of risk are managed by internal controls in place.

### Process for managing climate-related risks

The Trustee manages risk by prioritising those risks that it believes may be most financially material to member outcomes. Climate change is one of the risks that the Trustee considers alongside other financially material risks. These risks are identified in the SIP. In addition, the Trustee reviews the Fund's risk register annually to ensure that risks are effectively managed.




The Trustee's approach to climate risk management is guided by climate change scenario modelling, climate metric analysis and an assessment of a manager's ability to integrate ESG issues, including climate change considerations, into their investment processes.

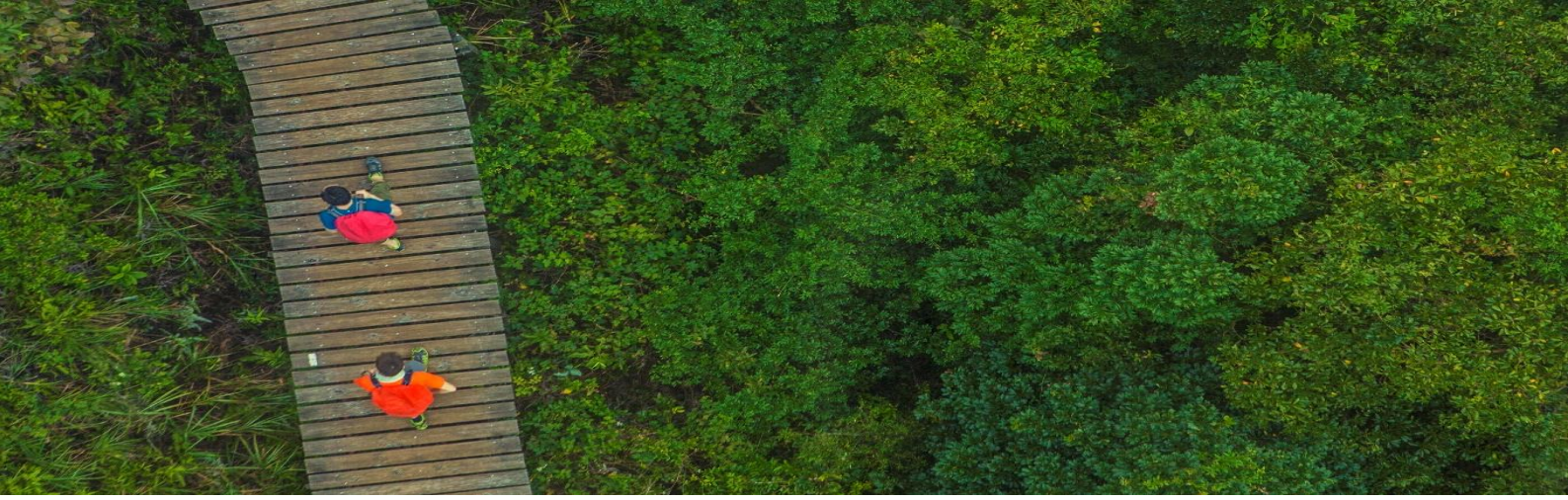
The Trustee equally sees its target to reduce the level of carbon emissions within the Fund, with a focus on the Default Investment Option (details in next section), as a means to manage climate risks. Equally, the Trustee expects companies in which it invests to manage climate change risks.

The Trustee recognises the challenges with various metrics, tools and modelling techniques used to assess climate risks. The Trustee aims to work with its Investment Adviser and investment managers to continuously improve the approach to assessing and managing risks over time as more data becomes available.



Both climate-related risks and wider investment risks are considered as important by the Trustee. Where possible, climate change and wider investment risks such as demographic trends are treated in a holistic manner by recognising they are often interrelated. The below table summarises the primary climate-related risk management processes and activities.

 <p><b>Governance</b></p>	<ul style="list-style-type: none"> <li>• The Trustee’s <b>Statement of Investment Principles</b> is reviewed at least annually and sets out how ESG risks including climate change are managed and monitored.</li> <li>• The Trustee maintains a <b>risk register</b> to monitor and mitigate financially material risks to the Fund. On at least an annual basis, the Trustee reviews the Fund’s risk register which includes reference to ESG risks (including climate change, both physical and transition risks) to ensure the assessment of the likelihood and impact continue to remain appropriate for the Fund.</li> <li>• The Trustee receives regular <b>training</b> 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 Fund.</li> <li>• The Trustee has developed a standalone <b>ESG Policy Document</b>, which sets out the Trustee’s key ESG principles that have been established and the approach to considering climate risk and other ESG factors. This policy is reviewed on an annual basis.</li> <li>• The Trustee undertakes semi-regular <b>ESG Beliefs Surveys</b>, the last survey was completed in August 2021. The Trustee believes that sustainable investment decisions are aided through establishing a foundation of clearly articulated ESG beliefs.</li> </ul>
 <p><b>Strategy</b></p>	<ul style="list-style-type: none"> <li>• The Investment Adviser will take ESG risks and opportunities (including climate change) into account as part of any <b>wider strategic investment advice</b> provided to the Trustee. This includes highlighting the expected change in climate-risk exposure through proposed asset allocation changes.</li> <li>• <b>Climate scenario analysis</b> for the Fund, focusing on the Default Investment Option will be reviewed regularly (including the impact of both physical and transition risks). A summary of the Trustee’s latest climate scenario analysis has been included in this report and is the primary tool to help the Trustee understand the materiality of climate-related risks that could impact the Fund over time.</li> <li>• The Trustee has set <b>strategic objectives for its Investment Adviser</b> which includes an expectation that ESG risks and opportunities (including climate change) are given due consideration. An assessment against these objectives is carried out by the Trustee regularly.</li> </ul>
 <p><b>Reporting</b></p>	<ul style="list-style-type: none"> <li>• Annual reports of <b>climate-related metrics</b> and progress against climate-related targets will be reviewed by the Trustee. The Trustee may use the information to engage with the investment managers and will take the information into account in triennial investment strategy reviews.</li> <li>• The Trustee produces an annual <b>Implementation Statement</b> which includes commentary on how the investment managers choose to vote and engage on climate-related issues (among other ESG issues), where applicable. Additionally, it provides commentary on what the Trustee deems a “significant” vote to be, in line with their stewardship priorities as well as documenting these votes. The outcomes from the stewardship monitoring are summarised in the Trustee’s annual Implementation Statement.</li> </ul>
 <p><b>Manager selection and retention</b></p>	<ul style="list-style-type: none"> <li>• The Trustee, with advice from the Investment Adviser, will consider an investment manager’s firm-wide and strategy-specific approach to managing climate-related risks and opportunities alongside other ESG factors when either <b>appointing</b> a new manager, in the ongoing <b>review</b> of a manager’s appointment, or as a factor when considering the <b>termination</b> of a manager’s appointment.</li> <li>• The Investment Adviser’s Manager Research Team reviews investment managers on the extent of <b>integration of ESG factors</b> (including climate change) into their processes. A manager’s stewardship process forms part of the rating assessment. This is considered at the firm level and at the investment strategy/fund level. The ratings are presented in quarterly investment performance reports and are reviewed by the Trustee. A downgraded ESG rating may (taking into account other factors) lead to an investment manager being put ‘on watch’ or removed from DC Section of the Fund. The Trustee also receives annually an ESG Manager Ratings review which analyses the ESG ratings of the funds comparing these against the wider universe of strategies across various asset classes.</li> </ul>



## METRICS AND TARGETS – DB SECTION

### Disclose the metrics and targets used to assess climate-related risks and opportunities in line with strategy and risk management process

This report presents climate metric analysis for the Fund's DB Section as at 31 December 2023. In line with statutory requirements, we have provided scope 3 carbon emissions data as at 31 December 2023, however as noted in last years report scope 3 emissions data as at 31 December 2022 was not available. The report is the first in which the Trustee is reporting its sovereign metrics for scope 1 carbon emissions.

Due to practical data availability, the Fund-level figures quoted in the report assume that companies not covered by the analysis are represented within the range of companies that have been covered in the analysis, the 'pro-rata approach' (i.e. it is not assumed that companies not covered have emissions of 0) in line with statutory guidance.

The Trustee recognises that the availability of accurate data for some asset classes is an industry-wide issue. The Trustee expects MGIE, as their fiduciary manager, to engage with the investment managers to improve their climate reporting.

Carbon risk metrics aid the assessment of potential climate-related risks to which the Fund is exposed, and help to identify areas for further risk management, including engagement, monitoring, retention and selection.

The Trustee has agreed to report on the following five metrics:

- **Carbon Footprint** – measures the carbon emissions (in metric tons) per million \$ dollars invested. This is the DWP's recommended metric for measuring carbon emission intensity.
- **Weighted Average Carbon Intensity (WACI)** – this is an alternative carbon emission intensity metric and measures the carbon emissions (in metric tons) per million \$ dollars revenue generated. The contribution of each issue is weighted according to portfolio allocation weights. For example, a company with a very high carbon intensity but a low portfolio allocation might contribute to the WACI measure to a lesser extent than a company with a lower carbon intensity but a higher portfolio allocation.

- **Absolute Emissions** – represents each company's reported or estimated greenhouse gas emissions, where available

All corporate emissions based metrics are presented across all 3 scopes:

- **Scope 1 "direct" emissions:** those from sources owned or controlled by the company (e.g. direct combustion of fuel from vehicles); and
- **Scope 2 "indirect" emissions:** those caused by the generation of energy (e.g. electricity) purchased by the company.
- **Scope 3 emissions:** those produced in the supply chain (upstream) and the distribution process (downstream).

**Implied Temperature Rise (ITR)** – analyses the warming scenario that the investment is aligned with. As a reminder, the 2015 Paris Agreement was to keep global temperature rises to well below 2 °C above pre-industrial levels. It allows for tilting of the Fund's investments towards companies with a <2°C implied temperature rise, to show alignment with the Paris Agreement ambition.

- **Climate Value at Risk (cVaR)** – aims to measure the size of the financial loss attributable to climate-related risks a portfolio may experience, within a given time horizon, if a particular scenario unfolds. The cVaR used for the purpose of these disclosures is the 1 Year 95% cVaR.

The Trustee has selected to use Implied Temperature Rise as a means to measure portfolio alignment. Implied Temperature Rise is a forward-looking metric which helps infer the degree of portfolio alignment with the goals of the Paris Agreement. The Trustee recognises that very few companies are currently aligned with net zero pathways but that this will change as companies transition their business models.



# METRICS – SCOPE 1 & 2 EMISSIONS

Figure 9: Corporate Climate-Related Metrics (as at 31 December 2023)

Fund	Value	% of DB Section Assets	Carbon Footprint	WACI	Absolute Emissions	ITR	WACI Coverage
	(£m)	(%)	(metric tons CO <sub>2</sub> e / \$m invested)	(metric tons CO <sub>2</sub> e / \$m revenue)	(metric tons CO <sub>2</sub> e)	(°C)	(%)
<b>Equities</b>	<b>13.3</b>	<b>1.9</b>	-	-	-	-	-
Global Low Volatility Equity	0.2	0.0	20.3	53.8	3.2	1.9	100
Global Small Cap Equity	0.8	0.1	71.0	72.9	59.1	2.5	96
Sustainable Global Equity	2.0	0.3	22.2	77.5	43.7	1.8	100
Sustainable Listed Infrastructure UCITS	0.6	0.1	117.1	639.2	66.7	1.9	100
UK Equity	0.8	0.1	47.6	60.8	37.3	2.2	100
Eurozone Equity	1.1	0.1	53.7	70.0	58.3	2.1	99
China Equity	1.0	0.1	58.6	98.1	58.2	3.4	94
Emerging Markets Equity	2.2	0.3	54.6	108.0	120.1	2.9	97
Passive Global REITS (Hedged)	1.2	0.2	7.5	81.3	9.1	1.7	100
Synthetic Equity-Linked Dynamic Bonds	3.4	0.5	2.0	4.5	0.8	2.3	54
<b>Fixed Income</b>	<b>26.4</b>	<b>3.6</b>	-	-	-	-	-
Emerging Markets Debt	1.1	0.1	-	152.9	-	-	91
Emerging Markets Debt - Hard Currency	1.1	0.2	408.6	1,548.0	133.9	3.8	66
Multi-Asset Credit (Hedged)	23.1	3.1	86.3	141.6	1,967.2	2.1	35
Absolute Return Fixed Income (Hedged)	1.1	0.2	47.3	81.5	26.1	2.3	53
<b>Alternatives</b>	<b>125.2</b>	<b>16.8</b>	-	-	-	-	-
BlackRock UK Property Fund	22.4	3.0	0.9	3.9	28.5	-	-
Data not yet available	102.8	13.8	-	-	-	-	-
<b>Matching assets</b>	<b>580.1</b>	<b>77.9</b>	-	-	-	-	-
Tailored Credit I	133.4	17.9	33.8	118.7	4,534.2	1.7	94
Tailored Credit II	133.1	17.9	54.5	148.3	6,975.0	1.8	94
UK Long Gilts	3.7	0.5	-	-	-	-	-
Inflation-Linked Bonds	72.4	9.7	-	-	-	-	-
Inflation-linked LDI Bonds	9.7	1.3	-	-	-	-	-
Medium Flexible Fixed	22.8	3.1	-	-	-	-	-
Long Flexible Fixed	22.1	3.0	-	-	-	-	-
Short Flexible Inflation	51.7	6.9	-	-	-	-	-
Short Flexible Real	43.3	5.8	-	-	-	-	-
Medium Flexible Real	70.0	9.4	-	-	-	-	-
Long Flexible Real	12.3	1.6	-	-	-	-	-
<b>Total</b>	<b>744.9</b>	<b>100.0</b>	<b>50.2</b>	<b>141.9</b>	<b>14,129.8</b>	<b>1.8</b>	<b>89.8</b>

Source: MGIE, BlackRock. Scope 1 & 2 only. Absolute emissions include corporate exposures (equity, corporate credit and securitised assets). Calculated figures are rebased to 100% to represent full coverage. Figures are based on best-available data at time of calculation. Calculation methodologies are subject to change based on evolving market standards. For the Emerging Markets Debt exposure there was only WACI related data available, and so only this data is shown above.

Please refer to the Appendix for the full footnotes relating to these metrics.



