Climate Strategy

...2024

Royal Mail Pension Plan

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Abbreviations

ARF	Audit, Risk and Finance Sub-Committee
CI	Carbon Intensity
DBCBS	Defined Benefit Cash Balance Section
ESG	Environmental, Social and Governance
DMO	Debt Management Office
FSB	Financial Stability Board
GHG	Greenhouse Gases
HMT	His Majesty's Treasury
LDI	Liability Driven Investment
PCAF	The Partnership for Carbon Accounting Financials
POL	Post Office Limited
OCIO	Outsourced Chief Investment Officer
RAG	Red, Amber, Green
RCA	Risk Control Assessment
RI	Responsible Investment
RMG	Royal Mail Group
RMPP	Royal Mail Pension Plan
RMPTL	Royal Mail Pensions Trustees Limited
SIF	Strategy Investment and Funding Sub Committee
SBTi	Science Based Targets initiative

Glossary

Carbon intensity	A measure of emissions that allows for comparison between entities of different size. It is measured in t CO2e / million USD of revenue annually.
Net zero	The amount of GHG added to the atmosphere is no more than the amount taken away
Scope 1, 2 and 3	GHG emissions are categorised into three groups by the GHG Protocol. Scope 1 covers direct emissions, scope 2 covers indirect emissions, and scope 3 covers supply and value chain emissions
The Plan	The Royal Mail Pension Plan (RMPP).
Trustee Executive	The Trustee Directors who sit on the Trustee Board delegate the day-to-day management to the Trustee Executive. The Trustee Executive is made up of a mix of professionals who complete a variety of tasks relating to managing governance, suppliers and delivering projects.

TCFD	Task Force on Climate-Related Financial Disclosures
TPI	Transition Pathway Initiative
UNEPFI	United Nations Environment Programme Finance Initiative
WACI	Weighted Average Carbon Intensity

About the Royal Mail Pension Plan ("RMPP")

The RMPP ("The Plan") has £9.6 billion of investment assets as at 31 March 2024 supporting the pensions and benefits of 123,366 members.

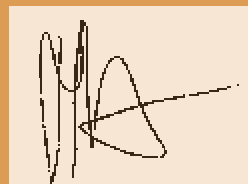
The Plan is sponsored by Royal Mail Group and Post Office Limited. The assets are sectioned to represent these two sponsors, and the change to DBCBS (for RMG) effective from 2018, and the POL section, which is insured via a 'buy-in' with Rothesay Life and transitioning to a 'buy-out'.

The mission of the Plan Trustee is to pay all of the benefits as they fall due under the Plan, in accordance with the Trust Deed and Rules. The Trustee has set out the following mission statement in relation to RI:

- We recognise that long-term sustainability issues, particularly climate change, present risks and opportunities that may increasingly require explicit consideration;
- We commit to be an engaged and responsible long-term investor in the assets and markets in which we invest;
- We believe that the integration of financially material environmental (including climate change), social and governance ("ESG") factors within our investment process is not detrimental to the Plan's investment risk, Responsible investment does not need to require sacrificing returns. It can, in fact, enhance risk and return characteristics and assist risk management in the sustainable long term expected returns from the Plan's investments. ;
- We aim to continually enhance and develop our approach, in line with our ESG 'roadmap' to ensure the Plan is relatively advanced in its ESG and Climate development;
- We will work closely with the BlackRock Outsourced Chief Investment Office (and other advisers) to ensure ESG factors are integral to investment decisions;
- We work closely with the Plan sponsor on ESG issues including communicating the Plan's Net Zero commitment and to manageany key ESG risks identified in the covenant risk review;
- We will monitor and review ESG risks (including climate) regularly and where appropriate take actions identified as part of that monitoring and review to mitigate those risks;
- We appointed a Trustee Board ESG 'Champion' to develop the Trustee's ESG and climate awareness and to enable Trustee engagement in the Plan's ESG/Climate progress;
- We aim to appoint and retain managers whose beliefs and practices are consistent with our beliefs on ESG risks and opportunities (where relevant to their mandate) and we encourage best stewardship practice from our investment managers.
- We will actively engage with our investment managers regarding the portfolios' carbon emissions with a view to achieving the Plan's emission reduction targets;
- We will communicate ESG and Climate developments to the membership at least annually;
- As part of our commitment to Responsible Investment, the Plan is a signatory to the United Nations-backed Principles for Responsible Investment and to the UK Stewardship Code; and
- The Plan is a signatory to Climate initiatives such as Climate Action 100+ and the Transition Pathway Initiative (TPI).

About this report

The Trustee believes that the climate crisis requires urgent and decisive action. As a responsible and long-term investor, we are determined to follow a credible and robust pathway to emissions by 2050. This is the third report on climate strategy produced by the Trustee of the Plan and the Board recognises we are still at the beginning of a challenging journey. It is pleasing to see we have added further analysis but there is still more work to be done to understand the impact of our assets. We remain committed to engaging constructively on this topic across the diverse range of asset classes in which we invest.



Joanna Matthews, Chair of the RMPP

Executive Summary

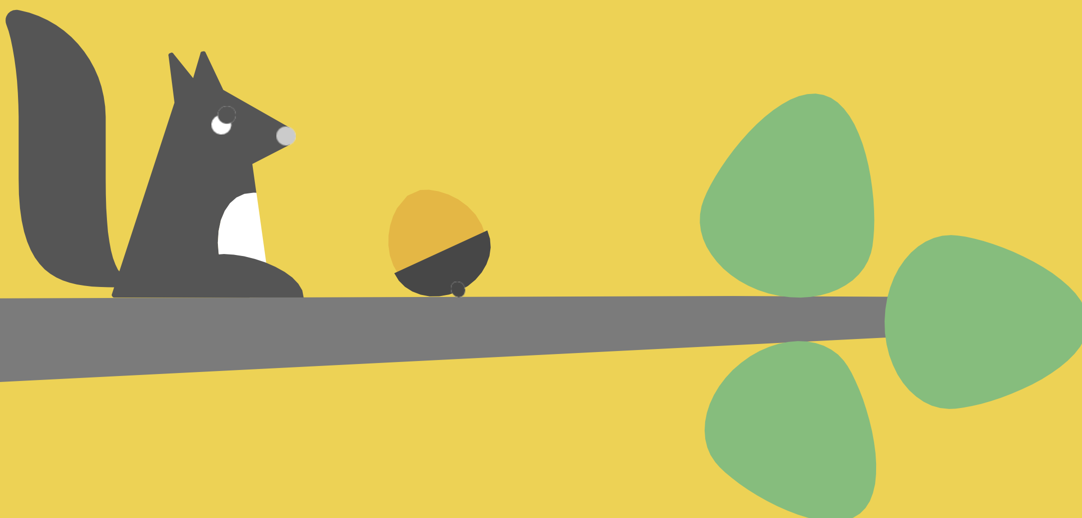
The Trustee believes that the climate crisis requires urgent action. The Plan is a signatory to the United Nations-backed Principles for Responsible Investment which acts as a framework for investors to take ESG issues into account. The Plan is also a signatory to Climate Action 100+ and Transition Pathways Initiative ("TPI")

We wish to be as impactful as possible whilst adhering to the investment principles that have always guided the Plan. Whilst the reduction of emissions is paramount in managing climate risks, we have a broader belief that the source of most emissions comes from the ever-increasing demand for energy. Alongside the Trustee's target to reduce carbon emissions, investing in alternative energy and developing technology will also form a material part of the Plan's Climate Impact project.

We have been able to calculate the total emissions of the Plan for the year, so the Trustee now has a (near) complete figure to fully understand the scale of the Plan's contribution to global emissions. The Plan's total emissions were 4.07 million tonnes emitted on a scope 1, 2 and 3 basis. This is down from 4.59 million tonnes from last year's report.

The POL section is fully insured via a 'buy-in' with Rothesay Life. It is in the process of transitioning to a 'buy-out' which is expected to complete in the short term. The Trustee considered ESG criteria in selecting Rothesay as its preferred insurer and has noted that Rothesay is carrying out TCFD reporting and on the same net zero pathway as the Plan. The Trustee has therefore prioritised implementing its climate reporting in relation to the much larger remaining sections of the Plan but has reviewed the TCFD report produced by Rothesay and included a summary later in this report.

The Trustee's longer-term target is to achieve net zero by 2050, and it has an interim target of reducing emissions by 50% for corporate bonds and equities by 2030 relative to the global economy's 2015 baseline and therefore be aligned to the Paris Agreement pathway.



