

Air Products PLC Pension Plan

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

Reporting period: 12 months to 5 April 2023



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Section 1

Introduction

Dear Members,

Welcome to our first climate change report, which has been prepared in line with the recommendations of the Task Force on Climate-related Financial Disclosures (“TCFD”) and the statutory requirements prescribed by the Department of Work and Pensions¹.

The Trustees of the Air Products PLC Pension Plan (“the Plan”) have a legal fiduciary responsibility to invest the Plan’s assets in the best way possible for its members. The Plan is a single-section Defined Benefit Pension Scheme, which remains open to accrual but closed to new members. As part of this responsibility, the Trustees recognise climate change as a risk that could impact the financial security of members’ benefits if it is not properly measured and managed. The Trustees also recognise that climate change presents an opportunity, by investing in companies or assets that are expected to perform well in an economy that is positioned to address the challenges associated with climate change.

The Trustees’ assessment of climate-related risks and opportunities has been carried out based on information that is currently available, both in terms of data from the companies and assets in which the Plan invests and in consideration of the different global warming scenarios we have analysed. This data is subject to change as climate change reporting improves.

Climate change is one risk amongst many that the Trustees measure, monitor and manage. To this extent, climate change needs to be considered alongside these other risks in a balanced and proportionate way. The Trustees will therefore continue to invest in companies where there is a sufficiently attractive investment case and the asset manager believes there is an



¹ The Occupational Pension Plans (Climate Change Governance and Reporting) Regulations 2021 and the Occupational Pension Plans (Climate Change Governance and Reporting) (Miscellaneous Provisions and Amendments) Regulations 2021

opportunity to engage and influence change in the behaviour and actions of a company.

This report has been split into several sections to help members understand:



- Governance:** How the Trustees incorporate climate change into its decision making;
- Strategy:** How potential future climate warming scenarios could impact the Plan;
- Risk Management:** How the Trustees incorporate climate-related risk in its risk management processes; and
- Metrics and Targets:** How the Trustees measure and monitors progress against different climate-related indicators known as metrics.

The final section sets out the methodology and assumptions used to produce the information contained in this report. The Trustees would welcome your feedback on this report and are looking forward to building on this report over future years especially as the availability of data improves.

Geoffrey Wyatt

Chair of the Air Products PLC Pension Plan

Section 2

Governance



Trustees' governance approach

The Trustees have ultimate responsibility for ensuring effective governance of climate-related risks and opportunities. The Trustees maintain a Statement of Investment Principles (SIP), which details the key objectives, risks and approach to considering Environmental, Social and Corporate Governance (“ESG”) factors, such as climate change, as part of its investment decision making. The SIP is reviewed on at least a triennial basis or following a significant change in investment policy.

The Trustees' key beliefs on ESG and climate change are:

- *ESG factors may have a material impact on investment risk and return outcomes, and that good stewardship can create and preserve value for companies and markets as a whole.*
- *Long-term sustainability issues, particularly climate change, present risks and opportunities that increasingly may require explicit consideration.*

Roles of those undertaking Plan governance activities

The Trustees have reviewed the roles of others undertaking Plan governance activities, in particular the investment sub-committee (“ISC”) and their decision-making powers. The Trustees will consider the recommendations of the ISC and will ratify any decisions that require its approval. Of relevance to the oversight of climate-related risks and opportunities are:

The Investment Sub-Committee (“ISC”)

The ISC has the oversight and decision-making responsibility for the implementation of the investment strategy for the Plan. This includes the appointment and ongoing review of investment managers and performance considerations. Whilst the Investment Sub Committee has some delegated authority, any material change in strategy or climate related policy is shared with the wider Trustees before final approval.

Trustees

The Trustees and in some cases the ISC have joint responsibility for identifying, assessing and managing climate-related risks. The Trustees consider the advice they receive which will either include the climate considerations relevant to issues raised as well as climate focused activities as follows:

- The Trustees are expected to keep themselves informed about updates and progress within the investment and pensions industry on an ongoing basis. They attend Trustee training sessions covering climate change and receive current thought pieces and articles via their Investment Consultant and other industry publications.
- During the year to 5 April 2023, the Trustees and the ISC received various training sessions from its Investment Consultant, Mercer Limited (“Mercer”), covering climate-related investment risks and reporting requirements in line with the TCFD recommendations.
- Climate change will form an explicit agenda item at least annually for the Trustees and the ISC when the Trustees’ annual TCFD report is updated. The Trustees are 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.

Roles of advisers

The Trustees have appointed advisers to the following roles:

Investment consultant to the Defined Benefit Section (Mercer Limited)

- Advises on strategic asset allocation taking into account climate risk and opportunities, supported through the provision of climate scenario analysis;
- Providing training and other updates to the Trustees on relevant climate-related matters;
- Advising how climate-related risks and opportunities might affect the different asset classes in which the Plan might invest over the short-, medium- and long term, and the implications on the Plan’s investment strategy;
- Advises on the choice of climate-related metrics and targets as well as changes to investment mandates;
- Monitors investment manager performance against relevant climate-related targets;
- Liaises with investment managers and other professional advisers to provide training to the Trustees and on climate change, as appropriate; and
- Assists the Trustees in producing the Plan’s TCFD report on an annual basis

Scheme Actuary (Hymans)

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

Scheme governance (Pinsent Masons Pensions Services)

- Advises on general governance and responsible for agenda setting, minute taking and certain aspects of Plan governance.

Covenant (BDO LLP)

- Advises on the covenant strength such that the Trustees can consider this when setting the investment strategy and actuarial assumptions for the triennial actuarial valuations.

The Trustees expect the covenant advisor to take account of climate risk when assessing the covenant of the sponsor. The Trustees have reviewed the TCFD report of the sponsoring employer when producing this statement and in forming a view of ongoing covenant strength.

The Trustees expect advisers to act with integrity and diligence in fulfilling the set objectives and use meetings with the advisers to question, assess and challenge them. Where relevant, this includes discussion of the steps taken by advisers to identify and assess any climate-related risks and opportunities.