# METRICS – SCOPE 1 EMISSIONS

Figure 10: Sovereign Climate-Related Metrics (as at 31 December 2023)

Fund	Value	% of DB Section Assets	Sovereign Intensity	Absolute Emissions	WACI Coverage
	(£m)	(%)	(metric tons CO <sub>2</sub> e / \$m PPP-adjusted GDP)	(metric tons CO <sub>2</sub> e)	(%)
<b>Equities</b>	<b>13.3</b>	<b>1.9</b>	-	-	-
Global Low Volatility Equity	0.2	0.0	301.3	0.1	100
Global Small Cap Equity	0.8	0.1	-	-	-
Sustainable Global Equity	2.0	0.3	-	-	-
Sustainable Listed Infrastructure UCITS	0.6	0.1	-	-	-
UK Equity	0.8	0.1	-	-	-
Eurozone Equity	1.1	0.1	-	-	-
China Equity	1.0	0.1	-	-	-
Emerging Markets Equity	2.2	0.3	-	-	-
Passive Global REITS (Hedged)	1.2	0.2	-	-	-
Synthetic Equity-Linked Dynamic Bonds	3.4	0.5	120.9	364.6	244
<b>Fixed Income</b>	<b>26.4</b>	<b>3.6</b>	-	-	-
Emerging Markets Debt	1.1	0.1	372.3	392.0	100
Emerging Markets Debt - Hard Currency	1.1	0.2	383.2	313.1	100
Multi-Asset Credit (Hedged)	23.1	3.1	274.9	2.2	35
Absolute Return Fixed Income (Hedged)	1.1	0.2	340.6	174.2	75
<b>Alternatives</b>	<b>125.2</b>	<b>16.8</b>	-	-	-
BlackRock UK Property Fund	22.4	3.0	-	-	-
Data not yet available	102.8	13.8	-	-	-
<b>Matching assets</b>	<b>580.1</b>	<b>77.9</b>	-	-	-
Tailored Credit I	133.4	17.9	127.9	290.8	86
Tailored Credit II	133.1	17.9	133.0	508.9	100
UK Long Gilts	3.7	0.5	136.1	504.7	100
Inflation-Linked Bonds	72.4	9.7	136.0	9855.9	100
Inflation-linked LDI Bonds	9.7	1.3	-	-	-
Medium Flexible Fixed	22.8	3.1	136.2	2913.1	200
Long Flexible Fixed	22.1	3.0	136.0	2843.0	167
Short Flexible Inflation	51.7	6.9	-	-	-
Short Flexible Real	43.3	5.8	136.1	5693.1	305
Medium Flexible Real	70.0	9.4	136.1	8697.5	185
Long Flexible Real	12.3	1.6	136.1	1604.7	125
<b>Total</b>	<b>744.9</b>	<b>100.0</b>	<b>138.7</b>	<b>34,245.1</b>	<b>173.7</b>

Source: MGIE. Scope 1 (production emissions) only. Calculated figures are rebased to 100% to represent full coverage. Figures are based on best-available data at time of calculation. Calculation methodologies are subject to change based on evolving market standards.

Please refer to the Appendix for the full footnotes relating to these metrics.



# METRICS – SCOPE 3 EMISSIONS

Figure 11: Climate-Related Metrics (as at 31 December 2023)

Fund	Value	% of DB Section Assets	Scope 3 Emissions Data					
	(£m)	(%)	Upstream Estimated (metric tons)	Downstream Estimated (metric tons)	Upstream Carbon Footprint	Downstream Carbon Footprint	Upstream WACI	Downstream WACI
<b>Equities</b>	<b>13.3</b>	<b>1.9</b>	-	-	-	-	-	-
Global Low Volatility Equity	0.2	0.0	19	15	115.3	94.8	248.7	156.5
Global Small Cap Equity	0.8	0.1	181	349	217.0	419.8	256.1	361.1
Sustainable Global Equity	2.0	0.3	158	169	80.1	85.7	233.4	201.2
Sustainable Listed Infrastructure UCITS	0.6	0.1	40	23	69.6	40.7	336.3	119.7
UK Equity	0.8	0.1	115	303	146.3	386.7	226.3	535.2
Eurozone Equity	1.1	0.1	159	330	146.3	304.5	268.6	368.9
China Equity	1.0	0.1	115	204	115.8	205.8	299.9	333.7
Emerging Markets Equity	2.2	0.3	258	610	117.5	277.4	277.1	434.4
Passive Global REITS (Hedged)	1.2	0.2	22	0	18.4	0.2	241.0	3.1
Synthetic Equity-Linked Dynamic Bonds	3.4	0.5	134	452	39.4	133.2	132.6	483.8
<b>Fixed Income</b>	<b>26.4</b>	<b>3.6</b>	-	-	-	-	-	-
Emerging Markets Debt	1.1	0.1	0	0	0.0	0.0	143.9	1,224.2
Emerging Markets Debt - Hard Currency	1.1	0.2	238	784	208.8	688.0	372.9	6,468.5
Multi-Asset Credit (Hedged)	23.1	3.1	4,587	4,984	198.8	216.0	219.0	308.4
Absolute Return Fixed Income (Hedged)	1.1	0.2	106	201	93.8	178.4	190.8	563.7
<b>Alternatives</b>	<b>125.2</b>	<b>16.8</b>	-	-	-	-	-	-
BlackRock UK Property Fund	22.4	3.0	-	-	-	-	-	-
Data not yet available	102.8	13.8	-	-	-	-	-	-
<b>Matching assets</b>	<b>580.1</b>	<b>77.9</b>	-	-	-	-	-	-
Tailored Credit I	133.4	17.9	10,742	16,942	80.5	127.0	208.3	179.1
Tailored Credit II	133.1	17.9	14,249	26,143	107.1	196.5	230.8	235.4
UK Long Gilts	3.7	0.5	-	-	-	-	-	-
Inflation-Linked Bonds	72.4	9.7	-	-	-	-	-	-
Inflation-linked LDI Bonds	9.7	1.3	-	-	-	-	-	-
Medium Flexible Fixed	22.8	3.1	-	-	-	-	-	-
Long Flexible Fixed	22.1	3.0	-	-	-	-	-	-
Short Flexible Inflation	51.7	7.0	-	-	-	-	-	-
Short Flexible Real	43.3	5.8	-	-	-	-	-	-
Medium Flexible Real	70.0	9.4	-	-	-	-	-	-
Long Flexible Real	12.3	1.7	-	-	-	-	-	-
<b>Total</b>	<b>744.9</b>	<b>100.0</b>	<b>31,120.2</b>	<b>51,510.8</b>	<b>41.8</b>	<b>69.1</b>	<b>90.4</b>	<b>102.3</b>

Data Source: MSCI ESG Data. Calculated figures are rebased to 100% to represent full coverage. Figures are based on best-available data at time of calculation. Calculation methodologies are subject to change based on evolving market standards. BlackRock were not able to provide Scope 3 emissions for the Fund's holdings with the manager.

Please refer to the Appendix for the full footnotes relating to these metrics.



## COMMENTARY ON METRICS

The changes in corporate climate-related metrics for scope 1 and 2 emissions only over the year to 31 December 2023 are as follows, all the figures are based on the data available for analysis rebased to 100% to represent full coverage:

Metric	31 December 2022	31 December 2023	Change
Carbon Footprint (tons CO <sub>2</sub> e / \$m invested)	49	50	+2%
WACI (tons CO <sub>2</sub> e / \$m revenue)	164	142	-14%
Absolute Emissions (tons CO <sub>2</sub> e)	35,393	14,130	-60%
ITR (°C)	2.3	1.8	-22%
1.5°C cVaR (£m)	15.5	16.6	+7%

The Trustee has assessed the key drivers of changes in the metrics year over year as follows:

- Over the reporting period the Fund has significantly reduced its target allocation to growth assets as a result of de-risking on the back of the Fund's funding level improvements. Consequently, the Fund holds more matching assets including Liability Driven Investment assets. These assets have sovereign climate-related exposure, but no corporate climate-related exposure. The Fund uses these assets to hedge against interest rate and inflation movements which it is exposed to.
- Data coverage has largely improved over the year. In line with statutory guidance the Trustee elected to pro-rata the results for the full portfolio, therefore the increase in data coverage has provided a clearer picture of the Fund's metrics. Greater data coverage has meant less scaling up is required, which has impacted the metrics reported on.
- The Fund's WACI fell compared to the prior report from 164 to 142 (tons CO<sub>2</sub>e / \$m revenue), this could be driven by external and economic factors (though not in all cases). More specifically, higher inflation may have led to higher revenues and therefore leading to lower intensity, all else equal (i.e. the 'denominator effect' of the WACI calculation).
- At an individual fund level, a number of the Fund's investments exhibited significant improvement year on year in part due to the improvement in data quality. For example, the Eurozone Equity Fund saw the WACI improve by 37%. In this fund, one underlying investment manager was replaced and the fund undertook a re-weighting of the underlying investment managers which also contributed to improved metrics results.
- The Multi-Asset Credit (Hedged) Fund, which accounted for 3.1% of the DB Section's assets as at 31 December 2023, has decarbonised by 35% over the year mainly due to some high WACI names and some other carbon intensive companies reducing their WACI's.

It is important to highlight that numerous factors (external and economic) can have a significant impact on the results of this analysis. The Trustee acknowledges that they have little control over the carbon intensity of the UK, and other countries invested in, which is a significant driver of the metrics reported.

### Climate-Related Metrics Analysis

Given the nature of some of the Liability Driven Investment assets, reliable data (especially across consumption emissions) is not yet available and so has been omitted from this iteration. As reporting becomes better developed, greater and more reliable data around these asset classes should become available.





# TARGETS

## Disclose the target used to assess climate-related risks and opportunities in line with strategy and risk management process

The Trustee will keep the following targets under review to ensure they remain appropriate and relevant, taking into account any changes to the investment strategy of the DB Section of the Fund, the availability of data and wider market developments. The Fund’s investment strategy noted in the target below refers to Fund’s portfolio as at 31 December 2019.

**The Trustee has set a target to reduce carbon emissions intensity associated with its default portfolio by at least 45% (from 2019 levels) by 2030 and fully (i.e. to net zero) by 2050, which is currently understood to be broadly consistent with limiting global warming to 1.5 degrees above pre-industrial levels.**

The Trustee’s target is based on Weighted Average Carbon Intensity (WACI) metric, capturing scope 1 and scope 2 emissions, as a method of monitoring and reducing the levels of carbon exposure in line with the Trustee’s fiduciary duties to invest in the best financial interests of the Fund’s membership. This metric was selected due to its broader coverage and applicability across asset classes, when compared to other climate metrics.

The Trustee will be working closely with the discretionary investment manager to identify and manage a staged emissions reduction plan, oversee fund allocations to climate solutions, and steward an increase in transition capacity across the portfolio. Progress on reductions will be monitored and reported to members on an annual basis. These targets are also fully embedded within the Trustee’s governance, risk management and strategy processes and communicated to relevant partners and third parties.

Furthermore, in order to meet the Trustee’s net zero targets, our discretionary investment manager may use the following key levers:

- Asset class approach to implementation, e.g. for selecting strategies and mandate guidelines with consideration for climate goal alignment, and other risk and return factors, in line with Trustee fiduciary responsibility.
- Stewardship, voting and engagement tools, to ultimately target transition within company business models, as implemented via sub-investment managers.
- Allocation to investment products across various sectors which support the climate transition to a low-carbon economy.

The Trustee will keep its targets under review to ensure they remain appropriate and relevant, taking into account any changes to the investment strategy of the Fund, the availability of data, the balance between portfolio and real world decarbonisation as well as wider market developments. With this in mind the Trustee may change its target in the future.

Since December 2019, the WACI (corporate WACI based on scope 1 and 2 emissions) of the Fund’s portfolio has reduced by c.55% over the period since 31 December 2019 as illustrated in the table below. The Fund has achieved the interim goal of a 45% reduction in WACI by 2030, which has been driven by a number of funds receiving an Article 8 classification from the SFDR which involved carbon reduction commitments, and strengthening the ESG characteristics of the funds. The Trustee will continue to monitor progress in achieving the carbon reduction goal of net zero on at least an annual basis.

Target	31 December 2019	30 June 2022	31 December 2022	31 December 2023
WACI (tCO2e/\$M revenue)	315.7	215.4	164.1	141.9
% Change relative to 2019 Baseline	-	-32%	-48%	-55%



## METRICS AND TARGETS – DC SECTION

### Metrics and targets used to assess climate-related risks and opportunities in line with strategy and risk management process

This section presents climate metric analysis for the Fund's Default Investment Option, the Roche Flexible Retirement Lifestyle Strategy, as at 31 December 2023.

Due to practical data availability, the Fund-level figures quoted in the report assume that companies not covered by the analysis are represented within the range of companies that have been covered in the analysis, the 'pro-rata approach' (i.e. it is not assumed that companies not covered have emissions of 0) in line with statutory guidance.

The Trustee recognises that the availability of accurate data for some asset classes is an industry-wide issue and will look to engage with the investment managers to improve their climate reporting. The Trustee also recognises the challenges with various metrics, tools and modelling techniques used to assess climate change risks. The Trustee aims to work with its Investment Adviser and investment managers to continuously improve the approach as more data becomes available.

Climate risk metrics aid the assessment of potential climate-related risks to which the Fund is exposed, and help to identify areas for further risk management, including engagement, monitoring, retention and selection.

The Trustee reports on the following metrics:

#### Emissions based metrics:

- **Carbon Footprint** – measures the carbon emissions (in metric tons) per million \$ dollars invested. It seeks to answer how carbon intensive the portfolio is.
- **Weighted Average Carbon Intensity (“WACI”)** – this is an alternative carbon emission intensity metric and measures the carbon emissions (in metric tons) per million \$ dollars revenue generated.
- **Absolute Emissions** – represents each company's total greenhouse gas emissions.

**All corporate emissions-based metrics are presented across all 3 scopes:**

- **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; and
- **Scope 3 “indirect” emissions:** all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

The Trustee has included a table on page 22 which includes Scope 3 emissions only. However, we note there are challenges with Scope 3 emissions i.e. the rate of Scope 3 disclosure remains insufficient to use reliably, and inclusion may lead to double counting at portfolio level.

#### Portfolio alignment metrics:

- **Implied Temperature Rise (“ITR”)** – analyses the warming scenario that the investment is aligned with. It allows for tilting of the Fund's investments towards companies with a <2°C implied temperature rise, to show alignment with the Paris Agreement ambition.
- **Companies with Science Based Targets Initiatives (“SBTi”)** – a measure of how many (percentage of) companies in a portfolio have submitted climate transition plans that have been approved by the SBTi.

The Trustee has selected to use Implied Temperature Rise and companies with an SBTi target as a means to measure portfolio alignment. Implied Temperature Rise is a forward-looking metric which helps infer the degree of portfolio alignment with the goals of the Paris Agreement, whilst companies with an SBTi target provides a measure of the credibility of companies' decarbonisation plans.

#### Non-emissions based metric:

- **Data Quality** – classifies each mandate's company/holding data: Reported, Estimated, and Not Reported. A fourth category accounts for the remainder of the fund that is not included in the asset class being analysed. Verified data is not currently available.



## METRICS

The table below sets out the results of the Trustee's climate metric analysis for the popular arrangement of the DC Section, the Roche Flexible Retirement Lifestyle Strategy, across the categories of emissions intensity, absolute emissions and portfolio alignment. The results aid the Trustee in assessing the potential climate change-related risks to which the DC Section is exposed on both a point-in-time and forward-looking basis. The Appendix contains information on limitations in relation to the reporting and collection of climate metric data.