Introduction

Scientific evidence proves that climate change has rapidly accelerated since the start of the industrial revolution. The world has already experienced around 1ºC of average warming above pre-industrial levels and continued increases will have an irreversible and catastrophic impact on the environment. The implications of climate change will have significant financial and human consequences.

The Plan has set a goal to have net zero greenhouse gas ("GHG") emissions (scope 1-3) by 2050 and, in doing so, to be aligned with the Paris Agreement. In setting this goal, the Plan will reduce the risks posed by climate change and align its investments with efforts to limit global warming to well below 2°C above pre-industrial levels.

The Plan has also set an interim target to reduce GHG by 50%, including scope 3 emissions, in its equities and corporate bonds portfolio by 2030 relative to a 2015 baseline.

The Task Force on Climate-Related Financial Disclosures ("TCFD") was created in 2015 by the Financial Stability Board (FSB) to develop consistent climate-related financial risk disclosures for use by investors like the Plan in providing information to stakeholders.

The keys areas of TCFD reporting for the Plan are:

Governance	The Trustee's governance procedures around climate-related risks and opportunities
Strategy	The actual and potential impacts of climate-related risks and opportunities on the pension scheme
Risk Management	How does the Trustee identify, assess and manage climate-related risks?
Metrics and Targets	The metrics and targets the Trustee uses to assess and manage climate-related risks and opportunities anywhere that information is material

Governance

The Trustee Board sets the strategy and is responsible for the management of the Plan.

The 2050 net zero commitment is also set by the Trustee Board. Each year the Trustee Board will review its goals in terms of climate, ensuring they remain fit-for-purpose and follow best practice. This determines how the Board, which meets 4 to 6 times a year, is informed about, assesses and manages climate-related risks and opportunities. Climate risk is currently a standing item on the Board agenda and climate strategy has been discussed at length at every meeting for the last 12 months given the importance of climate change today. The Board also receives regular updates from the CEO of the Trustee Executive on climate related risk and developing opportunities as part of the CEO update and Risk Dashboard included in every meeting.

The Trustee Board is aware of the "Disclosure Gap": the need for companies (both listed and unlisted) to report and publish their emissions, and targets for reducing them and align to the Paris Agreement of reaching net zero by 2050. The Trustee Board believes that this gap will tighten over time but not without suitable pressure from investors and policy makers. However, it has decided that this should not hold them back from getting a good understanding of what the Plan's total emissions are, as it is this value that will help formulate the strategy to achieve its net zero ambitions.
This year, around 43% of the scope 1 and 2 emissions data disclosed was from publicly available data, and 3/4 of that was verified by a third party, which is a meaningful improvement from last year.

Oversight of climate-related risk and opportunities management and internal controls within the Plan has been delegated by the Trustee Board to the Audit, Risk and Finance 'ARF' Sub-Committee.

The ARF Sub-Committee is responsible for agreeing the framework for assessing, monitoring and managing the key climate risks and opportunities within the Plan, and provides recommendations on these climate-related risks and opportunities to the Trustee Board. The ARF will periodically monitor and evaluate the operation and effectiveness of the agreed framework and system of internal controls.

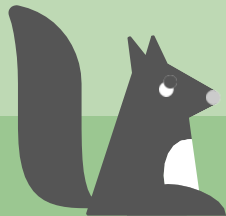
The investment team of the Trustee Executive and their advisors have many of the modelling skills for quantifying and managing financial climate-related risk exposures and will be called upon where required.

The oversight and monitoring of climate related risks and implementation of the net zero commitment in the investments of the Plan had been delegated to the Strategic Investment and Funding Sub Committee (SIF) which meets 3 to 4 times a year. When selecting and appointing investment managers, the SIF will consider how ESG, climate change and stewardship are integrated within the managers' investment processes. The ESG/Climate risk "RAG Scoring" chart captures prospective managers' ESG and Climate risk/opportunities development and integration into their processes. This is also used to monitor existing managers' progress. This is balanced against other manager selection criteria such as (but not limited to) idea generation, portfolio construction, implementation, business management and fees and charges. The SIF agreed that as large a proportion of the Plan's assets as possible would be measured. Where possible, published stock specific information was input (listed companies) and where information was not directly available, specific proxies were input (unlisted companies). The Trustee Executive has been through the data to ensure that where proxies using sector and sub sector data have been used, (as far as reasonably practicable) they fairly reflect the underlying assets. This year the Plan has achieved scope 1, 2 and 3 emissions reporting in relation to 93% (2023-84%) of its portfolio.

The day-to-day oversight is managed by the Trustee Executive and an internal ESG Working Group (including reviewing and monitoring Climate Risk and Opportunities) has been setup to implement the climate strategy across investment, finance, and risk management executives.

This includes representatives from across the Trustee Executive including investments, finance, risk, and communications and is chaired by the CEO. These activities are reported to the SIF so direction, challenge and feedback can be given by members of the SIF at every meeting as part of the quarterly RI and stewardship update. This covers everything from engagement with investment managers to updates on climate related projects. Specific items on climate risks and opportunities appear on the agenda when required as part of the development of the investment strategy, which is approved by members of the ISC, such as climate related investments.

Governance



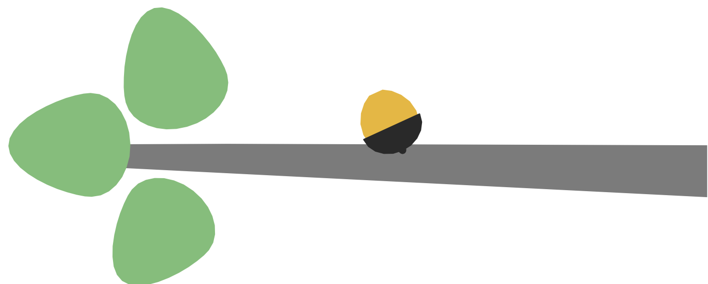
The Trustee Board and SIF is advised by, and the Trustee Executive is supported by, a number of external service providers including:

- BlackRock – which acts as the Outsourced Chief Investment Officer (OCIO)
- PWC – have supported the Board on its overall ESG strategy.
- Mercer – the strategic investment advisor to the Plan.
- ICE – calculates carbon analytics on the investment portfolio.
- Sustainalytics – engages with companies in the Plan's equity (including emerging markets) and corporate bond portfolios on ESG issues and makes recommendations. Sustainalytics engages on numerous issues including environment, human rights, labour rights and business ethics.

In the last 12 months the Trustee and their Executive has received training in the following areas:

- Net zero 2040 feasibility
- Updating Climate-specific areas of the Responsible Investment Mission Statement
- ESG risk metrics
- Climate Engagement
- ESG Due Diligence

Strategy



The Trustee is committed to regularly reviewing its own approach in terms of climate risk and satisfying itself that climate related risks and opportunities are being managed.

The Trustee continues to track progress against the 'roadmap' established in 2021, when a comprehensive review of approach and governance arrangements in relation to ESG and climate change was conducted. This includes a skills audit, and climate forms part of the Trustee Knowledge and Understanding assessment that takes place every year to establish training needs.

The Trustee also regularly assesses its advisors and the approach to climate is built into the reviews of all advisors, including legal and actuarial. The Trustee seeks assurance as part of its internal audit plan on the approach of its various climate specialist providers, particularly data and analytics, to satisfy themselves best practice is in place. Overall, the Trustee is aware that this is a significant, important and long-term project. They have built on the framework of the inaugural year to give them as wide a reaching approximation of the Plan's total emissions as possible, with a view that the data's robustness will strengthen over time.

The Plan is a signatory to the United Nations-backed Principles for RI which acts as a framework for investors to take ESG issues including climate risks and opportunities into account.

Up to this year, the Plan conducted regular quarterly reviews with all managers that cover many topics including performance, personnel and corporate changes, portfolio risk, concentration, voting, and market outlook, as well as ESG and stewardship updates. With the appointment of BlackRock OCIO, this year these reviews were supplemented by BlackRock's own ESG ratings which were also reported to the Trustee.

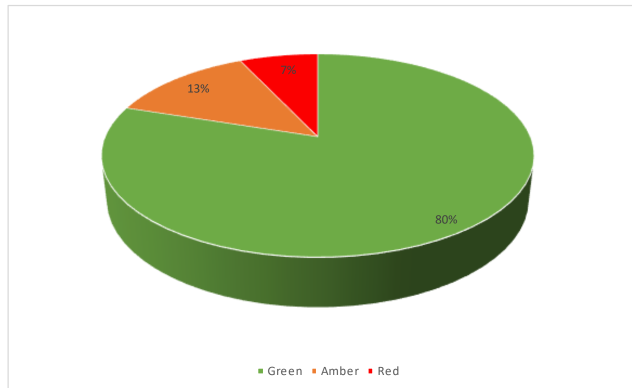
This year, the Plan completed a ESG RAG rating review for all the non-alternatives managers, with an update for the alternatives managers planned for next year.