As per the CMA objectives, the Investment Consultant provider should take into account the overall objective above and, in doing so, will give due consideration to relevant circumstances of the Plan. Those relevant circumstances include requirements including the responsibilities of the Trustees to consider environmental, social and governance (ESG) factors (including climate change) and stewardship risks. Mercer has provided climate related scenario analysis for the Plan, and will assist and advise the Trustees in producing the Plan's TCFD report on an annual basis.

The approach of the investment consultant to climate change and how it is integrated into its advice and services is assessed as part of the adviser selection and monitoring process. The Trustees set the investment consultant annual objectives, including ones related to ESG and climate change competency. The investment consultant is formally assessed against these objectives annually.

Time and resources spent on climate change-related matters

The Chair of Trustees is responsible for ensuring that sufficient time is allocated for consideration and discussion of climate matters by the Trustees and their advisers. The Trustees, as part of their regular meeting schedule, allocate agenda time to climate change topics, amongst other ESG topics, to cover 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 Trustees time to digest the advice.

There are a number of workstreams that are to be completed regularly in order for the Trustees to fulfill their responsibility for managing climate risks and opportunities. It is important to note that many of the workstreams will cover wider ESG risks other than just climate change risk, as the Trustees do not consider climate risks in isolation but holistically alongside the various other ESG risks the Plan may be facing. The workstreams are listed below:

- Climate change training sessions.
- Scenario analysis, modelling the investment strategy and funding strategy for the first year and every 3 years thereafter.
- Review appropriateness of undertaking scenario analysis in light of a) data availability changes b) material changes in investment strategy / funding position (minimum frequency = annual)
- Metrics data collection (annually).
- Target setting and target appropriateness review (annually).

- Progress against target assessment (annually).
- ESG beliefs (including climate change) update and review (annually).
- Review of manager ESG ratings, climate policies (annually).
- Stewardship, covered as part of the Trustees' annual implementation statement.
- Risk frameworks update and review e.g. risk register (annual)
- Drafting annual TCFD report.

Training

During the year to 5 April 2023, the Trustees and the ISC received training from the Trustees' Investment Consultant, covering climate-related investment risks and reporting requirements in line with the TCFD recommendations. This included training on the items listed below:

- Training Trustees on the essential legislative aspects of specified schemes, aimed at fostering effective governance in light of climate change impacts.
- Reviewing any vulnerability to climate change risks and assessing the impact of investments on the climate.
- Ensuring Trustees are informed about the necessity of formulating a comprehensive strategy and targets to manage the Plan's exposure to climate-related risks, with a concise summary included in the annual disclosure (TCFD report).
- In producing this TCFD report on an annual basis, the Trustees will consider key risks and will request their advisors to provide further training if required.

Section 3

Strategy



As a long-term investor, the Trustees recognise the risks and opportunities arising from climate change are diverse and continuously evolving. In relation to climate-related risks, the Trustees believe it is important to understand how the Plan's exposure to these 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 Plan.

To help with this assessment, the Trustees have defined short-, medium- and long-term time horizons for the Plan.

The Trustees believe it is important to understand how the Plan's exposure to climate 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 Plan. It is worth highlighting that the Plan has materially reduced the overall risk in the investment strategy over the last few years, and as a result, the allocation to equities is materially lower than it was previously. The majority of the Plan's investments are now held in government bonds and corporate bonds.

The Plan's current primary funding objective is to maintain appropriate assets, ensuring coverage of the expected costs related to providing members' benefits based on the technical provisions basis.

Additionally, the secondary Funding Objective for the plan is to have sufficient and appropriate assets to be able to meet all future costs and support a buy-in without taking on any additional company contributions (self-sufficiency basis of Gilts + 0.5% p.a.). This is aligned with the New Funding Regime and the agreed Long-term Objective, which is to adopt a target of achieving full funding (with a high level of confidence) on this basis by 2035. This is a sufficiently prudent approach based on prior asset-liability modelling.

Whilst long term climate-related risks are therefore less of a focus for the Trustees, the Trustees understand that pricing provided by insurers is itself linked to financial markets and their assessment of climate risks. The Trustees will also consider in detail how insurers approach and manage climate risk when selecting an insurance provider.

Notwithstanding the expected short period to reach full funding, to help with the assessment of climate risks to the Plan, the Trustees have defined short, medium and long-term time horizons for the Plan. The climate-related risks and opportunities that are relevant to the Plan will be different over these periods

Short Term	Medium Term	Long Term
next 5 years	next 20 years	next 40 years
Transition risks are greater than physical risk with moderate asset re-pricing driven by increases in private sector net zero commitments and clearer decarbonisation plans and exposure to developing economies which have longer time horizons for country level phase down of fossil fuel usage	The focus could switch to physical risks as future damages are priced in (depending on the scenario)	Physical risks are the key driver of uncertainty.

Climate-related risks and opportunities relevant to the Plan

The Trustees have considered the following short, medium and long-term drivers of risk in relation to climate change:

- **Over the short term (out to 5 years), risks may present themselves through rapid market re-pricing relating to climate transition as:**
 - Scenario pathways become clearer. For example a change in the likelihood of rapid policy change to support and accelerate the transition.
 - Market awareness grows. For example, the cost and impacts of the transition or future physical impacts suddenly influence market pricing.
 - Policy changes unexpectedly surprise markets. For example, if a carbon price or significant regulatory requirement was introduced across key markets to which the portfolio is exposed, at a sufficiently high price to impact behaviour.
 - Market sentiment is shocked. For example, falls in markets could create a downward spiral were economic sentiment worsens and asset values fall.
 - Perceived or real increased pricing of greenhouse gas emissions/carbon.
 - Substitution of existing products and services with lower emission alternatives may impact part of the portfolio.
 - Litigation risk relating to dangerous warming becoming more prevalent.
 - Increases in the energy/heat efficiency of buildings and infrastructure.

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

The Trustees' ability to understand these short-term changes can position the Plan favourably, for example taking advantage of the climate transition by avoiding and reducing investment in high-emitting carbon sensitive businesses/assets that do not have a business plan that supports the transition to a low carbon economy.