**Figure 14: Climate-Related Metrics – Scope 1 & 2 (31 December 2023)**

Fund	Actual Value	Allocation Weight	Carbon Footprint (metric tons CO <sub>2</sub> e / \$m invested)		WACI (metric tons CO <sub>2</sub> e / \$m revenue)		Absolute Emissions (metric tons CO <sub>2</sub> e)		ITR Coverage (°C)		SBTi
	(£m)	(%)	Metric	Coverage (%)	Metric	Coverage (%)	Metric	Coverage (%)	Metric	Coverage (%)	(%)
Roche World ESG Equity Tracker	140.9	53.3	22.1	98.5	49.8	98.6	3,971	98.6	2.3	97.3	49.6
Roche Emerging Markets ESG Equity Tracker	28.0	10.6	53.1	93.9	133.9	94.1	1,898	94.1	2.6	93.9	19.7
L&G MSCI World Small Cap ESG	29.5	11.2	70.5	96.2	115.7	97.1	2,642	96.5	2.6	96.2	15.0
L&G MSCI World Minimum Volatility	9.8	3.7	54.0	98.8	204.7	99.2	670	99.8	1.9	99.3	52.2
<i>Roche Diversified Growth:</i>	46.5	12.9	20.1	98.2	69.3	99.1	896	98.2	2.1	98.7	50.7
• BlackRock ESG Strategic Growth**	23.3	5.1	27.9	96.1	77.3	98.4	489	96.2	2.3	97.5	45.0
• Nordea Diversified Return***	23.3	7.8	14.9	99.5	64.1	99.5	407	99.5	1.8	99.5	54.4
BlackRock Corporate Bond All Stocks Index	3.7	1.1	32.9	62.7	79.5	92.7	123	62.8	1.9	85.9	32.5
BNY Mellon Global Dynamic Bond*	3.7	0.5	46.6	71.7	75.3	78.6	81	71.7	2.3	77.8	29.4
<b>Total</b>	<b>262.1</b>	<b>93.3</b>	<b>32.7</b>	<b>97.1</b>	<b>76.6</b>	<b>97.8</b>	<b>10,281</b>	<b>97.3</b>	<b>2.3</b>	<b>96.8</b>	<b>42.0</b>

Source: Fidelity (asset valuation), MSCI data and Mercer calculations as at 31 December 2023. Allocation weights represent the asset allocation for that mandate or, for mixed mandates, the actual allocation to listed equity or corporate bonds within the mixed mandate. Notes: Scope 1+2 only. % of fund directly analysed reflects coverage under the MSCI tool used in this analysis. The figures in this analysis have been pro-rated at the individual fund level (where reasonable data is available) to present coverage as if full data were available for the listed assets.

\*Considering only the corporate bonds allocation.

\*\*Considering both the allocation to listed equity (c.43.2%) and to corporate bonds (c. 15.1%) of total mandate.

\*\*\*Considering only the listed equity allocation (c.88.9%) of total mandate.

# METRICS

Figure 15: Climate-Related Metrics – Scope 3 (31 December 2023)

Fund	Carbon Footprint (metric tons CO2e / \$m invested)			WACI (metric tons CO2e / \$m revenue)			Absolute Emissions (metric tons CO2e)		
	Coverage (%)	Upstream	Downstream	Coverage (%)	Upstream	Downstream	Coverage (%)	Upstream	Downstream
Roche World ESG Equity Tracker	97.1	99.8	164.4	97.4	236.2	316.3	97.4	16,349	28,177
Roche Emerging Markets ESG Equity Tracker	93.7	110.2	186.1	94.2	251.5	374.8	94.1	3,765	6,242
L&G MSCI World Small Cap ESG Exclusions	96.0	192.0	299.0	96.5	265.5	435.4	96.5	6,698	10,532
L&G MSCI World Minimum Volatility	99.3	101.4	67.3	99.8	254.4	161.4	99.8	1,216	842
<i>Roche Diversified Growth:</i>	97.5	90.0	87.0	98.9	245.1	195.6	97.9	3,788	3,583
• BlackRock ESG Strategic Growth**	95.3	109.5	165.4	97.8	248.0	332.5	95.5	1,775	2,659
• Nordea Diversified Return***	98.9	77.2	35.6	99.5	243.2	105.8	99.5	2,014	924
BlackRock Corporate Bond All Stocks Index	62.7	89.9	188.2	91.8	192.5	309.0	62.8	322	692
BNY Mellon Global Dynamic Bond*	71.1	96.9	168.1	78.6	218.3	426.9	71.7	165	274
<b>Total portfolio</b>	<b>96.2</b>	<b>110.6</b>	<b>168.7</b>	<b>97.1</b>	<b>242.8</b>	<b>314.8</b>	<b>96.6</b>	<b>32,304</b>	<b>50,343</b>

Source: Fidelity (asset valuation), MSCI data and Mercer calculations as at 31 December 2023. The total allocation weight (96.2%) represents the allocation weight to listed equity and corporate bonds only. Notes: Scope 3 only. % of fund directly analysed reflects coverage under the MSCI tool used in this analysis. The figures in this analysis have been pro-rated at the individual fund level (where reasonable data is available) to present coverage as if full data were available for the listed assets. \*Considering only the corporate bonds allocation. \*\*Considering both the allocation to listed equity (c.43.2%) and to corporate bonds (c.15.1%) of total mandate. \*\*\*Considering only the listed equity allocation (c.88.9%) of total mandate.

The tables below set out the results of the Trustee's sovereign climate metric analysis for the BlackRock ESG Strategic Growth Fund and BNY Mellon Global Dynamic Bond Fund which hold c.17.8% and c.55.5% sovereign bonds respectively. Note that allocations to these funds make up 8.9% and 1.4% of the Default Investment Option respectively.

Figure 16: Metrics – Production emissions, including LULUCF – Sovereign bonds (31 December 2023)

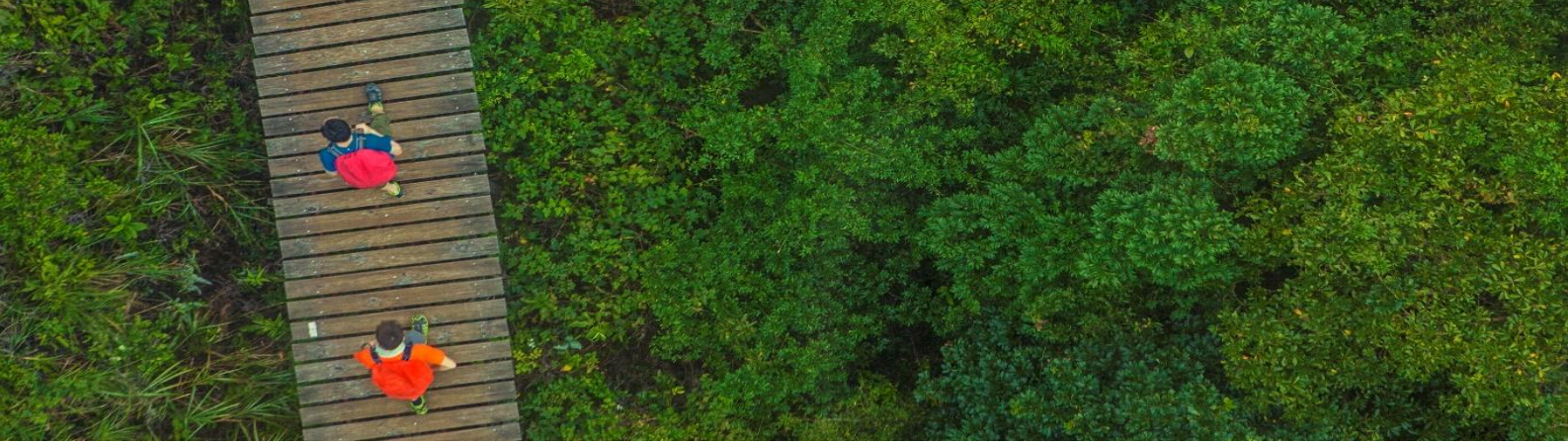
Asset Class	Mandate	Sovereign Carbon Intensity (tCO2e / \$M PPP-Adjusted GDP)		Absolute Emissions (tCO2e)		Allocation Weight
		Metric	Coverage	Metric	Coverage	
Sovereign bonds	BlackRock ESG Strategic Growth	234.5	91.9%	1,236	91.9%	1.6%
	BNY Mellon Global Dynamic Bond	260.7	69.8%	684	69.8%	0.8%
<b>Total sovereign bonds</b>		<b>243.2</b>	<b>84.6%</b>	<b>1,920</b>	<b>84.6%</b>	<b>2.3%</b>

Source: MSCI and Mercer. All data as at 31 December 2023, or latest available. Allocation weights represent the asset allocation to sovereign bonds only. Notes: Sovereign emissions data shown are consistent with the PCAF definition of Scope 1 sovereign emissions, aligning with the UNFCCC definition of domestic territorial emissions, including emissions from exported goods and services. Emissions data include land use, land-use change and forestry (LULUCF).

Figure 17: Metrics – Consumption emissions, excluding LULUCF – Sovereign bonds (31 December 2023)

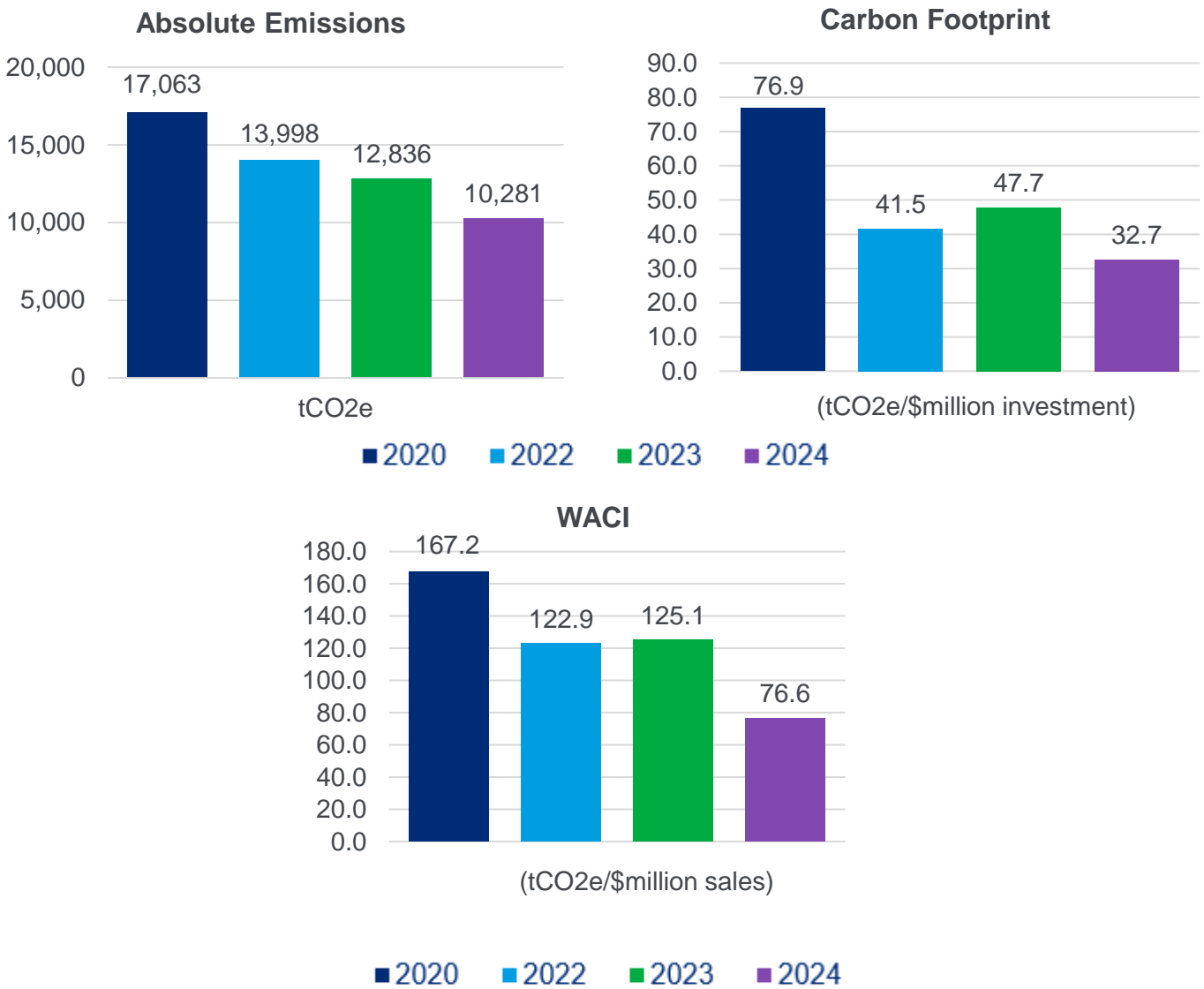
Asset Class	Mandate	Sovereign Carbon Intensity (tCO2e / \$M PPP-Adjusted GDP)		Absolute Emissions (tCO2e)		Allocation Weight
		Metric	Coverage	Metric	Coverage	
Sovereign bonds	BlackRock ESG Strategic Growth	241.6	92.0%	1,273	92.0%	1.6%
	BNY Mellon Global Dynamic Bond	243.6	69.8%	639	69.8%	0.8%
<b>Total sovereign bonds</b>		<b>242.3</b>	<b>84.6%</b>	<b>1,913</b>	<b>84.6%</b>	<b>2.3%</b>

Source: MSCI and Mercer. All data as at 31 December 2023, or latest available. Allocation weights represent the asset allocation to sovereign bonds only. Notes: Sovereign emissions data shown are consistent with the PCAF definition of consumption emissions, equivalent to production emissions, less exported emissions, plus imported emissions. Emissions data exclude land use, land-use change and forestry.



# METRICS

Figure 18: Progress against baseline (excluding sovereign bonds)



Notes: the dates in the above charts correspond to the last day of the year (e.g. 2024 corresponds to 31 December 2023).

The Roche Flexible Retirement Lifestyle Strategy's total listed portfolio (listed equity, corporate bonds and DGF) has made the following progress against baseline (31 December 2019) as at 31 December 2023;

- Carbon Footprint **decreased by c.57%**.
- Weighted Average Carbon Intensity (WACI) **decreased by c.54%**.
- Absolute Emissions **decreased by c.40%**.

The above charts show an improvement across all three metrics which can be largely attributed to the changes made to the default investment option in December 2023. In particular, the introduction of the LGIM Future World Emerging Markets Equity Index Fund (Roche Emerging Markets ESG Equity Tracker) in place of the BlackRock Emerging Markets Equity Index Fund.



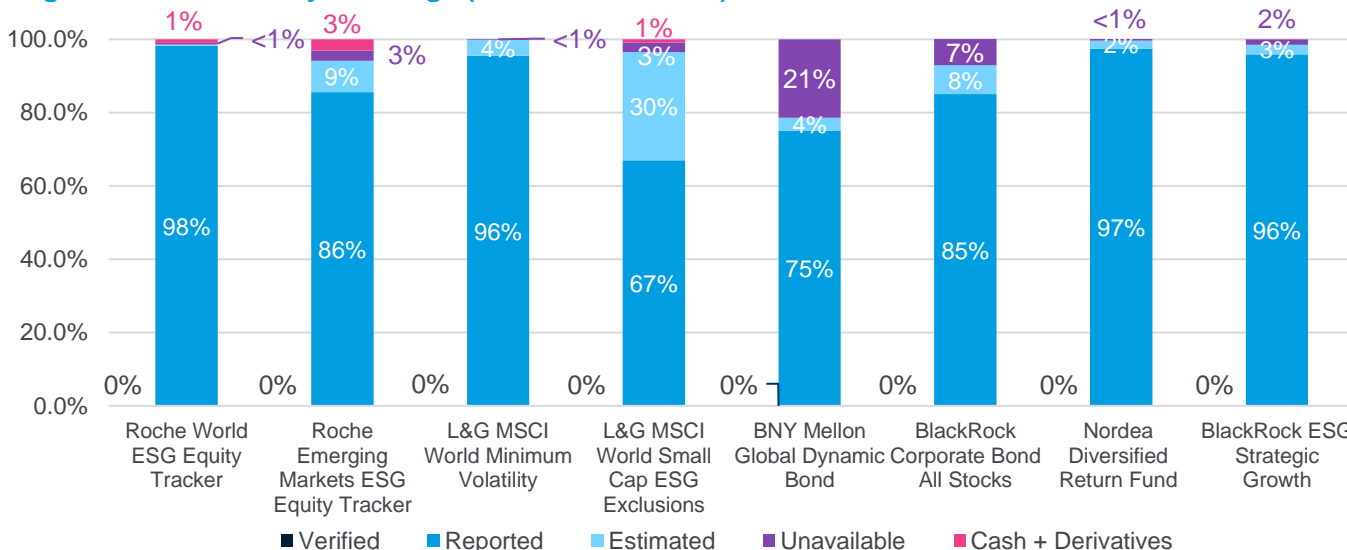
# METRICS

## Additional Non-emissions Based Metric – Data Quality

The Data Quality metric measures the proportions of the portfolio for which the Trustee has high quality data. 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 Fund's portfolio increases.