Non-alternatives managers are generally more advanced in their ESG/Climate risk and opportunities capabilities than the alternatives managers. The criteria for non-alternatives managers is that RED signifies some material gaps in their ESG policy (rather than no ESG policy as for alternatives managers). AMBER signifies some gaps in the proposed criteria, but they are providing evidence of improving their position. GREEN signifies a current strong position on ESG risks and opportunities.

Out of the 15 non alternative managers rated, 12 are currently considered GREEN, 2 are on AMBER and 1 on RED.

Strategy

ESG ratings of Non-alternatives managers



The only RED manager was terminated part way through the year partly as a result of these ESG concerns, and also due to developments in the Plan's strategy.

It is pleasing to note that all managers in the non-alternatives part of the Plan have signed up to UNPRI.

As mentioned above, this year the ESG review was supplemented by BlackRock's own ESG review. The review was conducted across both ESG factors, as well as carbon emissions. The table below explains the methodology and assumptions employed:

	Metric	Methodology	Interpretation
ESG	**ESG Score (Adjusted)**	Best scoring company within a peer group is be given a score of 10, the worst scoring one will be given a score of 0 and a normal distribution will be applied for the ones in between.	Indicates how well an issuer manages its most material ESG risks relative to sector peers (0 worst, 10 best). Makes company scores across different industries comparable.
	Environment Score	Weighted average of key issue scores falling under the Environmental Pillar.	Indicates how well an issuer manages environmental risks such as greenhouse gas emissions, deforestation etc. relative to sector peers. (0 worst, 10 best).
	Social Score	Weighted average of key issue scores falling under the Social Pillar.	Indicates how well an issuer deals with social issues such as working conditions, employee relations & diversity etc. relative to sector peers. (0 worst, 10 best).
	Governance Score	Weighted average of key issue scores falling under the Governance Pillar.	Indicates how well an issuer deals with governance matters such as executive pay, tax strategy etc. relative to sector peers. (0 worst, 10 best).
Carbon	**Emissions Financed (metric tonnes / $ million total capital)**	$\sum\left(\frac{\text{Scope 1 \& 2 GHG Emissions}}{\text{Total Capital}}\right)$	Emissions normalized by total capital (total debt + total equity). With every million dollar invested x metric tons of emissions are financed.
	Emissions Intensity (metric tonnes / $ million sales)	$\sum\left(\frac{\text{Scope 1 \& 2 GHG Emissions}}{\text{Total Sales}}\right)$	Emissions normalized by total sale. With every million dollar revenue x metric tons of emissions are financed.

ESG data for funds and individual securities has been sourced from MSCI. Aggregation at the sleeve/ total portfolio level has been done using BlackRock approved methodology.

Additional Information can be found in the Glossary slides.

Legend for Relative Coloring Scheme

The analysis was conducted separately by Section, with the results for each summarised below:

RMG Section

		ESG				Carbon
	ESG Coverage	ESG Adjusted Score	Environmental Score	Social Pillar Score	Governance Score	Emissions Intensity - Latest (metric tonnes / $ million total sales)
Total Liquid Asset Portfolio	89.6%	6.3	5.9	6.7	6.9	26.9
Equity	0.0%	-	-	-	-	-
Fixed Income	89.6%	6.3	5.9	6.7	6.9	26.9

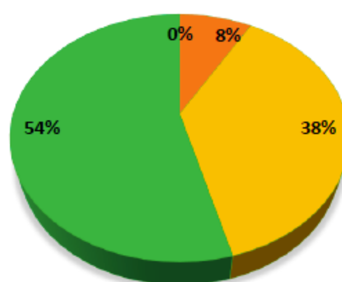
Strategy

DBCB Section

	ESG					Carbon
	ESG Coverage	ESG Adjusted Score	Environmental Score	Social Pillar Score	Governance Score	Emissions Intensity - Latest (metric tonnes / $ million total sales)
Total Liquid Asset Portfolio	61.0%	5.7	5.5	4.9	5.5	24.3
Equity	95.9%	6.9	6.3	5.3	5.9	176.3
Fixed Income	58.6%	5.6	5.5	4.8	5.4	13.9

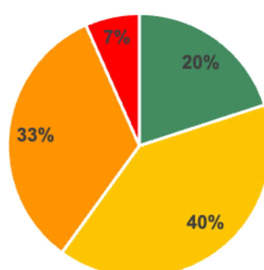
For the alternatives managers, the ESG ranking was not updated in this reporting year, but will be updated in the coming months.

Last year, for private markets, funds were categorised into Red/Dark Amber/Amber/Green ratings. The charts below evidences the positive trend amongst managers, with 92% (21 of 23 funds) reaching Amber or Green status in 2022. All private markets managers are UNPRI signatories.



No ESG Policy
ESG Policy Only
ESG Policy Integrated and Evidenced / UNPRI Signtory
Periodically Report on ESG matters

For the 15 Absolute Return managers, similar rankings were used and nine were either Advanced or Engaged. Nine managers were UNPRI (or other sustainability committed organisation) signatories.



Managers are aware that the reviews will be done at least annually going forward and that progress on ESG factors including climate will be a key consideration for ongoing manager appraisal.

Strategy

The Trustee has set the following strategic objective in relation to ESG including Climate:

	Strategic Priority	Risk Appetite	Risk Tolerance
Governance	To be committed to advancing ESG issues, including climate and a high level of compliance with relevant legislation, regulation, industry codes and standards as well as internal policies and sound corporate governance principles.	**Low** risk appetite to non-compliance potentially leading to regulatory interventions, civil or criminal sanctions or reputational damage	No fines from regulatory bodies No instances of fraud

The 2050 net zero goal is a key component of this strategic priority in relation to climate.

This strategic objective is integrated into the investment strategy via the Trustee Statement of Investment Principles ("SIP"), which sets out the following:

The Trustee aims to be an engaged and responsible long-term investor in the assets and markets in which it invests. The Trustee believes that the integration of financially material environmental, social and governance ("ESG") factors within investment managers' investment processes is not detrimental to the risks and may enhance the sustainable long term expected returns from the Section's investments. The Trustee also recognises that long-term sustainability issues, particularly climate change, present risks and opportunities that may increasingly require explicit consideration.

ESG factors (including climate change) are integrated into the Trustee's investment process. As the Trustee does not directly manage the Plan's assets, it aims to appoint and retain managers whose beliefs and practices are consistent with the Trustee's beliefs on ESG risks and opportunities, in so far as relevant to the mandate in question. The Trustee's investment consultants are asked to assess current and potential managers in relation to their ESG policies and practices, and such assessment is taken into account in relation to manager appointment, retention and withdrawal decisions.

Strategy

There are 4 key elements to integrating the investments into the 2050 net zero commitment:

Portfolio Construction	Mandates and Managers	Stewardship	Collaboration
• The Trustee is introducing more investments that provide climate benefits to the Plan. • Examples include 'green' gilts in LDI portfolio, the first of which was purchased by the LDI manager in 2021, and the investment in the Blackrock LEAF cash fund which excludes issuers with below average Environmental practices. • In private markets we have committed more than £150m to renewables.	• Using work by ICE to identify 'hot spots' and engage with managers. • Net zero target communicated to all managers. • The Executive, in conjunction with the OCIO, will evaluate and challenge managers net zero alignment. • The Trustee Executive, with help from the OCIO, gives all managers a RAG status based on review meetings held at least annually that includes development on managing climate risk, engagement, TCFD preparedness and ESG integration into their investment process.	• The Plan will require managers to vote and engage on climate change with companies and other stakeholders in the financial system. • 86% of Plan assets are managed by companies who are signatories to the FRC Stewardship Code • Sustainalytics were appointed as an engagement provider on elements of the United Nations Global Compact – namely Environment, Labour Rights, Human Rights and Business Ethics, which includes climate issues. • Sustainalytics also provide a Material Risk Engagement service where they protect and promote long-term value engaging with issuers on unmanaged material ESG and Climate related issues.	• The Trustee is signed up to multiple climate initiatives, such as Climate Action 100+ and the TPI. • These commit the Trustee to curbing emissions, strengthening climate-related financial disclosures, improve governance on climate change and ensure RI is considered as part of decision making.