- **Over the medium term (out to 20 years), risks are likely to be more balanced reflecting both transition and physical risk.** Over this time period the transition pathway will unfold and the level of

anticipated physical damage will become much clearer. While the full extent of the physical damage is unlikely to have occurred markets are likely to be allowing for it to a large degree in asset pricing.

The Trustees' ability to understand these changes and evolve the portfolio as the pathway develops should help to control risk and potentially enhance returns. The Trustees seek to select managers and choose indices that can identify potential emergence of low carbon opportunities and the decline of some traditional sectors.

- **Over the long term (beyond 40 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. The impact of global heating on productivity, particularly in areas closer to the equator, will also be a key driver.

As an example of this, the Plan's multi-asset Credit manager presented to the ISC over the course of the year and provided an overview of how physical risks factored into their selection of underlying securities. The Trustees asked a number of questions around this and the link to underlying security selection in order to improve knowledge in this area.

Aside from engagement with underlying managers, having taken into account the Plan's strategic asset allocation, as set out in the technical appendix, the Trustees have undertaken climate related risk modelling which identified the following opportunities as being the most relevant to the Plan:

- An Increase in Sustainable allocations would protect against transition risk, this is most relevant to growth assets
- Reviewing the Plan's allocations to Emerging Markets could also mitigate some transition and physical risks.
- Naturally, climate exposure varies greatly by sector, therefore there is an opportunity to construct a portfolio that adjusts benchmarks to vary sector exposures. However, the Trustees expect to retain a balanced sector exposure but continue to engage with managers to ensure climate risks are being appropriately considered when selecting underlying investments.
- Prioritizing areas of focus for engagement and decarbonisation planning by understanding key risk exposures.

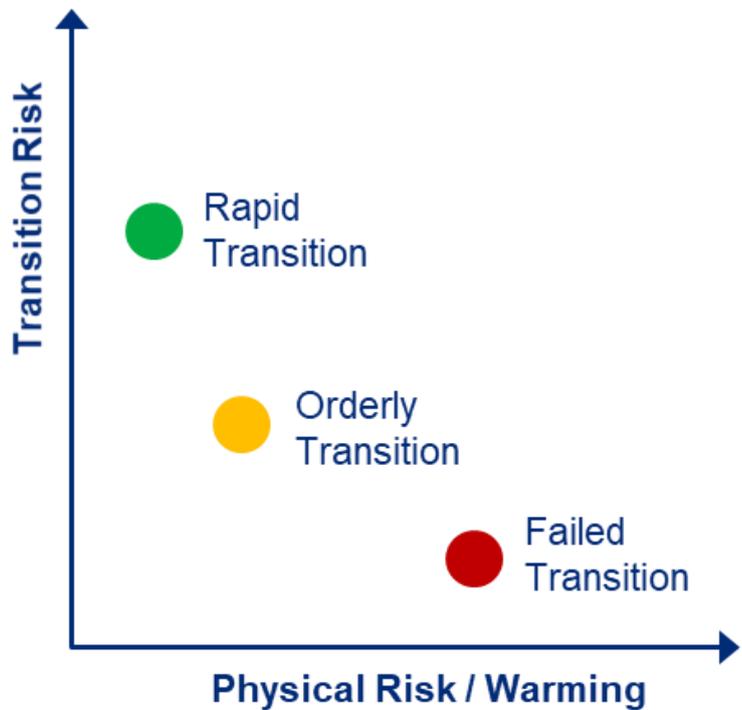
The Trustees have investigated the potential impacts of these risks via the scenario analysis, but will continue to assess opportunities and risk related to climate change as set out in the governance section.

Testing the resilience of the investment strategy

Scenario analysis

The Trustees have undertaken climate scenario analysis to test the resilience of the investment strategy. Quantitative and qualitative climate change scenario analysis has been undertaken on the Trustees' strategic asset allocation and an illustrative future asset allocation to assess the potential implications of climate change under three modelled scenarios; a Rapid Transition (1.5°C), an Orderly Transition (less than 2°C) and a Failed Transition (greater than 4°C). The analysis is based on scenarios developed by Mercer working with Ortec Finance. These scenarios have been chosen so as to provide a good test of the Plan's exposure to both transition and physical risk.

- Rapid Transition** – Average temperature increase of 1.5°C around 2050 .This scenario assumes that pricing in the transition and physical risks of the coming 40 years occurs within one year in 2025. This could be driven by a change in policy, consideration of stranded assets or expected costs. The shock is partially sentiment driven and so is followed by a partial recovery. Physical damages are most limited under this scenario.
- Orderly Transition** – Average temperature increase of 1.8°C by 2070. Pricing of transition and physical risk associated with a temperature rise of 1.5°C up to 2050 takes place over the first 4 years. The additional damages beyond 1.5°C impacts asset performance on a year-by year basis with no advance pricing in. Governments and wider society would act in a co-ordinated way to decarbonise and to limit global warming to well below 2°C. Transition impacts do occur but are relatively muted.
- Failed Transition** – Average temperature increase above 4.3°C by 2100 with a high likelihood range of an increase between 3.4°C and 5.6°. The world fails to co-ordinate a transition to a low carbon economy. Physical climate impacts significantly reduce economic productivity and have increasingly negative impacts including from extreme weather events. These are reflected in re-pricing events in two different periods, 2026 to 2030 (risk of the first 40 years) and 2036 to 2040 (risks of 40-80 years).



Source:

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

Further detail on climate scenario narratives, including modelling limitations, is included in the appendix of this report.