The following methodology has been used to measure data quality; the stocklist received from the manager is analysed, and only the equity, corporate bonds, and/or sovereign portions are kept. The remainder asset classes, such as cash and derivatives, are removed from the portfolio. The resulting stocklist is cross referenced vs MSCI's database to obtain data for the holdings. Not all positions are covered by the tool at this time.

**Figure 19: Data Quality Coverage (31 December 2023)**



Source: MSCI and Mercer. Data as at 31 December 2023. More detail on the Data Quality metric is provided in the Appendix.

## Climate-Related Metrics Summary

Figure 19 shows the mandates from funds used within the Default Investment Option (with the exception of the BlackRock Cash Fund) and are within the scope of this climate change-related disclosures report.

The passive equity funds hold the largest allocation of DC Section assets in the Default Investment Option and as such, are the largest contributor to total absolute emissions.

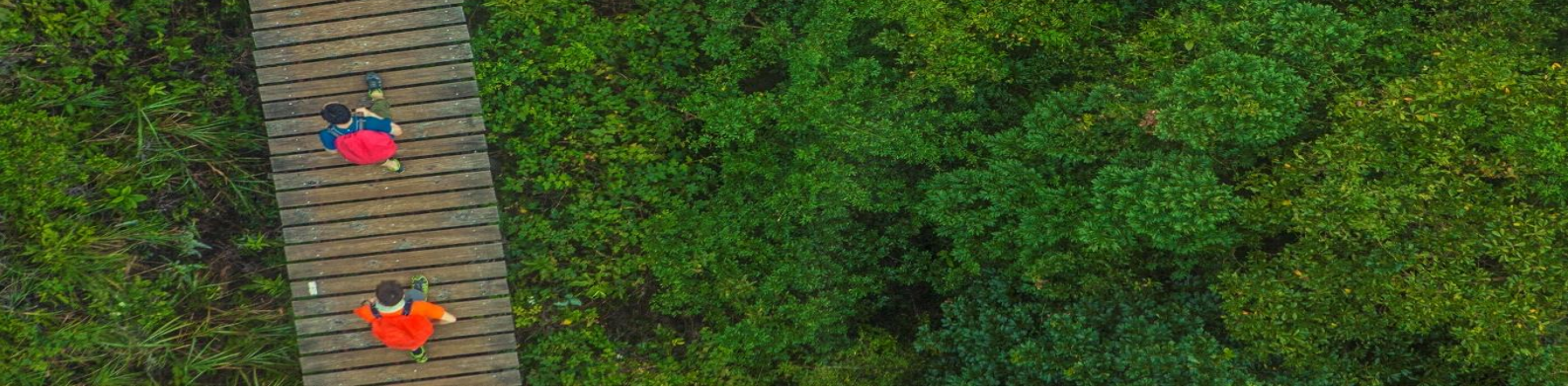
The L&G MSCI World Minimum Volatility Index Fund has the largest WACI of the underlying funds reflecting its high allocation to companies in industrials, commodities and energy sectors.

The 2015 Paris Agreement is to keep global temperature rises to below 2 °C above pre-industrial levels, the ITR for the Default Investment Option is 2.3°C. The Trustee recognises that few companies are currently aligned with net zero pathways but that this will evolve over time.

There is a range of results for the percentage of companies with SBTi targets, as low as 15.0% for the L&G MSCI World Small Cap ESG Exclusions Fund and as high as 54.4% for the Nordea Diversified Return. Around 42% of the Default Investment Option have SBTi approved transition plans.

### In summary, over the 4 years to 31 December 2023:

- The overall Carbon Footprint (tons CO<sub>2</sub>e / \$m invested) has fallen from 76.9 to 32.7, a c.57% reduction.
- The overall WACI (tons CO<sub>2</sub>e / \$m revenue) has fallen from 167.2 to 76.6, a c.54% reduction.
- Absolute Emissions (tons CO<sub>2</sub>e) have fallen from 17,063 to 10,281, a c.40% reduction.

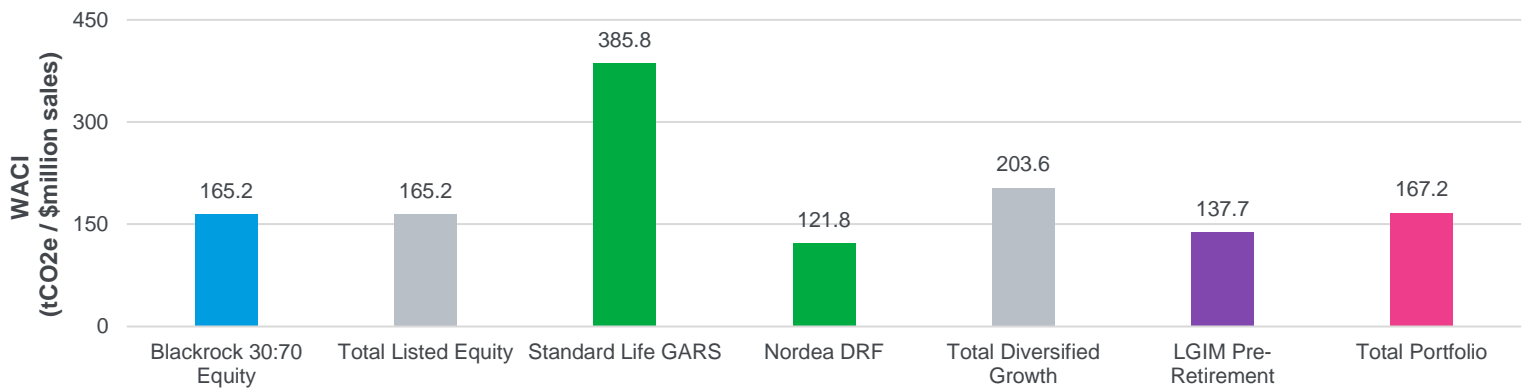


# TARGETS

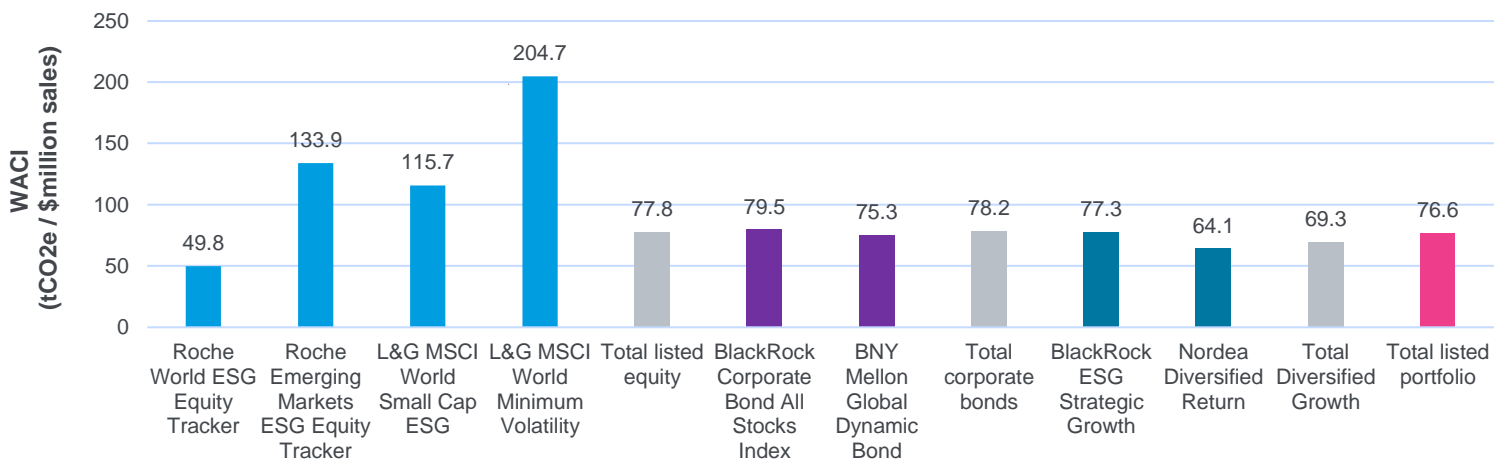
The Trustee will keep the following targets under review to ensure they remain appropriate and relevant, taking into account any changes to the investment strategy of the DC Section of the Fund, the availability of data and wider market developments. The Trustee has selected 31 December 2019 as the “Baseline year” as this is consistent with the recommendations under The Institutional Investors Group on Climate Change (“IIGCC”). **The Trustee has set a target to reduce carbon emissions associated with the Default Investment Option by at least 45% (from 2019 levels) by 2030 and fully (i.e. to net zero) by 2050, which is currently understood to be broadly consistent with limiting global warming to 1.5 degrees above pre-industrial levels.** It should be noted that the target applies to Scope 1 and 2 emissions and for the assets where WACI data is reportable (data coverage was c.91% of assets in the Default Investment Option in 2019 and c.99% in 2023). It should also be noted that any improvement in the consistency, comparability and quality of climate related data is likely to have an impact on the Fund’s carbon metrics. The Trustee based its target on WACI for the following reasons; better, more reliable information is available for most of the funds. WACI is a relative metric and is not skewed by the size of the Fund.

A summary of the progress to date against the target is shown in the charts below for the 4 year-period; 31 December 2019 (figure 20) to 31 December 2023 (figure 21). **The WACI for the Default Investment Option has reduced by c.54%, from 167.2 to 76.6 tCO<sub>2</sub>e/\$million sales (Scope 1 and 2 only).** This progress is largely a result of investment strategy changes, i.e. implementing ESG-tilted developed market equities in October 2020, the removal of ASI GARS in September 2022 and implementing ESG-tilted emerging market equities in December 2023. It is also acknowledged that structural factors, such as fluctuations in inflation can impact the WACI evolution of a portfolio. The Trustee intends to continue engaging with managers to understand the expected pace of future decarbonisation and potential for other changes in investment allocation as climate-related risks and opportunities become clearer.

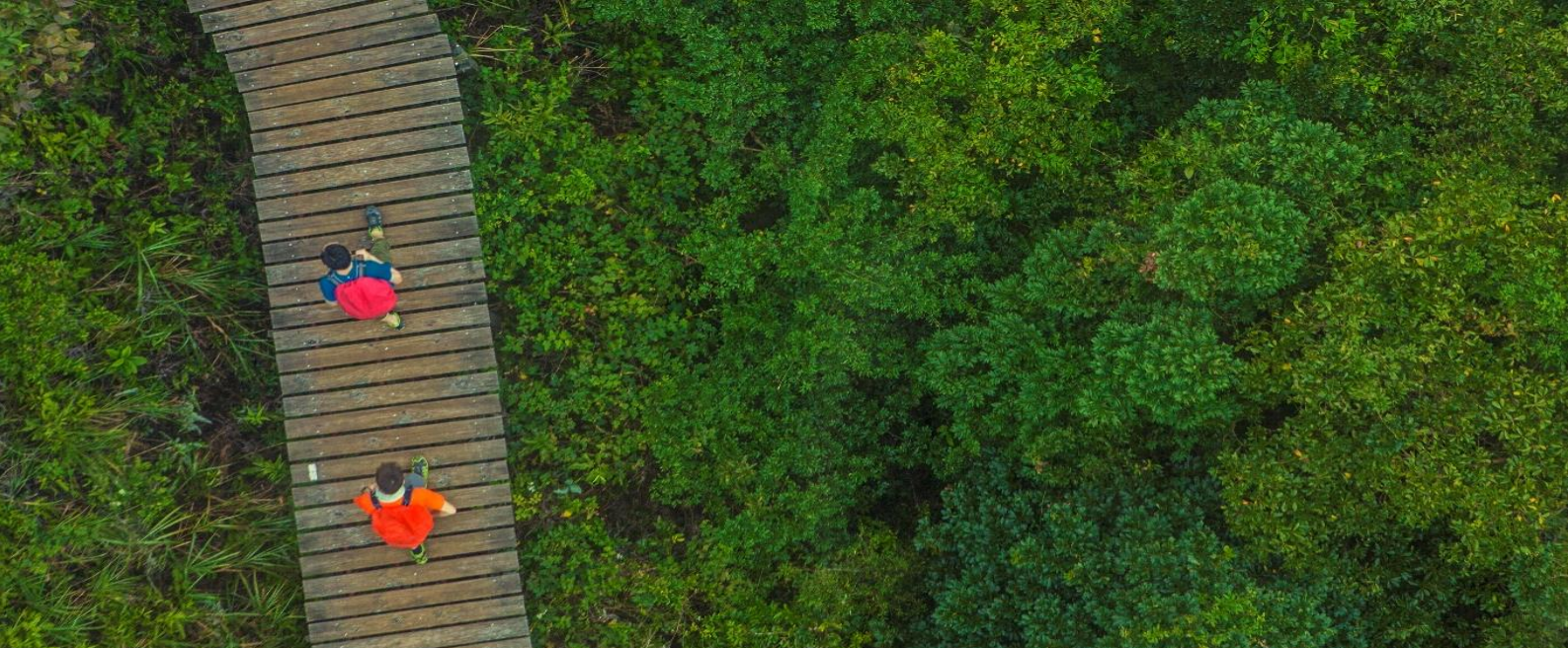
**Figure 20: Weighted Average Carbon Intensity of the Default Investment Option as at 31 December 2019**



**Figure 21: Weighted Average Carbon Intensity of the Default Investment Option as at 31 December 2023**



Notes: Scope 1+2 only. % of fund directly analysed reflects coverage under the MSCI tool used in this analysis. The figures in this analysis have been pro-rated at the individual fund level (where reasonable data is available) to present coverage as if full data were available for the listed assets. Total portfolio considers only the Equity portion only of the DGF mandates. Figures cannot sensibly be aggregated with emissions data for sovereign assets due to risk of double counting.



## CONCLUSIONS AND NEXT STEPS – DB SECTION

The key messages from this report are:

- Climate change risk can have an impact on the long-term outcomes for the DB Section of the Fund.
- The Trustee has processes in place to identify, assess and mitigate climate change risk.
- Data has improved significantly over the year, with the inclusion of scope 3 emissions and sovereign data.
- The Fund has de-risked which saw a reduction in the target allocation to the Growth Portfolio from 37.3% to 25.0%, this has been a key driver in the change in metrics.
- There has been a strong improvement in the metrics at an individual fund level since the prior report.
- Progress has been made against the majority of the corporate climate-related metrics chosen for progress monitoring as shown in the Metrics & Targets section.
- A target to reduce the level of carbon exposure of the DB Section of the Fund has been set, and as at 31 December 2023 the WACI has reduced 55% compared to the baseline year of 2019. The Trustee will continue to work with MGIE to move towards the agreed target.

The Trustee has considered a number of actions in order to work towards the set target. Over the next 12 months, the Trustee is seeking to undertake the following actions:

- Annual review of Fund governing documentation; SIP, investment beliefs, risk register and ESG Policy Document.
- Review the progress in reducing the carbon exposure of the portfolio relative to the objective of net zero by 2050, having achieved the objective of a 45% reduction by 2030.
- Review the annual ESG ratings summary provided by Mercer and the voting data provided as part of the Implementation Statement.
- Regularly review the climate-related risks and opportunities in the Fund and maintain compliance with regulatory requirements, with support from the Fund's advisors, considering the suitability of the Fund's investment arrangements to achieving the agreed carbon reduction target while maintaining the Fund risk and return objective.