As well as the investments, climate change is also incorporated into the strategy via the covenant assessment of the sponsors of the Plan. For the 2021 triennial valuation, ESG factors in the covenant, including climate, were explicitly reviewed by the Plan's covenant advisors for Royal Mail Group. Our advisors have updated this analysis to be up to date for the last year. The Post Office Limited section is de-risked via a bulk annuity contract. The Trustee intends to engage with the provider using the same processes as other suppliers and it is worth noting that Rothesay Life is carrying out TCFD reporting and is on the same net zero pathway as the Plan.

The impact on climate related risks and opportunities are regularly modelled by advisors when the Trustee is considering its investment and funding strategies. An example of this is included in the scenario analysis section overleaf modelled by LCP, and climate risks and opportunities on the covenant is in the process of being built into the covenant monitoring for Royal Mail Group.

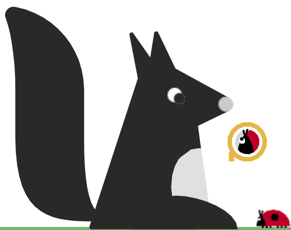
Royal Mail environment strategy targets net zero by 2040. Royal Mail management has highlighted that the average CO2e per parcel for Royal Mail is lower than most of its competitors due to their "feet on the street" model. However, the Trustee considers there is a risk of Royal Mail falling behind competitors in time if the business is not dynamic. The Trustee monitors climate related covenant metrics such as CO2e per parcel, percentage of the fleet using alternative fuels and CO2e per £1m of revenue. The Trustee covenant advisor provides commentary and analysis for the Trustee.

Risk Management

ESG (including climate) Risk Management Process

The day-to-day management of climate-related risks within the Plan is provided by the Risk Manager who:

- Acts as the organisation's risk champion
- Oversees risk management activities across the organisation
- Provides guidance to the climate-related risk owners
- Challenges business decisions on key climate-related risk areas
- Coordinates climate-related risk information across the organisation



The Three Lines of Defence

Climate-related risk governance features described in this section are intended to enable a "Three Lines of Defence" approach to risk management. The three lines are:

1. Business operations: the climate-related risk and control environment that covers the day-to-day operations.
2. Oversight functions: climate-related risk and compliance teams, which provide guidance and direction and develop the risk framework.
3. Independent assurance: this reviews the previous two lines and provides an independent perspective.

In this context the climate risk governance arrangements described above are as follows:

First Line of Defence	Second Line of Defence	Third Line of Defence
• The Executive • Outsourced Service Providers (e.g. OCIO) • Strategic Investment and Funding and Administration Sub-Committees	• Risk Manager • Audit, Risk & Finance Sub-Committee	• Internal Audit

Risk Management

ESG (including climate) Risk Identification

The ESG risk identification process is conducted once a year.

The Risk Manager acts as facilitator and coordinator of the risk identification process. The key techniques used to identify climate-related risks include:

- ESG forward planning with senior management and Board
- Attendance at, and reviewing minutes of, Board and Sub-Committees
- Attendance at industry-wide ESG workshops and conferences (e.g. PLSA Conferences)
- Discussion and feedback with ESG advisors and service providers, including internal audit
- Brainstorming and ESG workshops with other members of the Executive
- Networking and idea sharing with other pension plans
- Project management oversight
- Incident reporting and feedback

ESG Risk Assessment

Once climate-related risks are identified they are recorded in the integrated risk register and scored. The risk score is derived by multiplying the probability by impact. ESG advisors will be used where specialist knowledge is required. Different thresholds for the impact scoring have been developed for the different sections of the Plan to reflect the different sizes of the sections and the Trustees differing appetite for risk between them.

The scoring process for the ESG risk assessment is based on a forward looking view of the climate related risk and the likelihood and impact of the risk occurring in the future.

ESG Risk Control Assessment

The Risk Control Assessment (RCA) is used for monitoring the ESG and climate risks identified in the risk register. It sets out the Climate metric used to monitor the climate related risks, the source of the data for the metric, and the tolerance for the particular ESG risk using a RAG status.

These thresholds are generally quantitative in nature, however it may be appropriate to incorporate other information beyond the agreed metrics when giving an ESG RAG status.

The Trustee's risk appetite influences the thresholds for the different ESG and Climate RAG statuses, along with input from the ESG advisors/Executive. The RCA uses a backwards looking approach to monitor the risks as opposed to the risk assessment in which is forwards looking. Each quarter the risk owner provides the data for each metric and inputs into the ESG and Climate RCA. The Risk Manager ensures that the ESG and Climate RCA is updated and monitors the RAG status of the climate related risks. The RCA also sets out the contingency planning for each climate related risk, with key triggers and the appropriate actions to take should the trigger occur.

Risk Management

Risk Dashboard

The Risk Dashboard is included in the Strategic Business Plan and presented to the Trustee at each Board meeting. The risk dashboard is updated each quarter and consists of the top 10 risks based on their risk assessment score recorded in the risk register and RCA. Summarising the risks in this way brings the most significant risks to the Trustee's attention to focus their time efficiently.

For each risk included in the dashboard, the current RAG status based on the Inherent Risk RAG assessment is shown along with its recent RAG metric from the RCA. To indicate the forward looking approach the Residual Risk RAG status has also been included. The actions being taken to mitigate the risks are shown under Control both from a Business Operations and Oversight perspective. When presented to the Trustee Board, the dashboard references any relevant upcoming agenda items to direct the Trustee to further detail and current recommendations / actions in relation to the particular risk.

Internal audit

Internal audit is the independent assessment of the effectiveness of an organisation's internal controls.

The internal audit plan sets out a list of assignments to be carried out which will review the effectiveness of controls in certain areas. The plan will cover the following 12-month period. The audit plan will be drawn up by focussing on areas of risk highlighted in the risk register. Preparation of the internal audit plan is the responsibility of the Risk Manager with agreement sought from the ARF Sub-Committee.

Following each assignment, the internal auditors will report their findings to management including recommendations for improvement in internal controls where appropriate.

The first climate specific internal audit has been scheduled to be to commence in Q4 2024.

Risk Framework

The Trustee has a comprehensive risk framework which sets out the governance around risk management, the risk management process and the reporting and tools used. The Trustee maintains a specific risk related to ESG in its risk register which is summarised below:

Description	Cause(s)	Consequence(s)
Climate change or a transition to a low-carbon economy financially impacts the Plan Trustee decisions in relation to Climate Risk result in negative publicity	• Risk that changes to Climate requirements result in a negative impact on investments • Rapid change to ESG requirements • Low allocation to carbon neutral funds • Changes to public perception of Climate Risk • Extreme weather events • Not engaging early enough with stranded assets (e.g. coal)	• Impairment to funding position • Sub-optimal investment strategy and implementation • Reputational damage

Risk Management

The Trustee set three time periods for the identification and assessment of climate-related risks and opportunities – short term, medium term, and long term.

The Trustee reviews these time periods on a regular basis, and they are set out below:

Time period	Years	RMG Section (pre-2018 benefits)
Short term	3 years	In line with triennial valuation assessments.
Medium term	8 years	This may be the period over which further de-risking takes place
Long term	15 years	The period over which the long term journey of the Plan will be achieved if not sooner

Time period	Years	DBCB Section (post 2018 benefits)
Short term	3 years	In line with triennial valuation assessments.
Medium term	8 years	Expected period over which the greatest transition risks will develop
Long term	20 years	Anticipating the continuation of this Section, the Trustee will need to keep in mind the long term impacts of climate change on the DBCB Section of the Plan.

Climate change as a risk may have material adverse consequences for the Plan due to transition as well as physical risks. Transition risks include changes in climate and energy policies (i.e. the inevitable policy response), such as a shift to low carbon technologies and liability issues, potentially leaving heavy emitters of carbon unprofitable (stranded assets). Physical risks such as flooding, droughts and wildfires can impact water availability, food security, supply chains and employee safety, and consequently financial stability. Physical risks are relevant for all time horizons, although their impact is expected to increase over time as climate conditions become increasingly volatile. Transition risks are likely to be most relevant over short and medium term horizons.

The Trustee has established a low-risk appetite related to climate and seeks to reduce the risk wherever possible.

The Trustees have put in place a series of business operation, independent assurance, and oversight controls to mitigate the risks of climate change. The controls are assessed on at least an annual basis. The Trustee also monitors a number of metrics on at least a quarterly basis. In addition, they assess the metrics set out in the next section on an annual basis.

Metrics and Targets

Data Collection and Methodology

The Trustee Board has agreed to collect emissions data on scope 1 (Direct Emissions), 2 (Indirect Emissions) and 3 (Supply and Value Chain Emissions) bases where available. The emissions data can help manage the risks and opportunities due to climate change.