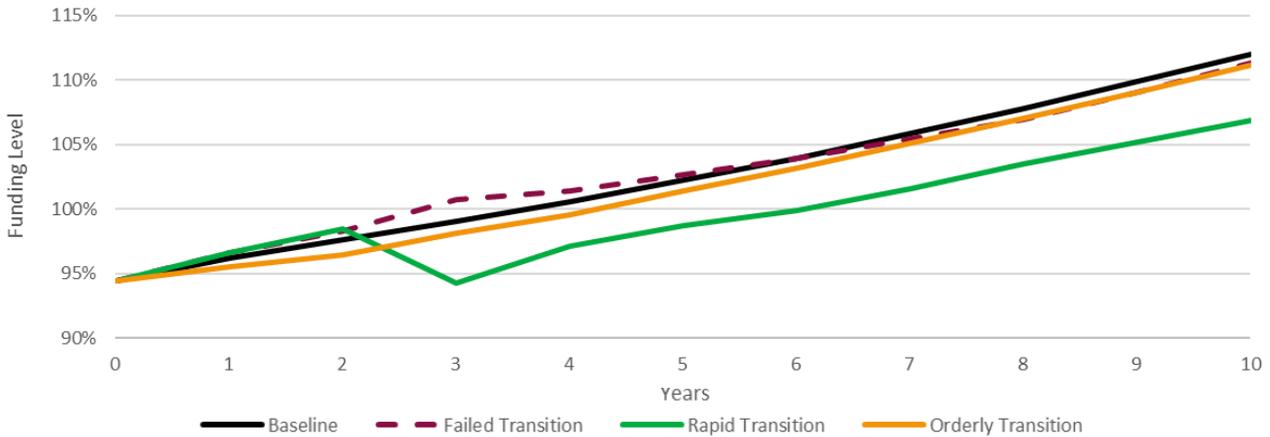
Thinking of the data used in completing the scenario analysis, the key data is around the asset allocation. The analysis is deliberately carried out over a long timeframe and the asset allocation is treated as static over that whole period. No allowance is made for potential de-risking or other relevant strategic changes, however in practice the Trustees expect to de-risk over time if the funding level improves.

Scenario Analysis Results

The charts below represent the output of the Trustees’ quantitative analysis of the investment and funding strategy. The charts represent projections of funding level and annualized returns from an

analysis date of 31 December 2022 over a period of 10 & 40 years. Projections ignore the impact of any future contributions. Further detail on the underlying asset allocations and limitations associated with climate scenario analysis are set out in the Technical Appendix.

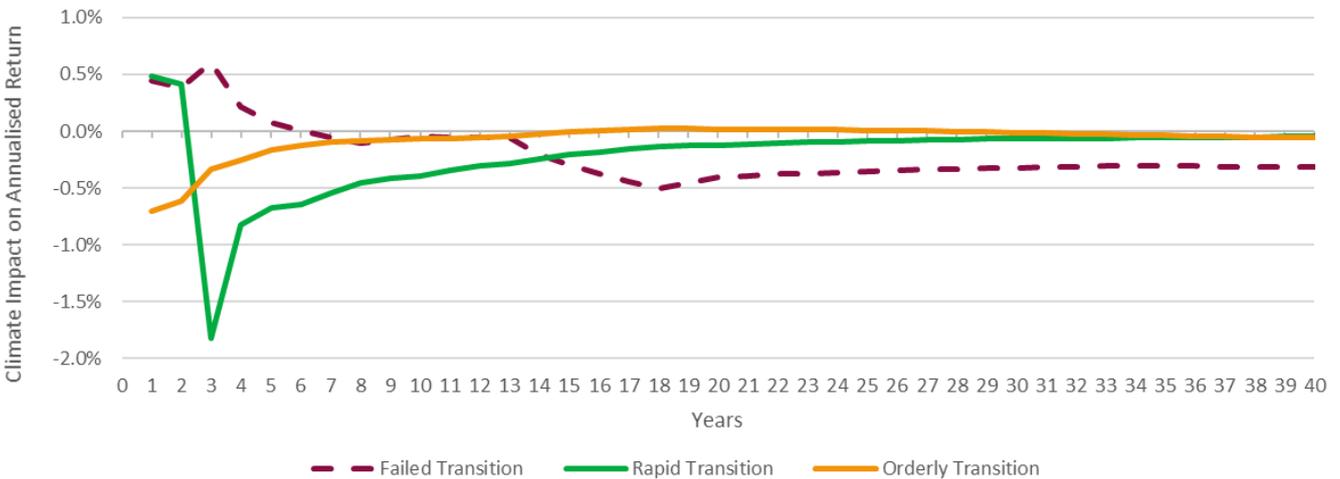
Funding Level – 10 years Projection



Source: Mercer. Estimated funding level shown on the gilts+0.5% p.a. basis.

The funding level analysis above takes into account the impact of interest rates and inflation expectations upon the value of the liabilities. These impacts are predominantly hedged by the Plan’s allocation to Liability Driven Investment holdings. However, it does not take into account any impact of changes to mortality driven by climate change.

Annualised Returns – Current Asset Allocation



Source: Mercer

The asset only analysis above does not take into account the impact of interest rates and inflation expectations upon the value of the liabilities. In practice, some of the impacts on assets would be offset by impacts on liabilities. However, the quantum of these impacts is not expected to be significant in the context of the climate-related risks inherent in the wider investment strategy. Furthermore, the analysis does not take into account the impact of changes to mortality.

Scenario Analysis Findings

In light of the above quantitative analysis, the Trustees noted the following findings:

Short Term (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 financial markets in 2025 followed by a partial 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 should not be discounted. Overall, the funding level at year 5 is reduced by 3.5% due to the impacts of Rapid Transition relative to baseline. If the Plan moved to an alternative “sustainable strategy”, adding sustainability tilts protects the modelled funding level by 1.2%. This option will therefore being considered by the Trustees as part of wider investment decision making, however no decision has been made at the current time. The Failed Transition is marginally positive due to transition costs not materialising
Medium Term (20 years)	As longer term physical damages begin to be priced in, the Failed Transition becomes the most impactful scenario. The Failed Transition reduces annualised returns by c. 0.2% p.a. relative to the baseline scenario under the longer term modelling. In practice, the Plan is expected to de-risk within this timeframe hence the actual impact should be lower than modelled.
Long Term (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 annualised returns by c. 0.2% p.a. relative to the baseline scenario. Under the Rapid Transition, modelling shows sustainability tilts could increase annualized returns by c. 0.02% p.a. on a relative basis.

Key conclusions

Conclusion 1 – A successful transition is an imperative

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

The quantitative analysis in this report highlights the negative financial impact associated with the Failed Transition and the corresponding need for Trustees to invest to support a successful transition within their fiduciary duty.