In the longer term, the Trustee expects to:

- Ensure it is well equipped with sufficient knowledge and developments around climate change risk.
- Continually consider the suitability of the Fund's investment strategy to move to the agreed target reduction in carbon exposure.

The Trustee will continue to monitor integration of ESG factors into their decision making and strive for continued improvement.





## CONCLUSIONS AND NEXT STEPS – DC SECTION

The key messages from this report are:

- Climate change risk can have an impact on the long-term outcomes for DC members. The Trustee has processes in place to identify, assess and mitigate climate change risk.
- Three emissions-based metrics have been chosen to monitor the progress against climate change risk (Carbon Footprint, Weighted Average Carbon Intensity and Absolute Emissions) in addition to this, two portfolio alignment-based metrics have also been included; Implied Temperature Rise and % of portfolio with Science Based Targets Initiative (SBTi) Targets. Also, one non-emissions based metric has been shown: Data Quality.
- A target to reduce carbon emissions associated with the Default Investment Option by at least 45% (from 2019 levels) by 2030 and fully (i.e. to net zero) by 2050, has been set and actions have been determined to move towards the agreed target. The WACI for the Default Investment Option has reduced by c.54%, from 167.2 to 76.6 tCO<sub>2</sub>e/\$million sales (Scope 1 and 2 only) over the 4 year period to 31 December 2023.
- Climate change risks and opportunities were considered as part of the triennial investment strategy review for the DC Section of the Fund in H1 2023. The Trustee recognises a balance needs to be maintained between meeting the investment objectives and considering these risks and opportunities. As a result of this review, the Trustee agreed to make changes in order to enhance the Fund's ESG integration by increasing allocations to ESG-tilted funds, the changes previously mentioned were implemented in December 2023.
- The ESG Policy Document, that sets out the Trustee's key ESG principles that have been established and the approach to considering climate risk and other ESG factors, is reviewed annually alongside the Fund's governing documentation; SIP, investment beliefs and risk register.
- The Trustee will continue engagement and to work with investment managers in respect of the following;
  - Review voting and engagement activity in respect of climate change, including 'climate-related engagements' as a criteria for investment managers to report on their most significant votes.
  - Sharing information on the Fund's target and asking managers to confirm what steps they are putting in place to reduce their carbon exposure and net zero commitments. As well as understanding how they are assessing, monitoring and mitigating key transition / physical risks.
  - Regularly review how the market for climate indices is evolving to ensure the Fund is making use of the most appropriate solutions.

In the longer term, the Trustee expects to:

- Regularly review the climate-related risks and opportunities in the Fund and maintain compliance with regulatory requirements, with support from the Fund's advisers.
- Ensure it is well equipped with sufficient knowledge and developments around climate change risk.
- Continually consider the suitability of the Fund's investment strategy, focusing on the Default Investment Option, to move to the agreed target reduction in carbon emissions.



# APPENDIX – DB SECTION INPUTS

## Modelling Assumptions

### Mercer's UK Capital Market Assumptions

- Analysis is shown as at 31 December 2023.

Asset Class	Failed Transition			Rapid Transition			Orderly Transition		
	31/12/2023								
	5 Years	20 Years	40 Years	5 Years	20 Years	40 Years	5 Years	20 Years	40 Years
MSCI World Equity	-2.1%	-45.8%	-57.1%	-8.7%	-1.4%	7.1%	-0.9%	1.5%	-5.6%
UK Equity	-1.9%	-35.7%	-46.3%	-7.8%	-1.8%	4.2%	-0.8%	0.8%	-4.2%
Europe Equity	-2.0%	-34.6%	-45.4%	-8.8%	-3.2%	1.9%	-0.3%	1.8%	-3.4%
China Equity	-1.2%	-37.1%	-49.5%	-12.1%	-5.1%	1.5%	0.8%	2.9%	-3.1%
Emerging Markets Equity	-2.1%	-38.6%	-52.7%	-9.0%	-3.4%	5.0%	0.2%	1.8%	-5.4%
MSCI ACWI ESG Equity	-2.7%	-45.7%	-57.7%	-5.6%	2.4%	11.5%	-0.8%	1.8%	-4.9%
Multi Asset Credit	-0.2%	-0.6%	-3.0%	-3.8%	-4.0%	-3.5%	0.1%	0.4%	-0.3%
Absolute Return Fixed Income	-0.1%	0.2%	-1.2%	-2.1%	-2.1%	-2.0%	0.0%	0.2%	-0.7%
Global High Yield Credit	0.0%	-0.3%	-2.6%	-4.9%	-5.1%	-4.9%	0.2%	0.8%	-0.5%
Global Investment Grade Credit	-0.2%	-0.1%	-1.8%	-1.9%	-1.7%	-1.6%	0.0%	0.5%	-0.9%
UK Sovereign Bonds	0.1%	0.2%	-0.1%	-0.4%	-0.1%	0.4%	0.0%	0.2%	0.2%
EMD Hard Currency	-0.1%	-5.6%	-16.1%	-3.2%	-0.4%	3.6%	-0.1%	-1.2%	-6.7%
EMD Local Currency	0.3%	-0.5%	-6.2%	-3.6%	-2.8%	1.8%	0.3%	-0.2%	-2.7%
Global Private Debt	-0.2%	-0.9%	-4.9%	-1.8%	-1.7%	-1.1%	0.1%	0.3%	-1.9%

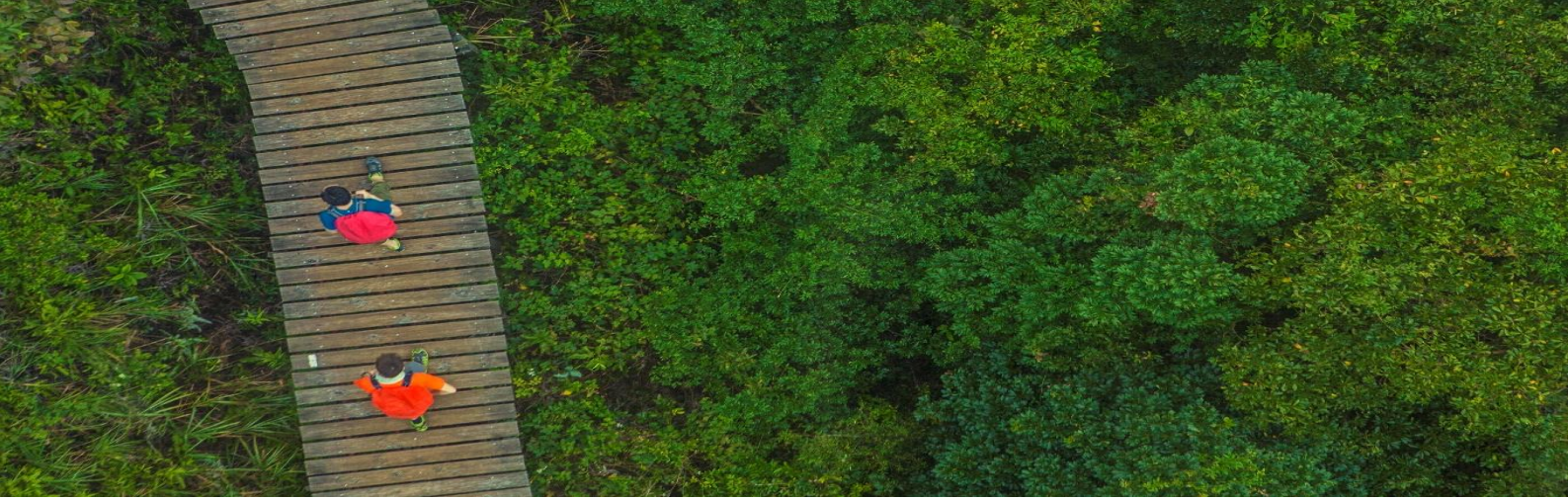
**Climate scenario modelling** is a complex process and the Trustee is aware of the modelling limitations. In particular:

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



# APPENDIX – DB SECTION INPUTS

	Failed Transition	Rapid Transition	Orderly Transition
<b>Summary</b>	The world fails to meet the Paris Agreement goals and global warming reaches 3.7°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 organizations act quickly and predictably to implement the recommendations of the Paris Agreement to limit global warming to below 2°C.
<b>Temperature change</b>	Expected increase of 3.7°C, broadly in line with SSP3, which has a high-likelihood range of an increase between 2.8°C and 4.6°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, broadly in line with SSP1-2.6.
<b>Expected Emission and energy production</b>	c. 38GtCO <sub>2</sub> by 2063 43% produced by non-renewable sources, with 43% produced by various renewable sources by 2060	Net Zero by 2050 5% produced by non-renewable sources, with 80% produced by various renewable sources by 2060	c. 12GtCO <sub>2</sub> by 2063 10% produced by non-renewable sources, with 72% produced by various renewable sources by 2060
<b>Key policy &amp; tech assumptions</b>	Existing policy regimes are continued with the same level of ambition, with no new policies enacted.	A highly ambitious low-carbon policy and rapid technology transition. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation	An ambitious set of policies are introduced, leading to improvements in energy efficiency and replacement of unabated fossil fuel-based technologies with lower-carbon alternatives.
<b>Financial climate modelling</b>	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.
<b>Physical risks considered</b>	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: <ul style="list-style-type: none"> <li>• Gradual physical impacts associated with rising temperature (agricultural, labour, and industrial productivity losses)</li> <li>• Economic impacts from climate-related extreme weather events</li> </ul> Current modelling does not capture environmental tipping points or knock-on effects (e.g., migration and conflict).		

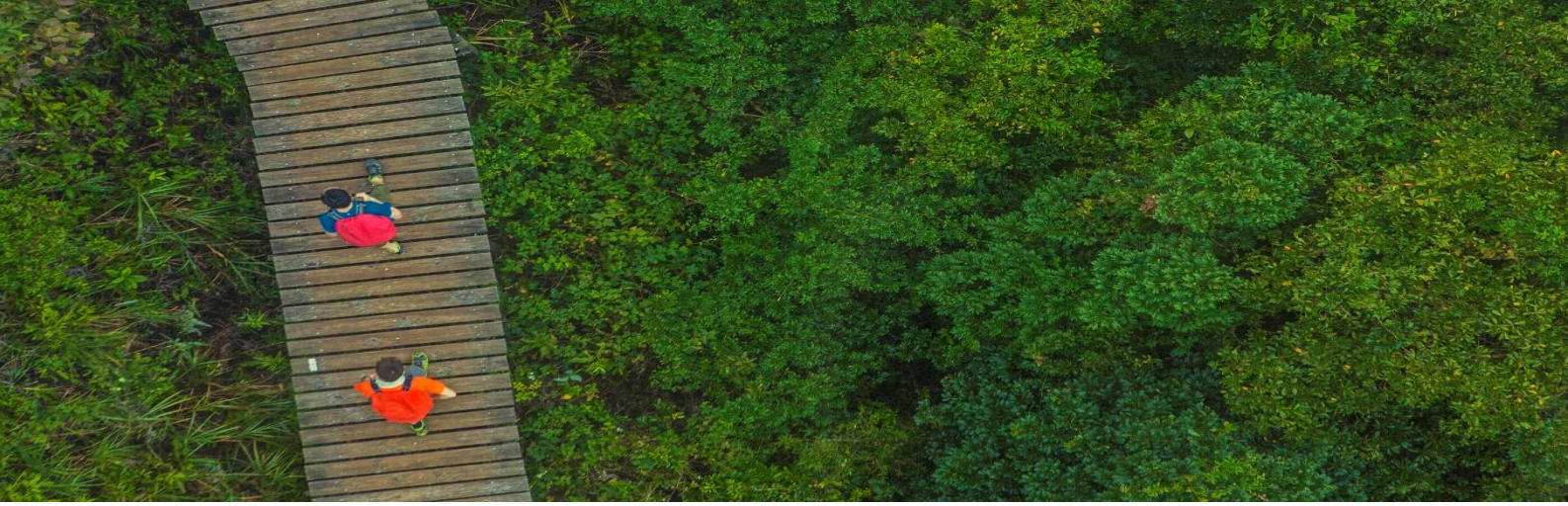


# APPENDIX – DB SECTION INPUTS

## Limitations associated with climate modelling

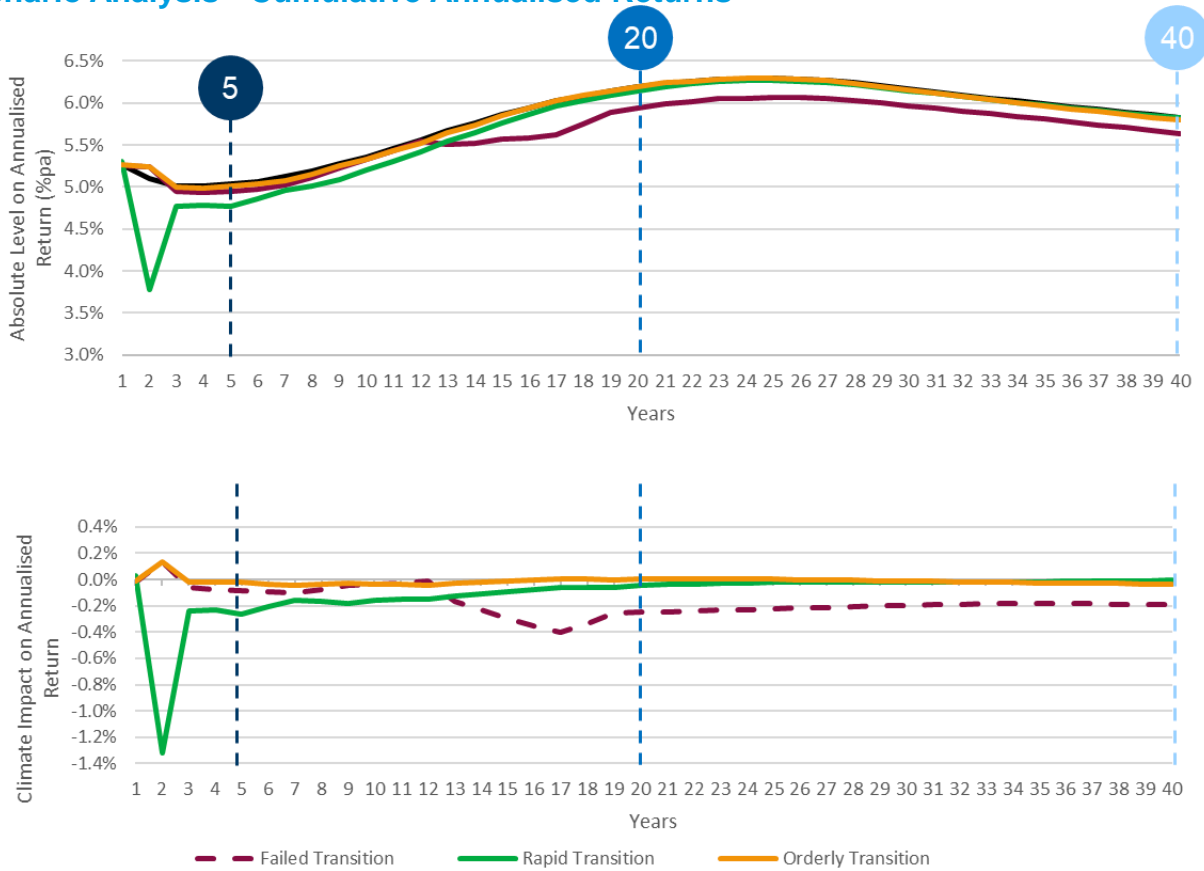
Climate scenario modelling is a complex process. The Trustee is aware of the modelling limitations. In particular:

- The further into the future you go, the less reliable any quantitative modelling will be.
- There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or 'tipping points', like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
- 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.
- Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.
- New and emerging risks, such as the impact of climate change on biodiversity loss, and vice versa, is expected to be integrated into climate scenario modelling over time once the supporting science and impact on econometrics and finance is better understood.