This is the third year that the Trustee has collected and presented its data and findings. It is promising to see the progress that has taken place since the commencement of the project back in 2021. Data coverage is improving, and the scope and quality of emissions data and disclosure is growing. While public markets are in general adopting the presentation of emissions data, private markets still create the need for investors to model data. The Trustee finds that Europe is strongest for availability of data, and notes that Asia has made good progress in embracing the challenge of presenting investors with emissions data and emissions reduction plans.

The Trustee selected ICE as their provider for calculating emissions as their methodology was developed in collaboration with the science-based protocols. The 4 metrics presented will be in line with last year, Absolute Emissions; Emissions Intensity, Implied Temperature score; and Projected Pathway. The report will cover nearly all the Plan assets on scope 1, 2 and 3, to give the Trustee a near completed understanding of the Plan's total carbon emissions. Now that the dataset for the Plan is building, clearer findings and insights can start to be taken from the year-on-year results and outputs to help develop the carbon impact strategy and achieve the Trustee's objectives.

We have moved the methodology for the data collected and processed to an Appendix as we are starting to see some convergence of methods, measurements, and terminology. There are no major changes to last year's methodology other than the projected pathway analysis is on the 4th iteration of the NGFS methods and assumptions.

Data Results

Last year, the data covered nearly all assets to give the Trustee a fuller understanding of emissions, so this is the first year that a more direct comparison can be made on progress. The Trustee considers both an absolute total emissions figure and an emissions intensity figure ((metric) tonnes of CO2 equivalent emitted per $1 million of revenue).

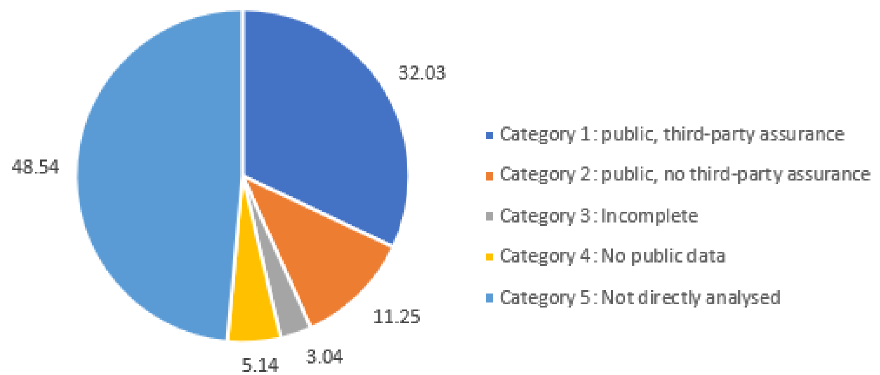
The results for the Plan show that 93% of the Plan's assets were covered on the full scope 1, 2 and 3 basis (up from 84% last year), and covered 58 funds, up from 53 last year.

The Plan invests 68.8% of total assets in the Gilts (LDI) portfolio. Conversely, 31.2% of total assets are Growth assets.

The chart below highlights the need for companies to disclose, and have verified, their emissions data (the chart below excludes sovereign bonds and does not include scope 3 emissions). Last year, just a third of the scope 1 and 2 emissions data was publicly disclosed and two-thirds of that was verified by a third party. This year we have 43% of publicly disclosed data and of that, three-quarters was verified by a third party. The amount of modelled data is also down, from 62% last year to 57% this year. That is a meaningful improvement from last year's data.

Metrics and Targets

Despite these improvements, the Disclosure Gap is still a material issue for investors. The more granular the available data, the greater the confidence investors will take in their decision making. We understand that global accounting standards can play a role here in providing comparable and consistent data across both public and private markets. Where companies don't publicly disclose emissions date (categories 3,4 and 5 below) inferred emissions data is generated by ICE using their proprietary model.



Source: ICE

ICE Disclosure Category 1: Complete with Accepted Assurance - Covers at least 95% of a company's global emissions and is third-party verified.

ICE Disclosure Category 2: Complete without Accepted Assurance - Covers at least 95% of a company's global emissions and is not third-party verified.

ICE Disclosure Category 3: Incomplete - Covers less than 95% of company's global emissions.

ICE Disclosure Category 4: No public data. When a company does not disclose any GHG emissions data for the analysed reporting period.
ICE Disclosure Category 5: Not directly analysed

Inferred emissions data for companies that fall under Category 3, 4 and 5, is assessed for completeness in accordance with the complete coverage of emissions boundary, as defined in the GHG Protocol Corporate Accounting and Reporting Standards.

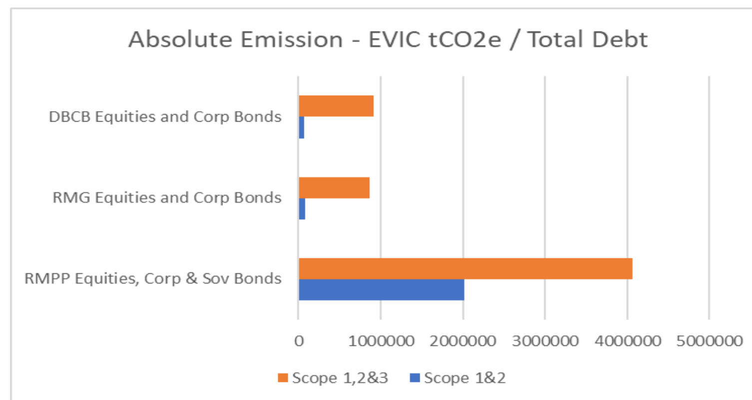
Metrics and Targets

Metric 1 – Total Plan GHG Emissions (Absolute Emissions)

For the first metric, we have measured the Plan's total GHG emissions in "CO2e", the Plan's total emissions were 4.07 million tonnes emitted on a scope 1, 2 and 3 basis. This is down from 4.59 million tonnes from last year's report. This is calculated on an Enterprise Value basis including cash for corporate emissions, and PPP adjusted GDP for sovereign emissions.

We also consider the absolute emissions of the Plan's two main sections, RMG and DBCB but focus on their growth assets which is where the Trustee can have more influence. We note that the growth assets in each Section have similar total emissions of around 900.000 tonnes CO2e on a scope 1, 2 and 3 basis, and DBCB has lower emissions on a scope 1 and 2 basis, 64,000 tonnes CO2e relative to RMG section's 78,000 tonnes CO2e.

RMPP Total GHG Emissions (Tonnes of CO2e emitted using EVIC for equities and corporate bonds and total debt for sovereign bonds)



Source: ICE

Metric 2 – Carbon (equivalent) Emissions Intensity

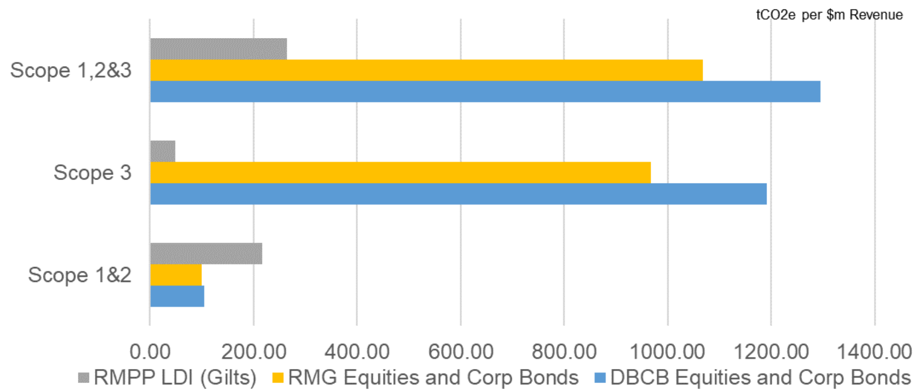
For Metric 2, we consider the intensity of the Plan's emissions. The intensity of the Plan's return seeking assets for the two sections is highlighted as well as the Plan's Gilt holdings. The return seeking assets are displayed in intensity of CO2e per million dollars of revenue, and the Gilts assets (LDI) are displayed in intensity of CO2 equivalent per million dollars of GDP.

> **The results for the RMG section are an intensity of 1,068t CO2e/$m and for DBCB section 1,296t CO2e/$m. This compares to a UK sovereign intensity of 265t CO2e/$m GDP.**

Because the Plan has such a large holding of UK Gilts, we felt it important to assess all the Plan assets on a more consistent basis to better identify how comparable the corporate emissions are to sovereign emissions.