Conclusion 2 – Sustainable Allocations Protect against Transition Risk, Growth Assets are highly vulnerable to Physical Risk

The Plan has some allocation to growth assets. Growth assets are generally more exposed to transition and physical risks. Fixed Income asset classes are less sensitive, illustrated by table below that sets out the cumulative returns impacts relative to the baseline across the three scenarios by asset class.

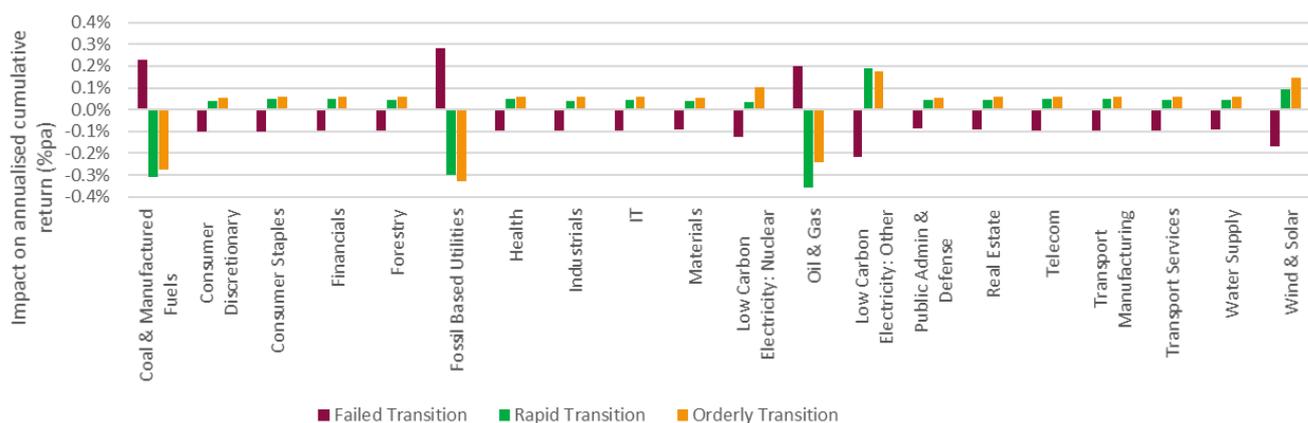
Modelling Asset Class	5 Years			40 Years		
	Failed Transition	Rapid Transition	Orderly Transition	Failed Transition	Rapid Transition	Orderly Transition
MSCI World Equity	2%	-17%	-4%	-42%	2%	-10%
MSCI Paris Aligned Equity	0%	-9%	-3%	-40%	2%	-8%
Emerging Markets Equity	-1%	-19%	-1%	-60%	3%	-15%
Multi-Asset Credit	-1%	-9%	1%	-1%	-1%	-1%
Global Investment Grade Credit	0%	-5%	0%	-2%	-1%	-1%
UK Sovereign Bonds	1%	-1%	-1%	0%	-1%	1%
Absolute Return Fixed Income	0%	-6%	0%	-1%	-1%	-1%

Source: Mercer

Conclusion 3 – Sector Exposure is Key

Naturally, climate exposure varies greatly by sector. This is illustrated by the chart below, which shows the cumulative impact on different sectors within the Investment Grade Credit portfolio over a 20 year period.

Investment Grade Credit – 20 years



Source: Mercer

This can inform portfolio construction in a number of ways:

- The above is a driver of the Trustees’ plan to consider sustainability tilts to the Plan’s corporate bond holdings
- Trustees will discuss with current or potential investment managers the sector exposures and how they account for sector specific climate risk.

- Trustees have a better understanding of key risk exposures and can prioritise areas of focus for engagement or decarbonisation planning

Supporting the quantitative analysis in this report, sector level analysis highlighted that differences in return impact are most visible at an industry-sector level, with significant divergence between scenarios.

As return impacts in this modelling are expressed relative to a climate-informed baseline, sector-specific impacts are driven both by what happens under the scenarios, but also by what does not happen (but was priced in). For example, there is a positive impact on the low carbon electricity sector under the Rapid Transition, which is an intuitive outcome. Alternatively, there is a positive impact on the oil & gas sector under the Failed Transition, which is a result of the sector performing better than expected in this scenario (i.e. more revenue than expected for underlying companies).

Conclusion 4 – Investors should be aware of future pricing shocks

Investors, and therefore “the market”, look to predict future events / impacts and allow for them in asset prices. As particular events become more likely, market pricing will change before the events occur. This means that longer-term impacts, including transition impacts and particularly physical damages, could impact portfolios earlier than they occur.

This means that longer-term impacts, including transition impacts and particularly physical damages, could impact portfolios earlier than they occur.

The Rapid Transition includes a shock around 2025 pricing in (and initially overreacting to a degree) to transition costs. The 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.

This finding informs the Trustees’ thinking in relation to managing climate-related risks.

In addition to the Quantitative analysis set out above, the Trustees have discussed on a number of occasions with investment managers the benefits of being aligned with a transition to a low carbon economy. In particular, we would highlight that the Trustees expect investment managers to tilt portfolios towards areas of growth and opportunities, where investing in companies that are well aligned to a transition to a low carbon economy could be additive to expected returns. This is most relevant to the Plan’s active mandates, and in particular multi-asset credit.

Section 4

Risk Management

A key part of the Trustees' governance role is to understand and manage risks that could have a financially material impact on the Plan's investments, the wider funding position and the sponsoring employer. Climate change is one of the risks that the Trustees consider alongside other financially material risks that may impact outcomes for members.

This section summarises the primary climate-related risk management processes and activities of the Trustees. Risk management helps the Trustees understand the materiality of climate-related risks, both in absolute terms and relative to other risks that the Plan is exposed to. The Trustees prioritise the management of risks primarily based on the potential impact on the security of members' benefits/prospective investment returns. It also questions itself regularly on any new risks which needs to be identified and managed.

Transition risks

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

- Policy and legislation
- Market
- Technology
- Reputation.

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

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

Physical risks

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

- Physical damage (storms; wildfires; droughts; floods);
- Chronic impacts on efficiency (reduced labour productivity)
- Resource scarcity (water; food; materials; biodiversity loss).