# APPENDIX – DB SECTION INPUTS

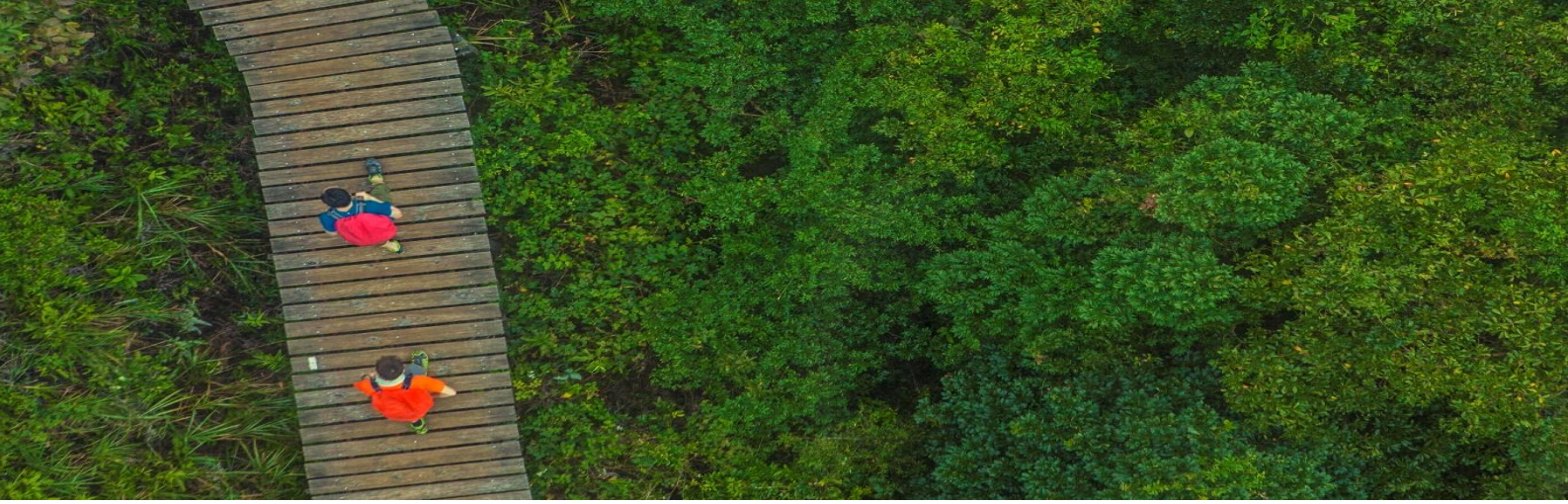
## Scenario Analysis - Cumulative Annualised Returns



The two graphs above show the annualised returns in Absolute terms.

### Key points at different time frames

- 5** 5 Years - Over this time period, transition risk dominates. The Rapid Transition is the most impactful scenario. Under this scenario there is a shock to returns of about -1.3% in 2025 followed by a recovery the following year. The recovery is a large proportion of the initial shock on the basis that credit spreads widen and then narrow again with only limited additional default experience. A more extreme scenario where initial losses are sustained by defaults is should not be discounted. Overall, annualised returns are reduced by 0.3% over the 5 year period in the Rapid Transition.
- 20** 20 Years - As longer term physical damages begin to be priced in, the Failed Transition becomes the most impactful scenario. The Failed Transition causes a reduction in annualised return of around 0.3%.
- 40** 40 Years – Over the long term, physical damages are the dominant driver and the Failed Transition is the worst scenario. The Failed Transition causes a reduction in annualised return of around 0.2%. In addition, we see the additional warming and hence damage in the Orderly Transition (compared to the Rapid Transition) meaning it becomes a more negative scenario.



# APPENDIX – DB SECTION INPUTS

## Scenario Analysis - Cumulative Annualised Returns

	Annualised Returns (% p.a.)	
	Expected Return (Baseline)	Climate Impact
<b>Rapid Transition</b>		
Impact at 5 years	5.0%	<b>-0.3%</b>
Impact at 20 years	6.2%	<b>0.0%</b>
Impact at 40 years	5.8%	<b>0.0%</b>
<b>Orderly Transition</b>		
Impact at 5 years	5.0%	<b>0.0%</b>
Impact at 20 years	6.2%	<b>0.0%</b>
Impact at 40 years	5.8%	<b>0.0%</b>
<b>Failed Transition</b>		
Impact at 5 years	5.0%	<b>-0.1%</b>
Impact at 20 years	6.2%	<b>-0.3%</b>
Impact at 40 years	5.8%	<b>-0.2%</b>

The table above sets out the annualised return impact of the climate scenarios compared to their respective baseline.

The analysis on annualised returns illustrates that a Failed Transition is by far the worst in terms of long term returns. This supports the view that long-term investors collectively trying to bring about an effective transition is aligned to their fiduciary duty to seek the best return within risk, liquidity and complexity restraints.



# APPENDIX – DB SECTION INPUTS

## DB Section – Investment Strategy

### Fund Allocations

Fund	Value (£m)	Allocation (%)
Synthetic Equity-Linked Dynamic Bonds	3.4	0.5
Global Low Volatility Equity	0.2	0.0
Global Small Cap Equity	0.8	0.1
Sustainable Global Equity	2.0	0.3
Sustainable Listed Infrastructure UCITS	0.6	0.1
UK Equity	0.8	0.1
Eurozone Equity	1.1	0.1
China Equity	1.0	0.1
Emerging Markets Equity	2.2	0.3
Passive Global REITS UCITS	1.2	0.2
Emerging Markets Debt	1.1	0.1
Emerging Markets Debt - Hard Currency	1.1	0.2
Dynamic Asset Allocation Fund (Hedged)	5.5	0.7
Multi-Asset Credit (Hedged)	23.1	3.1
Absolute Return Fixed Income (Hedged)	1.1	0.2
Alinda Infrastructure Fund II	0.2	0.0
Diversifying Alternatives Strategies (Hedged)	17.7	2.4
UCITS Alternatives Strategies (Hedged)	3.6	0.5
BlackRock UK Property Fund	22.4	3.0
PIP III - Private Debt	5.5	0.7
PIP IV - Private Debt	8.0	1.1
PIP IV - Private Equity	6.5	0.9
PIP IV - Infrastructure	4.8	0.7
PIP IV - Sustainable Opportunities	4.6	0.6
PIP V - Private Debt	13.9	1.9
PIP V - Private Equity	7.0	0.9
PIP VI - Private Debt	18.3	2.5
PIP VI - Private Equity	3.8	0.5

\*Valuations as at 31 December 2023



# APPENDIX – DB SECTION INPUTS

## DB Section – Investment Strategy (cont.)

### Fund Allocations

Fund	Value (£m)	Allocation (%)
PIP VI - Infrastructure	3.4	0.5
Tailored Credit I	133.4	17.9
Tailored Credit II	133.1	17.9
UK Long Gilts	3.7	0.5
Inflation-Linked Bonds	72.4	9.7
Inflation-Linked LDI Bonds	9.7	1.3
Medium Flexible Fixed	22.8	3.1
Long Flexible Fixed	22.1	3.0
Short Flexible Inflation	51.7	6.9
Short Flexible Real	43.3	5.8
Medium Flexible Real	70.0	9.4
Long Flexible Real	12.3	1.6

\*Valuations as at 31 December 2023





# APPENDIX – DC SECTION INPUTS

## Modelling Assumptions

- Analysis is shown as at 31 December 2023.
- The baseline assumptions are based on Mercer’s Stochastic scenarios.

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

- The further into the future you go, the less reliable any quantitative modelling will be.
- Looking at average asset class returns over multi-decade timeframes leads to invariably small impacts. The results are potentially significantly underestimated.
- There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or ‘tipping points’, like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
- 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.
- Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.

### Mercer’s UK Capital Market Assumptions:

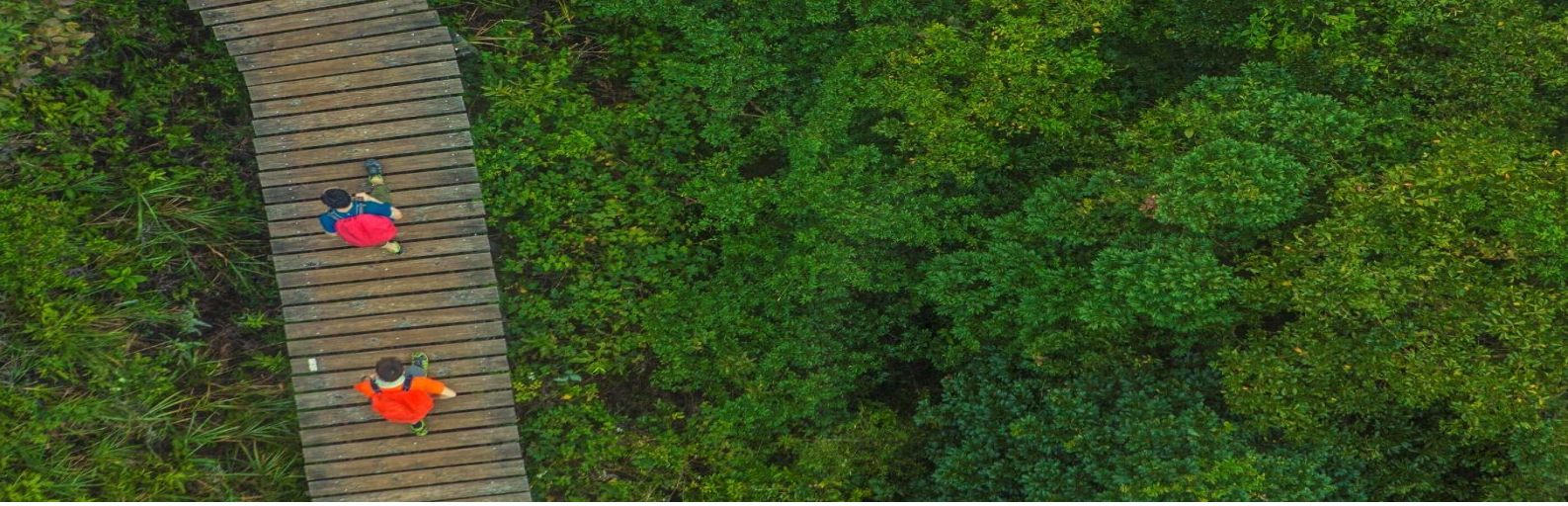
Asset Class	31/12/2023		
	5 Years	10 years	20 Years
MSCI World Equity	8.6%	8.9%	9.6%
MSCI ACWI Equity	8.6%	8.9%	9.6%
US Equity	8.8%	9.0%	9.7%
Canada Equity	8.8%	9.0%	9.7%
UK Equity	8.3%	8.7%	9.7%
Europe Equity	6.8%	7.1%	7.5%
Japan Equity	4.9%	5.3%	6.3%
Developed Asia ex Japan Equity	9.6%	9.7%	10.4%
Emerging Markets Equity	10.7%	10.9%	11.6%
MSCI ACWI ESG Equity	8.6%	8.9%	9.6%
UK Investment Grade Credit	4.5%	5.0%	5.9%
US Investment Grade Credit	4.4%	4.7%	5.4%
Global High Yield Credit	6.5%	7.2%	8.2%
Global Investment Grade Credit	4.4%	4.7%	5.4%
Global Sovereign Bonds	3.2%	3.5%	4.1%
Cash	4.0%	4.2%	4.9%



# APPENDIX – DC SECTION INPUTS

Modelling Assumptions – Cumulative Climate Return Impacts (relative to baseline) for:

Asset Class	Failed Transition			Limited Transition			Rapid Transition			Orderly Transition		
	31/12/2023											
	5 Years	10 Years	20 Years	5 Years	10 Years	20 Years	5 Years	10 Years	20 Years	5 Years	10 Years	20 Years
MSCI World Equity	-2.1%	-4.3%	-45.8%	-0.6%	-2.1%	-18.4%	-8.7%	-8.4%	-1.4%	-0.9%	-2.2%	1.5%
MSCI ACWI Equity	-2.1%	-4.4%	-45.0%	-0.7%	-2.1%	-18.7%	-8.7%	-8.2%	-1.7%	-0.8%	-2.0%	1.7%
US Equity	-2.1%	-4.3%	-51.1%	-0.7%	-2.2%	-20.8%	-8.9%	-8.6%	-1.1%	-1.1%	-2.8%	1.3%
Canada Equity	1.5%	1.8%	-31.2%	1.4%	1.9%	-12.0%	-12.6%	-13.7%	-10.8%	-1.3%	-3.1%	-1.0%
UK Equity	-1.9%	-4.0%	-35.7%	-0.2%	-1.2%	-14.3%	-7.8%	-6.9%	-1.8%	-0.8%	-2.0%	0.8%
Europe Equity	-2.0%	-4.4%	-34.6%	-0.2%	-1.2%	-11.6%	-8.8%	-8.3%	-3.2%	-0.3%	-1.0%	1.8%
Japan Equity	-2.8%	-5.8%	-34.5%	-0.7%	-2.1%	-12.7%	-8.0%	-7.6%	-1.3%	0.3%	0.2%	3.0%
Developed Asia Ex Japan Equity	-3.0%	-5.9%	-43.6%	-0.9%	-2.4%	-24.6%	-8.0%	-7.2%	-0.8%	-0.8%	-1.9%	1.4%
Emerging Markets Equity	-2.1%	-4.4%	-38.6%	-0.6%	-1.9%	-19.9%	-9.0%	-8.5%	-3.4%	0.2%	-0.7%	1.8%
MSCI ACWI ESG Equity	-2.7%	-5.3%	-45.7%	-1.0%	-2.4%	-18.9%	-5.6%	-4.8%	2.4%	-0.8%	-1.9%	1.8%
UK investment Grade Credit	-0.3%	0.1%	-0.2%	0.0%	0.1%	0.1%	-1.6%	-2.0%	-2.0%	0.0%	0.1%	0.3%
US Investment Grade Credit	-0.1%	0.2%	0.3%	0.1%	0.1%	0.3%	-2.0%	-2.2%	-1.7%	-0.1%	0.1%	0.5%
Global High Yield Credit	0.0%	0.2%	-0.3%	0.1%	0.1%	0.0%	-4.9%	-5.1%	-5.1%	0.2%	0.6%	0.8%
Global Investment Grade Credit	-0.2%	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-1.9%	-2.1%	-1.7%	0.0%	0.2%	0.5%
Global Sovereign Bonds	0.1%	0.1%	-0.1%	0.1%	-0.1%	0.0%	-0.5%	-0.3%	0.3%	0.0%	0.0%	0.3%
Cash	0.1%	0.0%	-0.4%	-0.2%	-0.4%	-0.2%	-0.2%	0.1%	0.6%	0.0%	0.0%	0.2%



# APPENDIX – DC SECTION INPUTS

## Modelling Assumptions - Narratives

	Failed transition	Limited Transition	Rapid transition	Orderly transition
<b>Summary</b>	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.	Policymakers implement limited NDCs and fall short of meeting the Paris Agreement goals. Global warming can reach over 2.8°C over pre-industrial levels in 2100.	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 organizations act quickly and predictably to implement the recommendations of the Paris Agreement to limit global warming to below 2°C.
<b>Temperature change</b>	Expected increase of 4.3°C, with a high-likelihood range of an increase between 3.4°C and 5.6°C by 2100.	Expected increase of 2.8°C, with a high likelihood range of an increase between 2.1°C and 3.5°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.
<b>Cumulative emissions</b>	c5,000 GtCO <sub>2</sub> (2020-2100)	c.3,000 GtCO <sub>2</sub> (2020-2100)	c400 GtCO <sub>2</sub> (2020-2100)	The additional damage under this scenario could be associated with further human emissions or greater impacts from feedback loops and tipping points.
<b>Key policy &amp; tech assumptions</b>	Existing policy regimes are continued with the same level of ambition.	Policies are implemented to encourage decarbonization but have limited scope (only active carbon price schemes that have pricing up to 2060 are included), particularly for large carbon emitters aside from Key economies, that do not reach their NDC targets.	A highly ambitious low-carbon policy and rapid technology transition. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation	An ambitious set of policies are introduced, leading to improvements in energy efficiency and replacement of unabated fossil fuel-based technologies with lower-carbon alternatives.
<b>Financial climate modelling</b>	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years).	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years), slightly mitigated by the attempted action that translate into slight transition risks in the 2026-2030 period.	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.
<b>Physical risks considered</b>	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: <ul style="list-style-type: none"> <li>• Gradual physical impacts associated with rising temperature (agricultural, labour, and industrial productivity losses)</li> <li>• Economic impacts from climate-related extreme weather events</li> </ul> Current modelling does not capture environmental tipping points or knock-on effects (e.g., migration and conflict).			