Metrics and Targets

RMPP Plan Assets Carbon Intensity

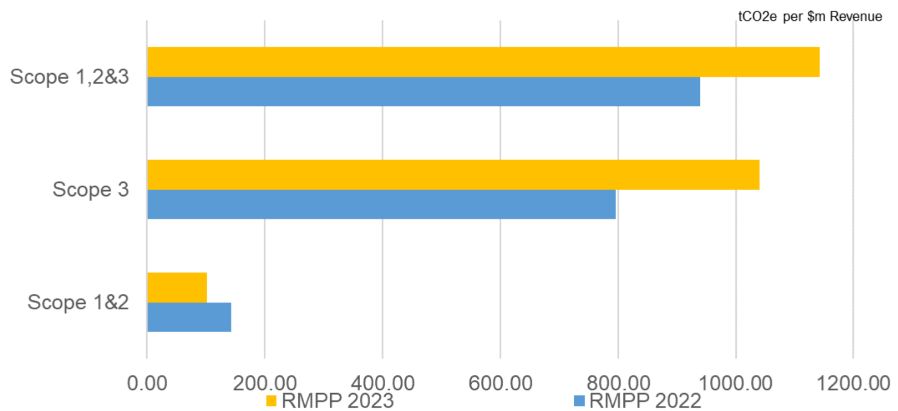


Source: ICE

Source: ICE

These emissions intensity figures are up from last year, and so the chart below shows the comparison from the previous year's outputs. The increase in emissions intensity is a result of the greater scope 3 emissions, as the data indicates that scope 1 and 2 emissions intensity has decreased from last year. We understand that there is a greater number of companies publishing and assessing their scope 3 emissions and therefore this should be seen as a data anomaly rather than anything concerning in the data and the progress of the emissions reductions.

RMPP Plan Assets Carbon Intensity Comparison to Previous Year



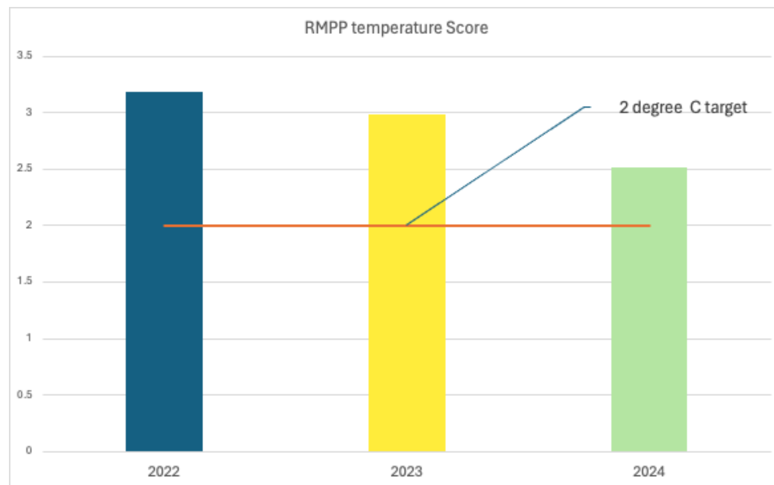
Source: ICE

Metrics and Targets

Metric 3 – Temperature Score (Implied Temperature Rise)

The Trustee considers a portfolio alignment metric to calculate the temperature score of the Plan's portfolio to align with the long-term temperature goals of the Paris Climate Change Agreement of 2015, to keep global surface temperatures to well below 2°C above pre-industrial levels and achieve net zero carbon emissions by 2050. ICE's Temperature Score follows the SBTi methodology. All the individual temperature scores per company in a portfolio are combined with portfolio financial data to generate scores at the portfolio level. The methodology translates the GHG emissions reduction targets to a single metric that produces outcomes for all timeframes (short, medium, long term) and emissions scope (Scope 1, 2, 3) combinations.

Given the existing portfolio, if the Plan's return seeking assets continue to emit at the same rate, this is consistent with the planet's surface temperatures rising by 2.52°C from pre industrial levels on a long-term basis. This is down from the 2.99°C reported last year and the 3.19°C that we reported the year before. The high temperature score relative to the Trustee's target is a function of a high number of companies not publishing an ambition to reduce emissions and are therefore given the default score of 3.2°C (as recommended by SBTi). However, we can conclude that given the portfolio has not materially changed in the last couple of years, the reducing temperature score is in part due to the increasing number of companies that are now producing emissions reduction plans.

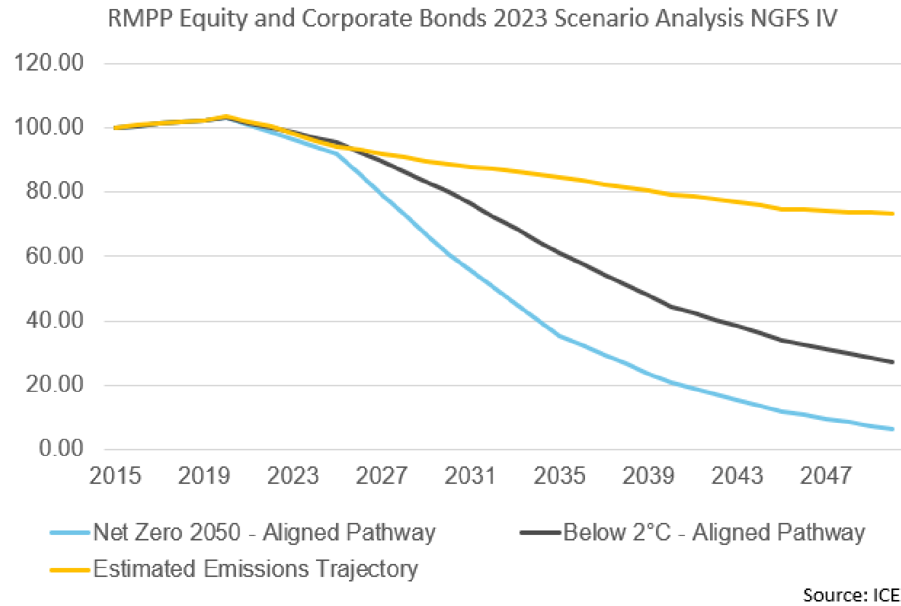


Metric 4 – Projected Emissions Pathway to 2050

The expected pathway for the Plan's portfolio ('Estimated Emissions Trajectory' line below) given reasonable emission reduction plans, current trends and momentum, and any company specific targets published, is compared to the Net Zero pathway below. This expected pathway has some differences to the temperature score above which assumes that no additional action or trends are taken into account (represented by the 'Current Policies' line below). The chart shows that the Plan's trajectory is materially behind both the Trustee's Net Zero 2050 target and the 2 degree aligned pathway. We know that the Plan's private market investments have very low participation in terms of publishing data and emissions reduction plans and so the modelling assumes that emissions reductions will be backloaded and or not great enough. This increases the probability that we will see a disorderly or failed transition to a low carbon economy and the risks that are associated with that.

Metrics and Targets

RMPP Alignment to the Transition Pathways



Source: ICE

NGFS IV Net Zero 2050 is an ambitious scenario that limits global warming to 1.5 °C through stringent climate policies and innovation, reaching net zero CO_2 emissions around 2050. Under this scenario (NGFS IV, Net Zero 2050) some jurisdictions such as the US, EU and Japan are expected to reach net zero for all greenhouse gases by this point.

NGFS IV Below 2 °C scenario represents a gradual increase in the stringency of climate policies, giving a 67 % chance of limiting global warming to below 2 °C.

Carbon Impact Investment Strategy

The Trustee continues with their Carbon Impact investment strategy, which has four broad steps: Measure; Manage; Mitigate; and Monitor. The Trustee is working through a strategic review and managing portfolio decision making.

Since the last report, the Trustee has continued to spend time on developing their knowledge and skills for the Plan's Carbon Impact strategy.

The Trustee is aware that as currently presented, they would not achieve their Interim Target of reducing equity and corporate bond emissions by 50% relative to a 2015 baseline without taking any action. Having previously decided to adhere to the investment principles which have always guided them, ideas such as sector screening or exclusion have been discounted to achieve lower emissions. The Trustee therefore agreed that engagement will be the primary tool for reducing emissions, and this will be done through engagement with the asset managers rather than the underlying companies. At the time of writing, both sections are undertaking strategic reviews and new mandates are being implemented. Given the appointment of BlackRock as Outsourced CIO, the Trustee can leverage the resources of the Manager, from their in-house Stewardship team to the integration of ESG and climate risk management into the managers appointed through their open architecture. The Trustee will utilise the enhanced reporting in these areas to focus their engagement activities and help shape the mandates employed with a view to start mitigating the Plan's emissions.