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

Governance

- The Trustees' Statement of Investment Principles is reviewed on at least a tri-annual basis and sets out how investment climate-related risks are managed and monitored.
- The Trustees maintain a risk register which identifies, assesses and manages ESG-related and climate risks by detailing processes for setting thresholds on mitigation and control of such risks.
- The Trustees will receive training from time-to-time on climate-related issues. The training allows the Trustees to challenge whether the risks and opportunities are effectively allowed for in its governance processes and wider activities, and to be able to challenge its advisers to ensure the governance support and advice adequately covers the consideration of climate-related risks and opportunities.
- A **benchmarking analysis** of the extent to which ESG factors are integrated into investment decision making at the portfolio level is undertaken by Mercer on an annual basis. As at the latest review, Mercer's Responsible Investment Total Evaluation (RITE) rating identified areas for improvement when compared to Plans of a comparable size, which the ISC have considered when considering the Plan's overall investment strategy.

The Trustees incorporate recommendations from the RITE assessment framework into its ESG Implementation Plan, and will monitor the score over time with a view to seeking to ensure best practice.

Benchmarking analysis is carried out against Plans with a similar level of assets under management and by sector of the Plan sponsor. Any rating/score has been determined at the sole discretion of Mercer, as professional adviser to the Plan. Mercer does not accept any liability or responsibility to any third party in respect of these findings. RITE is an evaluation at a point in time, informed by Mercer's Sustainable Investment Pathway; more details on the Pathway can be found here:

<https://www.mercer.com/our-thinking/wealth/pathway-to-responsible-investing.html>

Strategy

The Trustees believe that good stewardship and ESG issues may have a material impact on investment risk and return outcomes and will therefore be considered as part of the Plan's investment process. The Trustees also recognise that long-term sustainability issues, particularly climate change, present risks and opportunities that require explicit consideration. When setting investment strategy, ESG factors, including climate change, will be considered alongside a number of other factors that can influence investment strategy.

Climate scenario analysis for the investment strategy of the Plan will be reviewed at least triennially, or more frequently if there has been a material change to the strategic asset allocation or to the popular arrangements. Key findings from the Trustees' latest climate scenario analysis was set out in the previous section.

Stewardship

The Trustees recognise that active ownership by the investment managers will continue to be an important part of the Plan's approach to managing these risks. The Trustees have agreed to assess the investment managers' approaches to stewardship and engagement on an annual basis and summarises its findings in the Engagement Policy Implementation Statement. The Trustees expect companies in its portfolio to manage climate change risks. Stewardship activities can help hold companies to account and ensure they are taking a meaningful approach in this area. The Trustees have delegated stewardship and engagement activity to the underlying investment managers. They prefer active engagement rather than exclusion.

Reporting

The Trustees will receive annual reports of climate-related metrics and progress against targets in respect of the assets held in the Plan. The Trustees may use the information to engage with the investment managers.

The Trustees receive a voting and engagement activity summary on an annual basis as part of the preparation of the Engagement Policy Implementation Statement. The statement summarises how the investment managers vote and engage on climate-related issues (among other key engagement priorities). The statement is available on the Plan's website.

Manager Selection and Retention

The Trustees, with advice from Mercer in its role as Investment Consultant, will consider an investment manager's firm-wide and strategy-specific approach to managing climate-related risks and opportunities when either appointing a new manager, in the ongoing review of a manager's appointment, or as a factor when considering the termination of a manager's appointment.

Mercer rates investment managers on the extent of integration of ESG factors (including climate change) into their processes. A manager's stewardship process forms part of the rating assessment. This is considered at the firm level and at the investment strategy/fund level. The ratings are presented in quarterly risk reports and are reviewed by the Trustees.

Metrics and Targets



Metrics

The Trustees have chosen to present climate-related metrics across four different categories in this report. The climate-related metrics help the Trustees to understand the climate-related risk exposures and opportunities associated with the Plan’s investment portfolio and identify areas for further risk management, including investment manager portfolio monitoring, voting and engagement activity and priorities. The metrics in this report relate to the Plan’s investment emissions only and exclude emissions associated with the operation of the Plan (for which the emissions are immaterial). The metrics in this report are listed below and where metrics relate to emissions, these cover scope 1 and 2 only. The Trustees intend to begin reporting on scope 3 emissions from the next report.

Metric category	Selected metric	Further detail
Absolute emissions	Total Greenhouse Gas Emissions	Tonnes of carbon dioxide and equivalents (tCO ₂ e) that the Plan is responsible for financing.
Emissions intensity	Weighted Average Carbon Intensity (WACI)	The exposure of the Plan to carbon-intensive companies, measuring the amount of carbon dioxide and equivalents (tCO ₂ e) emitted per million pounds of holding company / issuer revenue ² on average.

² For sovereign bonds, Greenhouse Gas Emissions are expressed relative to Purchasing Power Parity adjusted Gross Domestic Product (PPP-adjusted GDP), in line with the Partnership for Carbon accounting of Financials guidance (PCAF).