# APPENDIX – DC SECTION INPUTS

## Modelling Assumptions, Risk Identification and Model

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

### Data

This Appendix covers the data used in the analysis presented in this report. 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. In addition, page 28 summarises the narratives behind our scenarios.

### 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.

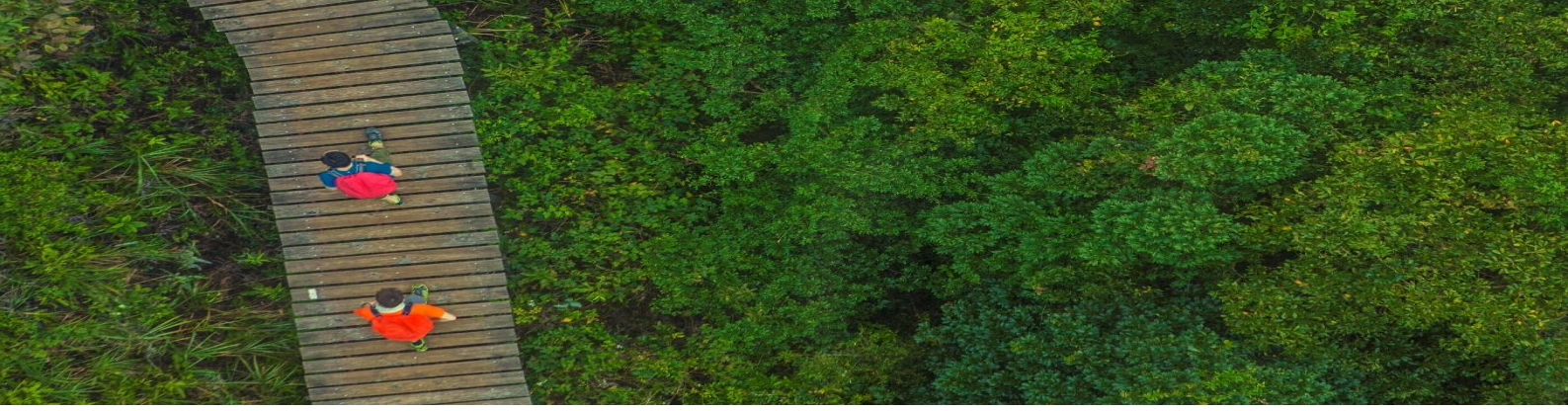
### Model

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 4 scenarios, therefore there is a wide range of possible outcomes not covered.

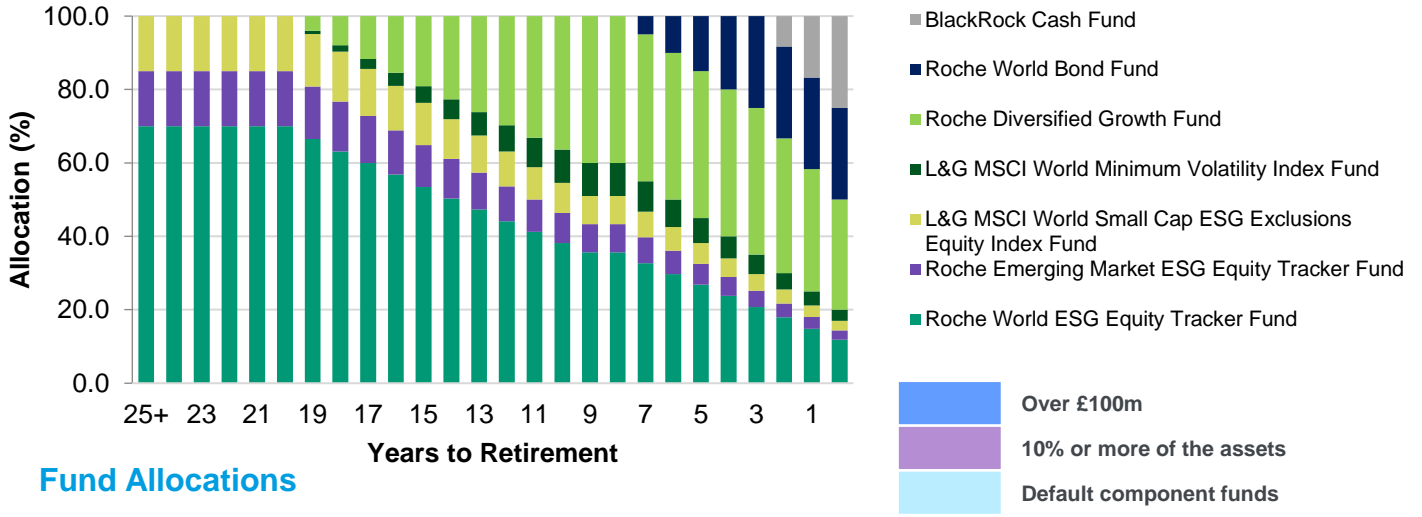
### Comparison with previous projects

The Fund previously carried out the analysis contained in this report in 2023, since then 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 have remained consistent.



# DC Section – Default Investment Option & Fund Allocations

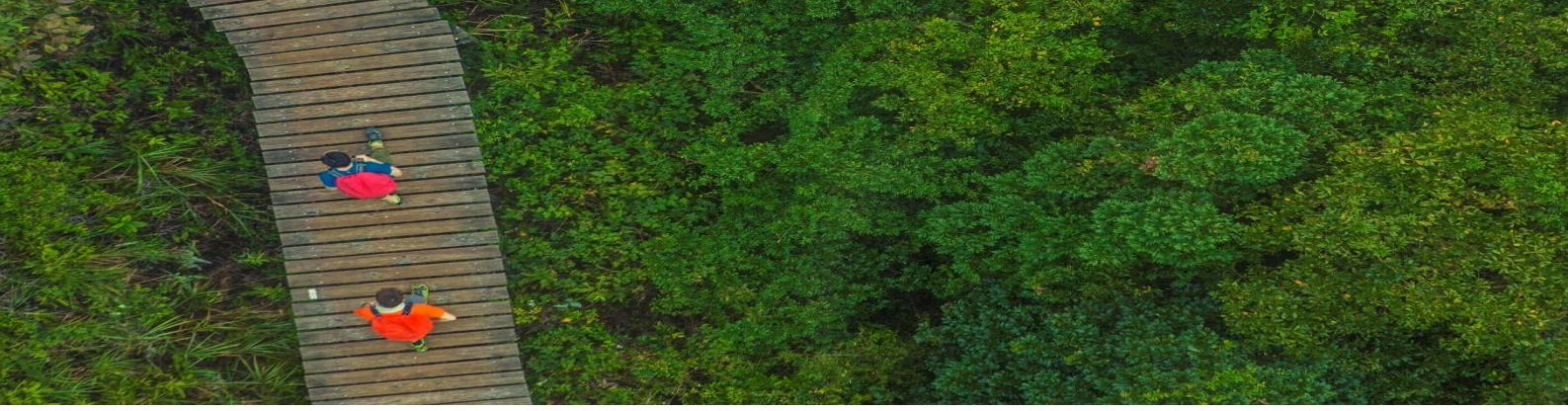
## Roche Flexible Retirement Lifestyle Strategy



### Fund Allocations

Fund	Total Asset Value (£)	% of the DC Section	Default assets (£)	Self-select and alt. lifestyle assets (£)
Roche World ESG Equity Tracker Fund	162,198,879.40	49.74	140,853,394.83	21,345,484.57
Roche Diversified Growth Fund:	51,970,528.50	15.94	46,512,098.03	5,458,430.47
• BlackRock ESG Strategic Growth Fund				
• Nordea Diversified Return Fund				
L&G MSCI World Small Cap ESG Exclusions Fund	31,642,194.56	9.70	29,500,548.15	2,141,646.41
Roche Emerging Markets ESG Equity Tracker Fund	30,235,377.27	9.27	27,966,182.10	2,269,195.17
L&G MSCI World Minimum Volatility Fund	10,818,900.68	3.32	9,835,869.06	983,031.62
Roche World Bond Fund	8,641,858.80	2.65	7,423,950.98	1,217,907.82
BlackRock Cash Fund	6,098,739.90	1.87	2,419,277.55	3,679,462.35
BlackRock World ex UK Equity Index Fund	10,089,073.10	3.09	-	10,089,073.10
BlackRock UK Equity Index Fund	6,452,795.28	1.98	-	6,452,795.28
HSBC Islamic Global Equity Fund	3,676,946.18	1.13	-	3,676,946.18
BlackRock Over 15 Years UK Gilt Index Fund	1,112,430.15	0.34	-	1,112,430.15
BlackRock Over 5 year Index Linked Gilt Fund	1,026,583.43	0.31	-	1,026,583.43
BlackRock Corporate Bond Index All Stocks	650,611.79	0.20	-	650,611.79
L&G Future World Annuity Aware Fund	813,926.05	0.25	-	813,926.05
BlackRock ESG Strategic Growth Fund	173,823.86	0.05	-	173,823.86
Nordea Diversified Return Fund	144,804.35	0.04	-	144,804.35

Source: Fidelity (asset valuation) and Mercer calculations as at 31 December 2023.

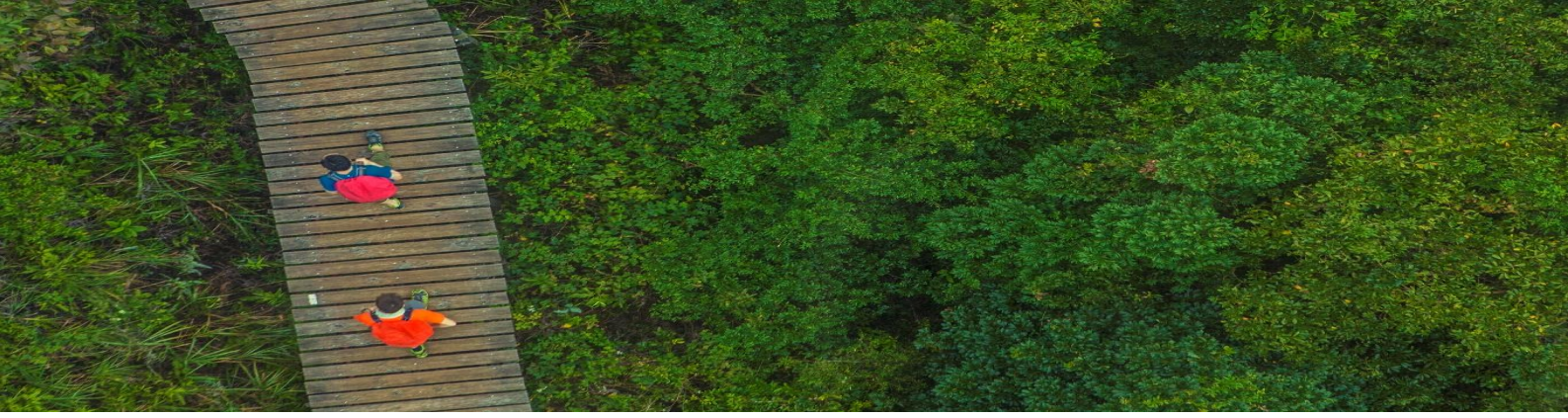


## DC Section – Default Investment Option & Fund Allocations

### Strategic Asset Allocation Modelled (Scenario Analysis)

The below table illustrates the allocation that has been used for each point in the lifestyle glidepaths.

Roche Default Lifestyle	Years to Retirement																				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Growth																					
De-Risking											10	9	8	7	6	5	4	3	2	1	0
Retirement																					0
MSCI World Equity	-	0.8%	1.6%	2.4%	3.2%	4.0%	4.8%	5.5%	6.2%	7.0%	7.7%	8.3%	8.3%	8.2%	8.1%	8.0%	7.8%	7.7%	7.0%	6.3%	5.7%
MSCI ACWI Equity	2.3%	2.2%	2.2%	2.1%	2.0%	2.0%	1.9%	1.9%	1.8%	1.8%	1.7%	1.6%	1.6%	1.5%	1.4%	1.2%	1.1%	1.0%	0.8%	0.7%	0.6%
US Equity	9.9%	11.0%	12.1%	13.1%	14.1%	15.2%	16.2%	17.2%	18.3%	19.2%	20.2%	20.8%	20.8%	19.9%	19.0%	18.0%	17.1%	16.3%	14.5%	12.8%	11.1%
Canada Equity	-	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
UK Equity	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.4%
Europe Equity	1.9%	2.0%	2.2%	2.3%	2.5%	2.7%	2.8%	3.0%	3.1%	3.2%	3.4%	3.6%	3.6%	3.5%	3.4%	3.3%	3.2%	3.2%	2.9%	2.6%	2.3%
Japan Equity	1.8%	1.8%	1.9%	1.9%	2.0%	2.0%	2.1%	2.1%	2.2%	2.2%	2.3%	2.3%	2.3%	2.1%	1.9%	1.8%	1.6%	1.5%	1.3%	1.1%	0.9%
Developed Asia Equity	0.7%	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%	1.2%	1.3%	1.4%	1.4%	1.3%	1.3%	1.3%	1.2%	1.2%	1.1%	1.0%	0.9%
Emerging Markets Equity	12.5%	12.0%	11.5%	10.9%	10.5%	10.1%	9.6%	9.1%	8.7%	8.2%	7.8%	7.4%	7.4%	6.9%	6.3%	5.7%	5.2%	4.7%	4.1%	3.5%	2.9%
MSCI ACWI ESG Equity	70.0%	66.5%	63.1%	60.0%	56.8%	53.4%	50.3%	47.3%	44.1%	41.2%	38.2%	35.6%	35.6%	32.7%	29.7%	26.8%	23.8%	20.7%	17.9%	14.8%	11.8%
UK investment Grade Credit	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9%	1.7%	2.6%	3.4%	4.3%	4.3%	4.3%	4.3%
US Investment Grade Credit	-	0.7%	1.3%	2.0%	2.6%	3.2%	3.9%	4.5%	5.0%	5.6%	6.2%	6.8%	6.8%	7.2%	7.6%	7.9%	8.3%	8.7%	8.1%	7.5%	7.0%
Global High Yield Credit	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3%	0.5%	0.8%	1.1%	1.3%	1.3%	1.3%	1.3%
Global Investment Grade Credit	-	0.8%	1.5%	2.2%	2.9%	3.6%	4.3%	4.9%	5.6%	6.2%	6.8%	7.5%	7.5%	9.3%	11.1%	12.9%	14.7%	16.5%	15.9%	15.3%	14.6%
Global Sovereign Bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6%	3.1%	4.7%	6.3%	7.8%	7.8%	7.8%	7.8%
Cash	0.8%	1.1%	1.4%	1.7%	2.0%	2.3%	2.6%	2.8%	3.1%	3.4%	3.6%	3.9%	3.9%	4.0%	4.1%	4.2%	4.3%	4.4%	12.4%	20.5%	28.5%