The Trustee is conscious that the majority of the Plan assets are held in gilts as part of the funding level hedging strategy. BlackRock are the asset manager for these assets and so were questioned as to their engagement on emissions attributable to

the Gilts holding. Their engagement ranges across several relevant UK entities, from the UK Government and Debt Management Office through to engaging with UK regulators. BlackRock has been and continues to be an active participant and leader in the evolution of the green bond market. An example of Blackrock's involvement on defining the evolving green bond market is its role on the issuance of the inaugural green gilt.

The UK has issued multiple Green Gilts to finance public spending for low-carbon infrastructure and other green projects. Post BlackRock's initial engagement with UK DMO in October 2021 when they first announced their green gilt framework, BlackRock has since re-engaged on multiple occasions. In March 2023, BlackRock discussed with the UK Treasury and DMO their inaugural green gilt allocation report that was issued in September 2022. 47% of proceeds were allocated to clean transport, 14% to renewable energy, 14% to energy efficiency, 13% to climate change adaptation, and the remainder across pollution prevention and control (with R&D in CCUS for UK's blue hydrogen strategy), and living and natural resources management, and other climate financing initiatives.

BlackRock favourably views the mitigation heavy focused project allocations thus far in UK's green gilt program. BlackRock provided guidance and direction in terms of best practices for impact reporting. The UK DMO office has recently released their inaugural impact report in September 2023. BlackRock re-engaged with the issuer in October 2023. In the call, the UK green gilt impact reporting methodology was discussed, they delved into programs and reporting details for categories like clean transport, energy efficiency, and eligible UK expenditures in Official Development Assistance (ODA)-eligible countries, among others. The Trustee notes the full allocation to green gilts of GBP 16.1bn cash proceeds raised in FY 2021-2022 and a near-full allocation of the cash proceeds raised in FY2022-2023.

In addition to evidencing how BlackRock engage for the Plan's Gilt holdings, the Trustee has also selected to use the ESG and Climate aware fund for the Plan's Cash investment. This has been pertinent over the last year given the larger cash holding due to the ongoing strategic review and implementation. BlackRock has Sustainable Investing baseline screens which are applied broadly across their platform, the BlackRock LEAF (Cash) fund also applies an additional Environmentally tilted screen (but does not exclude). However, individual issuers of Money Market Fund instruments will be excluded from direct investment if (at the time of investment) they have below average Environmental practices as viewed by their external ESG research provider. This attributes to an investment universe reduction of around 300 parent issuers, or a 54% reduction. Tangibly this means LEAF reports a higher E (environmental) score at a fund level.

The Plan is still considering how to deal with stranded assets and avoided emissions. We have previously referred to accounting for negative emissions and look forward to how this area of climate impact risk management will develop, including the use of carbon credits and allowances and the price discovery of these instruments in starting to put a tangible value on the emissions and pollution that companies emit.

We look forward to the further development of the Plan's climate impact investment strategy into the Mitigate stage.

Metrics and Targets

The POL Section

We have not included the POL buy-in contract in the strategy, but we have reviewed the latest TCFD report (2022) produced by the insurer Rothesay Life. Rothesay have committed to be net zero by 2050 and is therefore on the same pathway as the Trustee. Rothesay also aims to achieve, by 2025, a reduction of 20% in the Carbon Intensity of its portfolio of publicly traded corporate debt from the base level stated in this report as well as a 50% reduction in the Carbon Intensity of its corporate debt portfolio by 2050. In the 2022 report they disclosed a reduction of 5% for the corporate debt portfolio.

Since the last report coverage has improved to 93% of their portfolio by market value. The reductions seen since 2021 for the portfolio as a whole are 7% in 2022.

For 2022 Rothesay reported two metrics for the portions of the portfolio where data was available:

• Financed Emissions per £1 million of Market Value invested = 88t CO_2e per mGBP (down from 92.4 tCO_2e in 2021)

• Temperature Alignment Score = 2.6°C (down from 2.7°C in 2021)

We note that Rothesay continues to improve TCFD reporting and reported improved data coverage year on year. The Plan will continue to engage with and monitor Rothesay on progress in achieving their climate targets.

Scenario Analysis

The Trustee has undertaken scenario analysis assessing the impact on the Plan's assets and liabilities. The climate scenario analysis will help the Trustee:

- understand how risks and opportunities related to climate change could affect the Plan's investments, funding, and covenant; and
- consider if there are any potential actions to identify, monitor and manage those risks.

The Trustee has modelled three different scenarios with the support of LCP and in one of those scenarios the global average temperature increase selected by the Trustee must be within the range of 1.5°C above pre-industrial levels to and including 2°C above pre-industrial levels, i.e. a Failed Transition.

Transition	Description	Why the Trustee chose it
Failed Transition	Paris Agreement goals not met; only existing climate policies are implemented	To explore what could happen to the Plan's finances if carbon emissions continue at current levels and this results in significant physical risks from changes in the global climate that disrupt economic activity.
Paris Orderly	Paris Agreement goals met; rapid and effective climate action, with smooth market reaction	To see how the Plan's finances could play out if the Paris Agreement goals are achieved, meaning that the economy makes a material shift towards low carbon by 2030.
Paris Disorderly	Same policy, climate and emissions outcomes as the Paris Orderly Transition, but financial markets are initially slow to react and then over-react	To look at the risks and opportunities for the Plan if the Paris Agreement goals are met, but financial markets are volatile as they adjust to a low carbon economy.

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

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

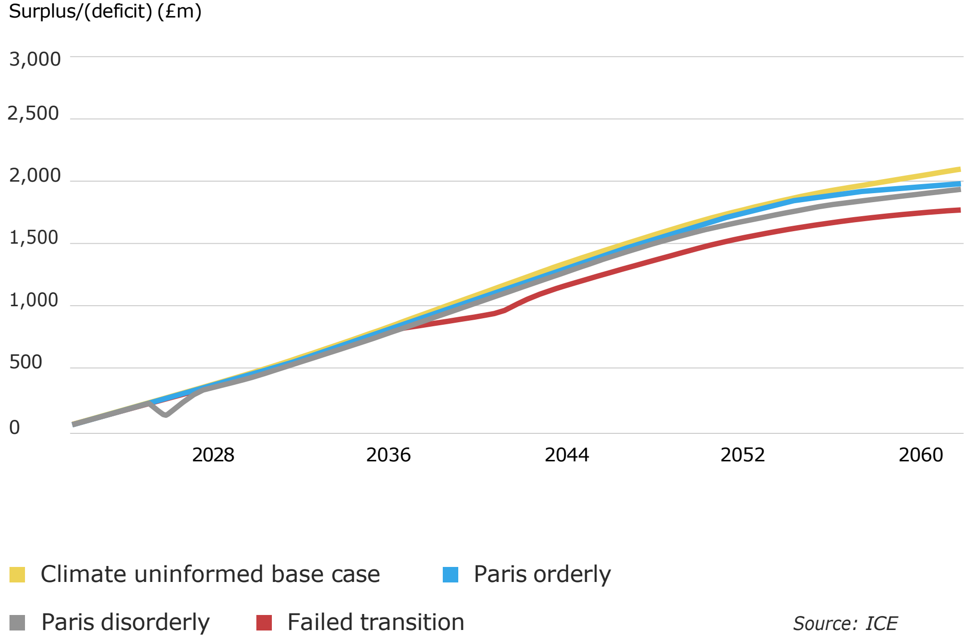
The scenarios' key features are summarised in the appendix, along with the key assumptions.

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

The analysis for the Plan has been carried out as at 31 December 2021 based on climate scenarios as at 30 June 2021. Once the new investment strategy has been implemented an updated scenario analysis will be produced for the next climate report.

The climate scenarios are calibrated by Cambridge Econometrics and Ortec Finance each 31 December and 30 June using the latest scientific and macro-economic data to illustrate the possible impact on financial markets. LCP then applies these impacts to market conditions at each quarter end (i.e. also at 31 March and 30 September), which provide the Trustee with an up-to-date picture of the potential impact on the Plan.

Scenario Analysis



Scenario Analysis

The chart shows the evolution of the ... the RMG Section un... ifferent modelled climate scenarios.