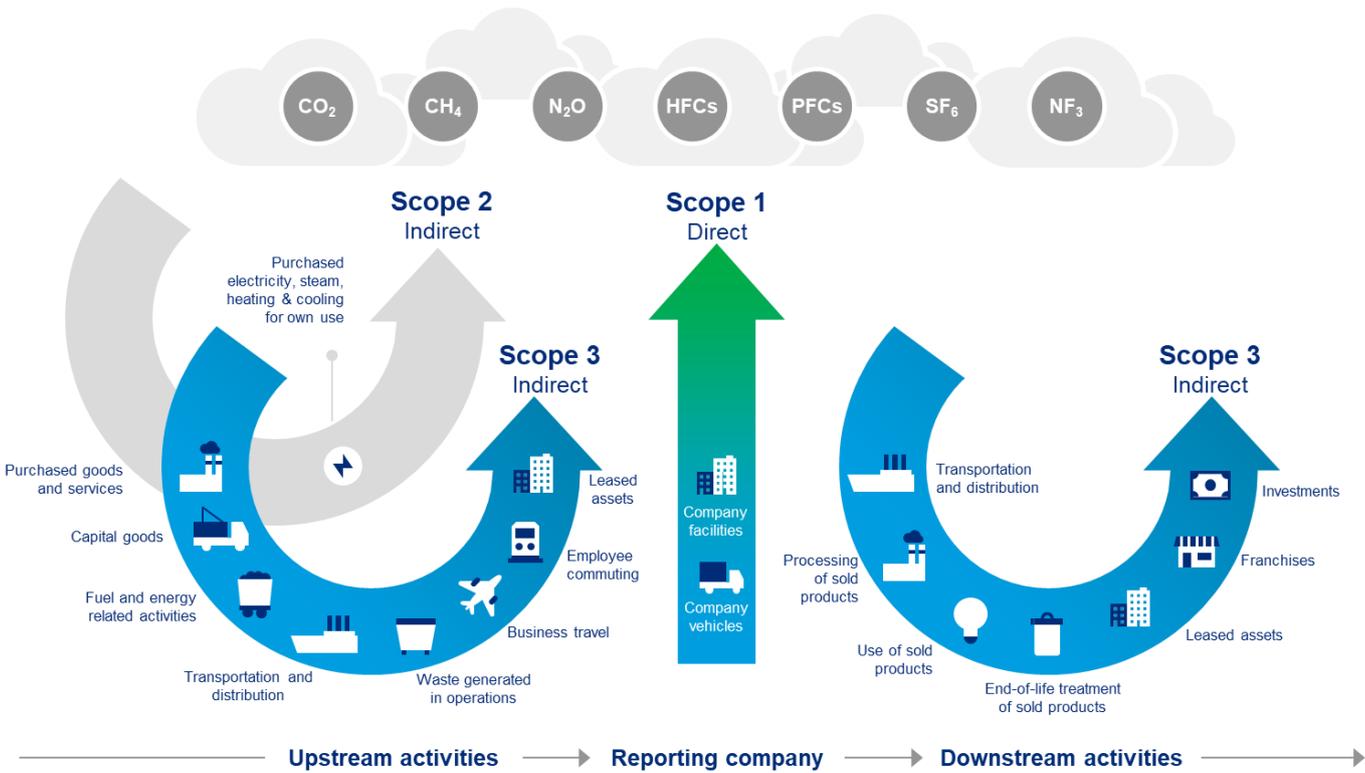
Metric category	Selected metric	Further detail
Portfolio Alignment	Implied Temperature Rise (ITR)	A prediction of how aligned the Plan’s portfolios are relative to the Paris Agreement’s 1.5°C target. This is estimated based on the activities and decarbonisation targets of portfolio companies / issuers, relative to what global decarbonisation needs to be to achieve 1.5°C.
Additional	Data Quality	Represents the proportions of the portfolio for which the Trustees have high quality data.

The Trustees recognise the challenges associated with various metrics, tools and modelling techniques used to assess climate change risks. The Trustees aim to work with their investment adviser and investment managers to continuously improve the approach to assessing and managing risks over time as more data becomes available. The Technical Appendix of this report sets out the data limitations and assumptions used in collating these metrics.

Total Greenhouse Gas Emissions

This metric takes an ownership approach to answer what proportion of a company’s or asset’s emissions an investor owns and is therefore responsible for financing. It includes the seven types of greenhouse gas (as defined in the Kyoto Protocol), across the three scopes of emissions, as summarized below.

Greenhouse Gas Emissions



Source: GHG Protocol

Emissions of the seven greenhouse gases have different impacts on climate change. In order to simplify reporting, each greenhouse gas is calibrated relative to carbon dioxide and is reported as ‘carbon

dioxide equivalent' emissions (CO₂e). In this way the Trustees can compare companies that emit different amounts of different gases on a consistent basis.

In respect of sovereign debt investments, the Trustees follow an approach consistent with the Partnership for Carbon Accounting of Financials ('PCAF') and the TCFD recommendations to derive absolute emissions. Recognising the different methodologies used to calculate absolute emissions for sovereigns and corporates, the Trustees report sub totals at the corporate and sovereign levels.

The Trustees have chosen this metric to understand the absolute amount of emissions financed by the Plan's investments.

Weighted Average Carbon Intensity

Weighted Average Carbon Intensity (WACI) is an alternative intensity measure of emissions that normalises a company's Total GHG Emissions figure by its revenue. This metric is calculated by taking the total carbon emissions of the investment and dividing by annual company revenue. A different approach is taken for sovereign bonds, where the specified sovereign GHG Emissions are normalised by Purchasing Power Parity adjusted Gross Domestic Product (PPP-adjusted GDP). A portfolio level intensity metric is calculated as the weighted average of the underlying holdings' intensity metrics.

Analysing a fund's WACI assists the Trustees in identifying how carbon efficient the business models of the companies held within a portfolio are. Alongside Carbon Footprint, the Trustees have chosen this metric to assist them in prioritising carbon intense parts of the investment strategy for potential re-allocation or engagement as a means of mitigating associated climate-related risks.

Implied temperature rise

This is a forward-looking metric that considers the pledges, commitments and business strategy changes that underlying investee companies/issuers have made. It provides a prediction of the potential temperature rise over the rest of the century based on the activities of those companies and issuers. The metric illustrates the degree of portfolio alignment with the goals of the Paris Agreement.

The calculation of the level of warming is determined by mapping a given company's/issuer's level of over/undershoot (relative to its carbon budget) to a temperature outcome.

The Trustees have chosen this metric to include in this report because of its simplicity in presentation and a useful way to see, at a glance, the positioning of a fund relative to 1.5°C economy. This is also a measure of climate transition risk with greater transition risk highlighted in asset allocations with a higher Implied Temperature Rise.

Data Quality

The Data Quality metric is the proportion of the portfolio for which the Trustees have high quality data. The Trustees have considered whether the underlying emissions data has been verified by a third party, reported by the company, estimated by the data provider, or unavailable to determine the how representative the analysis is of the Plan's actual portfolio.

Data Quality also assists the Trustees 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 Plan's portfolio increases. In addition, the Trustees are able to identify the companies in the portfolio that are not currently reporting emissions data and use this as the basis for engagement.

Data collection - Climate Metrics

In producing this summary, the Trustees have relied on information provided by the Plan's investment managers as at 31 March 2023.