## DC Section – Fund Benchmarks

Fund	Benchmark / Target
Roche World ESG Equity Tracker Fund	MSCI ESG Focus Low Carbon Screened Index 50% Hedged
Roche Diversified Growth Fund	BofE Base Rate (target +3.5%)
L&G MSCI World Small Cap ESG Exclusions Fund	MSCI World Small Cap Index
Roche Emerging Market ESG Equity Tracker	Solactive L&G ESG Emerging Markets Index
L&G MSCI World Minimum Volatility	MSCI World Minimum Volatility (GBP Optimised) Index
Roche World Bond Fund	50% iBoxx Sterling Non Gilt Mid day index 50% SONIA +2% p.a.
BlackRock Corporate Bond All Stocks Index Fund	iBoxx Sterling Non Gilt Mid-day index
BlackRock Cash Fund	Sterling Overnight Interbank Average Rate (“SONIA”)
BlackRock World (ex-UK) Equity Index Fund	FTSE All-World Developed ex-UK Index
BlackRock UK Equity Index Fund	FTSE All Share Index
BlackRock Over 15 Years UK Gilt Index Fund	FTSE A UK Gilts Over 15 Years Index
BlackRock Over 5 Years Index Linked Gilt Fund	FTSE A UK Index-Linked Over 5 Years Index
Roche Global Sustainable Equity Fund	MSCI ACWI 50% Hedged (target +1%)
Nordea Diversified Return Fund	SONIA (target: +4.0%)
BlackRock ESG Strategic Growth Fund	Bank of England Base rate (target: +4.5%)
HSBC Life Islamic Fund	Dow Jones Islamic Titans 100 Gross
L&G Future World Annuity Aware Fund	Composite: gilts and corporate bonds



# METRICS

## Limitations

- The decarbonisation analysis focuses on the total listed portfolio. Emissions metrics and decarbonisation targets used in this report are in respect of all greenhouse gases covered by the Kyoto Protocol and are expressed in terms of carbon dioxide equivalents (CO<sub>2</sub>e) – the amount of CO<sub>2</sub> which would have the equivalent global warming impact. While different greenhouse gases are expected to have different net-zero dates under a 1.5°C aligned outcome, CO<sub>2</sub> pathways target a 2050 net-zero end point and have been adopted in this instance.
- Caution should be exercised in interpreting individual data points, as in reality, emissions may differ, given the data coverage in the analysis is less than 100%. Where companies do not have data points, companies are assumed to have the same carbon metrics as the average of companies that we do have data points for. This means that, where we do not have data, we are not assuming that those companies have zero emissions.
- Mercer will seek to integrate Scope 3 emissions into target setting as methodologies improve.
- Scope 3 emissions for listed equities and corporate bonds are calculated using estimated data due to the lack of availability or poor quality of reported data. Even when reported data is available for scope 3 emissions, there is no guarantee of consistency between the reported figures across different companies, as companies often only report on a subset of the 15 categories of scope 3 emissions. MSCI estimates emissions across each of the 15 categories using a combination of revenue estimates and production data. Using MSCI estimated scope 3 data only ensures that data is consistent for all companies across similar sectors, providing a more robust understanding of where the risks lie and a better intertemporal understanding of how portfolios have evolved.
- In respect of verified data as part of the data quality output, this is in line with the PCAF definition. It refers to reported emissions being calculated in line with the GHG Protocol and verified by a third-party auditor. No verified data is yet available, which highlights the difficulty in obtaining data approved by independent third-parties. It will be useful to keep track of this metric over time.

## Sovereign bonds emissions

The Greenhouse Gas Protocol’s definition of scope 1, 2 and 3 emissions was initially developed for classification of corporate emissions, rather than sovereigns. In this report, we have adopted the recommendations of the Partnership for Carbon Accounting Financials (PCAF) when reporting sovereign emissions. PCAF’s scope definition for sovereign debt is as follows:

Scope 1	Scope 2	Scope 3
Domestic GHG emissions from sources located within the country territory	GHG emissions attributable to the import of electricity, steam, heat and cooling from outside the country territory	GHG emissions attributable to all other (non-energy) imports from goods or services from outside the country territory

- These scopes have been further mapped to the following emissions metrics, which are presented in this report:
  - **Production emissions** = Scope 1
  - **Consumption emissions** = Scope 1 + Scope 2 + Scope 3 – Exported emissions
- The definition of Production emissions follows the territorial emissions approach adopted by the United Nations Framework Convention on Climate Change (UNFCCC) for annual national inventories. Production emissions are presented including land use, land-use change and forestry (LULUCF) emissions.
- Absolute emissions have been calculated as follows (for both Production and Consumption emissions):
 
$$\text{Absolute emissions} = \frac{\text{Market value of exposure to sovereign bond (USD)}}{\text{PPP – adjusted GDP (USD)}^*} \times \text{Sovereign emissions (tCO}_2\text{e)}$$
- Sovereign carbon intensity metric has been calculated as follows (for both Production and Consumption emissions):
 
$$\text{Sovereign carbon intensity} = \frac{\text{Sovereign emissions (tCO}_2\text{e)}}{\text{PPP – adjusted GDP (USD)}^*}$$





# METRICS

This report sets out various metrics related to the greenhouse gas (GHG) emissions attributable to the Fund's mandates. The metrics contained in this report are calculated using MSCI, with portfolio stocklists sourced directly from the investment managers.

## Listed assets (equities and corporate bonds)

Emissions metrics	Metric expressed as	Description
Weighted Average Carbon Intensity (WACI)	tCO <sub>2</sub> e / \$million sales	Average exposure (weighted by portfolio allocation) to GHG emissions normalised by sales. It seeks to answer how carbon intensive the companies in the portfolio are.
Carbon Footprint	tCO <sub>2</sub> e / \$million invested	Total GHG emissions figure normalized to take account of the size of the investment made. It seeks to answer how carbon intensive parts of the portfolio are.
Absolute Emissions	Total GHG emissions: metric tons of CO <sub>2</sub> and equivalents (tCO <sub>2</sub> e)	Calculates an investor's share of the total emissions for each company/holding. It seeks to answer what emissions the investor is responsible for.

## Alignment metrics

Alignment metrics	Metric expressed as	Description
Implied Temperature Rise (ITR)	Expressed as °C	Prediction of temperature rise scenario over the rest of the century, given a company's emissions, commitments, and momentum. Shows how companies/portfolios compare to the 1.5°C Paris agreement temperature rise goal.
SBTi	Percentage of portfolio with SBTi targets	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).

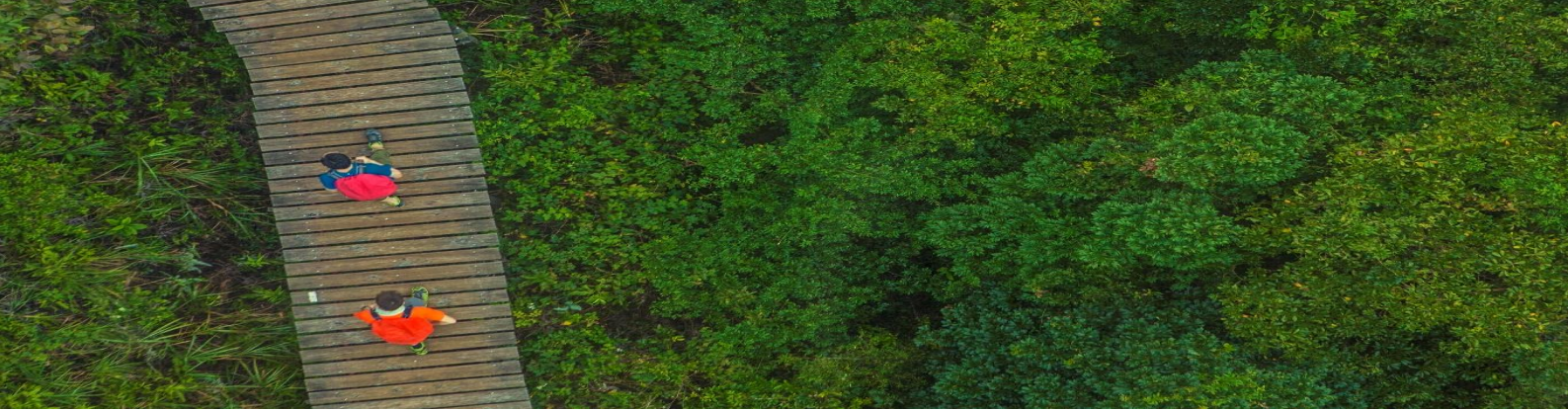
## Non-emissions metrics

Non-emissions metrics	Metric expressed as	Description
Data Quality	Percentage of portfolio which is either verified, reported, estimated or unavailable	Classifies each mandate's company/holding data as one of the following four categories: Verified, Reported, Estimated, and Unavailable. Additional categories account for the remainder of the portfolio that is not included in the data quality analysis due to being cash or derivatives.

## Sovereign bonds

Emissions metrics	Metric expressed as	Description
Sovereign Carbon Intensity	tCO <sub>2</sub> e/\$million PPP-Adjusted GDP	A measure of how carbon intensive the sovereign countries held in the portfolio are. Sovereign emissions are normalized by PPP-adjusted GDP to take into account the size of the country's economy. This is equivalent to the listed assets Carbon Footprint metric.
Absolute Emissions	Total GHG emissions: metric tons of CO <sub>2</sub> and equivalents (tCO <sub>2</sub> e)	A measure of how much emissions the investor is responsible for. It is calculated as an investor's share of the total emissions for each sovereign.

Sovereign emissions data shown are consistent with the PCAF definition of sovereign emissions. Data sourced from MSCI.



# Climate Change Glossary

## C

### **Carbon footprint**

The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization or community. Carbon footprint is calculated for each company as (Scope 1 and 2 carbon emissions / \$m investments). See also Scope 1, 2, 3 emissions and Weighted average carbon intensity (WACI).

### **Carbon intensity**

The amount of emissions of carbon dioxide (or other greenhouse gasses) released per unit of another variable such as revenue, gross domestic product (GDP), per \$1million invested etc. See also Weighted Average Carbon Intensity (WACI).

### **Carbon price**

The price for avoided or released carbon dioxide (CO<sub>2</sub>) or CO<sub>2</sub>-equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.

### **Carbon neutrality**

Achieved by offsetting emissions by paying for credits (usually certified via new forestry equivalents that provide carbon removal). Carbon neutrality is similar to net zero targeting – the latter requires actual emissions reductions to meet targets though (rather than purchasing offsets). See also Net zero CO<sub>2</sub> emissions.

## D

### **Decarbonisation**

The process by which countries, individuals or other entities aim to achieve zero fossil carbon existence. Typically refers to a reduction of the carbon emissions associated with electricity, industry and transport.

## G

### **Global warming**

The estimated increase in global mean surface temperature expressed relative to pre-industrial levels unless otherwise specified. See also Pre-industrial.

### **Greenhouse gases**

Gases in our planet's atmosphere which trap heat. They let sunlight pass through the atmosphere but prevent heat from leaving the atmosphere. Greenhouse gases include: Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF<sub>6</sub>), Nitrogen Trifluoride (NF<sub>3</sub>).

## I

### **Inevitable policy response**

A scenario that expects an acceleration of climate-related policy announcements in 2023–2025, which has been supported by the Principles for Responsible Investment (PRI).

## M

### **Mitigation**

#### **(of climate change)**

A human intervention to reduce emissions or enhance the sinks of greenhouse gases.

### **Mitigation strategies**

In climate policy, mitigation strategies are technologies, processes or practices that contribute to mitigation, for example, renewable energy (RE) technologies, waste minimization processes and public transport commuting practices.

## N

### **Net zero CO<sub>2</sub> emissions**

Net zero carbon dioxide (CO<sub>2</sub>) emissions are achieved when CO<sub>2</sub> emissions are balanced globally by CO<sub>2</sub> removals over a specified period. The term “net zero” is also typically associated with the 2050 date or earlier, as this is aligned with the scientific recommendations to achieve a 1.5°C scenario. See also Carbon neutrality (which differs slightly).



# Climate Change Glossary

## P

### Paris Agreement

The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) was adopted on December 2015 in Paris, at the 21st session of the Conference of the Parties (COP) to the UNFCCC.

The agreement, adopted by 196 Parties to the UNFCCC, entered into force on 4 November 2016 and as of May 2018 had 195 Signatories and was ratified by 177 Parties.

One of the goals of the Paris Agreement is “Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels”, recognising that this would significantly reduce the risks and impacts of climate change.

Additionally, the Agreement aims to strengthen the ability of countries to deal with the impacts of climate change.

### Physical risks

Dangers or perils related to the physical or natural environment that pose a threat to physical assets e.g. buildings, equipment and people. Mercer’s scenario analysis grouped these into the impact of natural catastrophes (for instance sea level rise, flooding, wildfires, and hurricanes) and resource availability (particularly water). See also Transition risks.

### Pre-industrial

The multi-century period prior to the onset of large-scale industrial activity around 1750. The reference period 1850–1900 is used to approximate pre-industrial global mean surface temperature (GMST).

### Principles for Responsible Investment (PRI)

Non-profit organisation which encourages investors to use responsible investment to enhance returns and better manage risks. It engages with global policymakers and is supported by, not but part of, the United Nations. It has six Principles for Responsible Investment that offer a menu of possible actions for incorporating ESG issues into investment practice. Mercer is a founding signatory of these Principles.

## R

### Resilience

The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation.

## S

### Scope 1, 2, 3 emissions

Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

### Stranded assets

Assets exposed to devaluations or conversion to “liabilities” because of unanticipated changes in their initially expected revenues due to innovations and/or evolutions of the business context, including changes in public regulations at the domestic and international levels.

### Sovereign carbon intensity

Measurement of carbon emissions per unit of economic output (e.g. GDP). It provides an insight into how efficiently a country is utilising carbon-based energy sources and the level of carbon emissions associated with its economic activities

## T

### Transition

The process of changing from one state or condition to another in a given period of time. Transition can be in individuals, firms, cities, regions and nations, and can be based on incremental or transformative change.

### Transition risks

Risks from policy changes, reputational impacts and shifts in market preferences, norms and technology. See also Physical risks.

## W

### Weighted average carbon intensity (WACI)

The carbon intensity of a portfolio, weighted by the proportion of each constituent in the portfolio. Carbon intensity is calculated for each company as (Scope 1 and 2 carbon emissions / \$m sales). See also Carbon footprint.



## Important Notices from Data Providers

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### Ortec

Mercer has entered into a global agreement with Ortec Finance regarding the use of their climate scenarios by Mercer’s clients.

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