Asset Class	Manager	Fund	31 March 2023 Allocation	Absolute emissions (tCO ₂ e)	WACI (tCO ₂ e/ million sales)	Implied Temp. Rise (°C)	Data Coverage
Equity	LGIM	LGIM World Emerging Markets Equity Index	2.7%	967,591	536.9	3.6	96.2%
		LGIM World Developed Equity Index	18.4%	128,128	171.4	2.9	99.6%
		LGIM Global Developed Small Cap Equity Index Fund	2.8%	244,906	222.4	3.4	96.0%
Debt	LGIM	Bespoke Pooled Fund	68.3%	Corporates: 21,369 Sovereigns: 30,800	Corporates: 285.3 Sovereigns: 184.0	Corporates: 2.3 Sovereigns: 1.9	97.4%
Multi-Asset Credit	Wellington	Multi-Asset-Credit	7.8%	100,414	324.0	3.5	67.0%

Source: Investment managers.
Figures may not sum to total due to rounding.

Targets

The Trustees are aiming for a reduction of 20% by 2032 in the carbon intensity of the Plan's investment, as measured by the weighted average carbon intensity. This will be measured relative to the above figures as at 31 March 2023 (the base year).

The Trustees will review its targets at least annually and intends to set specific targets for other asset classes and include Scope 3 emissions, when the available data has improved and there are suitable methodologies.

A wide range of factors will affect whether the Trustees achieve their target and the Trustees have varying degrees of control over these factors. For example, the quality and availability of data means that the quoted greenhouse gas emissions are likely to change.

The Trustees expect the main driver of achieving the target to be underlying companies Decarbonisation. Ultimately achieving the desired level of decarbonisation will depend on global economies overall successfully decarbonising. Notwithstanding that there are factors outside of the Trustees' control, the Trustees' intention is to meet their target and they will engage with the Plan's investment managers to make clear their objectives and discuss with the managers ways to encourage decarbonisation to support the target.

Appendix A

Technical Appendix



Strategic Asset Allocation – 31 March 2023

Fund	Fund (£)	Asset Allocation (% total assets)
LGIM World Emerging Markets Equity Index	20.4	2.5
LGIM World Developed Equity Index	122.7	15.0
LGIM Global Developed Small Cap Equity Index Fund	20.4	2.5
Multi-Asset-Credit	81.8	10.0
Total Growth	245.3	30.0
Bespoke Pooled Fund	572.4	70.0
Total Matching	572.4	70.0
Total Fund	817.7	100.0

Source: Investment managers, LGIM, Wellington
 Figures may not sum to total due to rounding.

Climate scenario modelling approach

	Rapid Transition	Orderly Transition	Failed Transition
Summary	Sudden divestments in 2025 to align portfolios to the Paris Agreement goals have disruptive effects on financial markets with sudden	Political and social organizations act quickly and predictably to implement the recommendations of	The world fails to meet the Paris Agreement goals and global warming reaches 4.3°C above pre-industrial levels by 2100. Physical

	Rapid Transition	Orderly Transition	Failed Transition
	repricing followed by stranded assets and a sentiment shock.	the Paris Agreement to limit global warming to below 2°C above pre-industrial levels by 2100.	climate impacts cause large reductions in economic productivity and increasing impacts from extreme weather events.
Cumulative emissions to 2100	416 GtCO ₂ e	810 GtCO ₂ e	5,127 GtCO ₂ e
Key policy and technology assumptions	An ambitious policy regime is pursued to encourage greater decarbonisation of the electricity sector and to reduce emissions across all sectors of the economy. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation under a 'Rapid' transition.		Existing policy regimes are continued with the same level of ambition.
Financial climate modelling	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 until 2050 takes place over the first 4 years.	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years).
Physical risk impact on GDP	Physical risks are regionally differentiated, consider variation in expected temperature increase per region and increase dramatically with rising average global temperature. Physical risks are built up from: Gradual physical impacts associated with rising temperature (agricultural, labour, and industrial productivity losses) Economic impacts from climate-related extreme weather events Current modelling does not capture environmental tipping points or knock-on effects (e.g., migration and conflict).		
Physical risk impact on inflation	Gradual physical impact (supply shocks) on inflation included through damages to agriculture and change in food prices. Total impact on a Global CPI Index is +2% in 2100.	No explicit modelling of physical risk impact on inflation (supply-side shocks). Impact on inflation follows historical relationship between GDP and CPI.	Severe gradual physical impact (supply shocks) on inflation included through damages to agriculture and change in food prices. Total impact on a Global CPI Index is +15% in 2100.

Climate metric analysis approach (Data limitations and assumptions)

Limitations associated with climate modelling

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

1. The further into the future you go, the less reliable any quantitative modelling will be.
2. Looking at average asset class returns over multi-decade timeframes leads to small impacts. The results are potentially significantly underestimated.

3. There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or 'tipping points', like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
4. Financial stability and insurance 'breakdown' is not modelled. A systemic failure may be caused by either an 'uninsurable' 4°C physical environment, or due to the scale of mitigation and adaption required to avoid material warming of the planet.
5. Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.

Data sources

Climate-related metrics provided by Mercer have been sourced from MSCI using stock list data provided by the investment managers. Other data has been requested directly from the asset managers.

Scope of emissions

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

Data coverage

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

- Some public listed companies are not publishing climate-related data or are providing poor quality data. This is relevant to public equity and corporate bonds. Obtaining data for emerging market equity and debt can also be challenging due to general disclosure and transparency challenges.
- Many private companies do not currently produce climate-related data and coverage for private markets, such as private equity and private debt, will be low, or zero for mature funds.
- Sovereigns, or governments, may not publish climate-related data in the public domain. This is a particular challenge for emerging market debt. For UK government debt, data is available but there is a delay in the data being published.
- Short-term instruments, such as secured finance assets, have limited data available due to the short-term nature of the individual assets.
- For the long dated property portfolio, the occupiers of the buildings in the portfolio have full operational control and there are no Scope 1 or 2 emissions associated with the investments. The asset managers are looking to improve the collection of Scope 3 emissions data – this includes occupier activities where they have direct utility supplier contracts.

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

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Mercer

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MSCI

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

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