Resilience of the RMG Section's ... ment Strategy

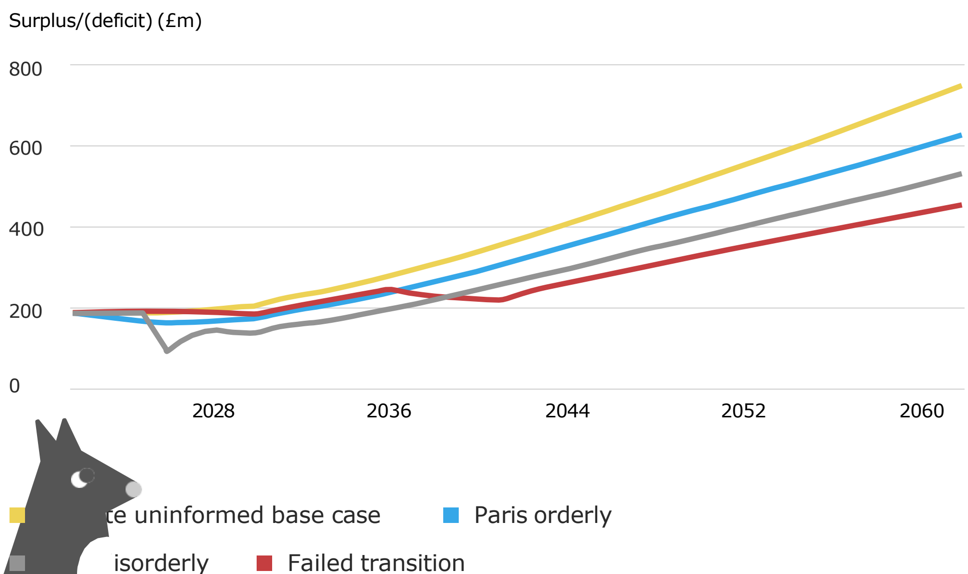
The RMG Section is relatively de...ked (i.e. only 15% in return-seeking assets and the liability-hedging assets provide a hedge of 100% of the interest rate and inflation sensitivities of the self-sufficiency liabilities). As such, the modelling of the scenarios does not show a significant worsening impact on the funding position of the RMG Section. Any further de-risking would be expected to further reduce any impact. Therefore, considering the climate related risks alongside other risks to the funding level, the Trustee believes the current investment and funding strategy to be resilient to climate related risks.

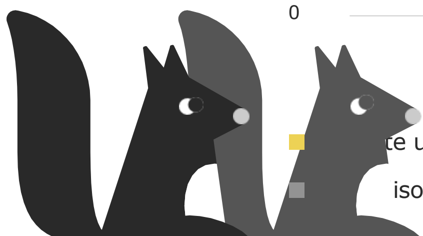
In the short term (over the next 5 years), a disorderly transition could have a negative impact, with a failed transition impacting in the longer term (15 years and on) if the Section has not de-risked further by then.

DBCB Section

Climate impacts could impact the level of future benefit increases.

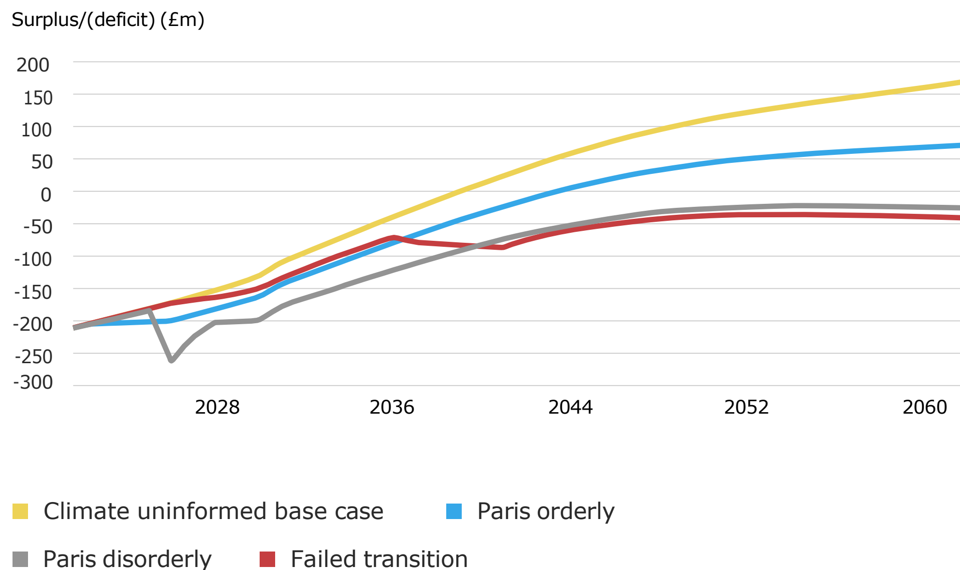
The chart below shows the possible impact of climate scenarios on the Technical Provisions with no allowance for above CPI increases





Scenario Analysis

The chart below shows in some scenarios, the opportunity to offer above CPI increases could be impacted in some climate scenarios



The charts show the evolution of the surplus for the DBCB Section (with and without allowance for above CPI increases) under different modelled climate scenarios.

Resilience of the DBCB Section's Investment Strategy

The DBCB Section is less de-risked than the RMG Section given the less mature membership profile (i.e. around 75% in return-seeking assets and the liability-hedging assets provide a hedge of 70% of the interest rate and 30% of the inflation sensitivities of the liabilities). The chart above shows that this has the effect of increasing the climate-related risks to the Section relative to the RMG Section. Taking these climate-related risks alongside other risks to funding, the Trustee still considers the asset allocation for the DBCB Section to be resilient to climate-related risks but will continue to closely monitor and consider this position as the asset allocation evolves over time.

Plans for the next 12 months

In 2021 the Plan established an ESG roadmap that set out specific actions over the following 12 months, 1-2 years, and 2+ years. Many of these actions were climate-related and actions cover areas including:

- Governance
- Investment Strategy
- Risk Management
- Engagement; and
- Reporting and Transparency

The roadmap has continued to evolve as the specific points have been actioned, and now also includes annual, recurring actions as well as new shorter term actions required to stay up to date with current requirements and Plan ambitions in this area. Each action is reported, tracked, and reviewed fortnightly by the ESG and Climate Working Group.

As part of the Plan's Manage stage of its Carbon Impact Investment Strategy, engagement with the Plan's managers will continue and expand. A library of the top 20 contributors to emissions is kept each year, with the managers' reasoning for including those stocks being queried.

Ongoing engagement and better data to analyse will expand the scope of the Manage workflow. The aim is to gain a better understanding of where emissions are concentrated, by region; sector; and asset class, and how the Plan can continue to reduce emissions in line with achieving both its investment and emissions targets.

As the Plan has such a high allocation to UK government bonds, we will also be examining ways to include sovereign bonds into the projected emissions pathway rather than just looking at the Plan's equities and corporate bonds.

Work on negative emissions will continue, identifying avoided emissions and understanding how they might possibly be recorded to identify where the Plan is improving its emissions. Also, we aim to update the Scenario Analysis in this report to reflect the most current reported emissions data and modelling, as well as the updated asset allocation following the portfolio changes that will be undertaken this year. We also aim to continue to present more granular data on the disaggregated assets with further analysis of which asset classes contribute the most to intensity and which managers in those asset classes are contributing more or less than the markets in which they invest.

Appendix – Modelling assumptions for Scenario Analysis

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Impact of climate change on life expectancy 33

Asset class returns 34

Data and Calculation Methodology 35

Modelling assumptions for Scenario Analysis

Scenarios as at 30 June 2021 rolled forward with market conditions to 31 December 2021 – key features

Scenarios	Failed Transition	Paris Orderly Transition	Paris Disorderly Transition
Low carbon policies	Continuation of current low carbon policies and technology trends	Ambitious low carbon policies, high investment in low-carbon technologies and substitution away from fossil fuels to cleaner energy sources and biofuel	
Paris Agreement outcome	Paris Agreement goals not met	Paris Agreement goals met	
Global warming	Average global warming is about 2°C by 2050 and 4°C by 2100, compared to pre-industrial levels	Average global warming stabilises at around 1.5°C above pre-industrial levels	
Physical impacts	Severe physical impacts	Moderate physical impacts	
Impact on GDP	Global GDP is significantly lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be 55% lower than in the climate uninformed scenario.	Global GDP is lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be about 10% lower than in the climate-uninformed scenario.	In the long term, global GDP is slightly worse than in the Paris Orderly scenario due to the impacts of financial markets volatility.
Financial market impacts	Physical risks priced in over the period 2025-2030. A second repricing occurs in the period 2035-2040 as investors factor in the severe physical risks	Transition and physical risks priced in smoothly over the period of 2021-2025	Abrupt repricing of assets causes financial market volatility in 2025

Modelling assumptions for Scenario Analysis

Modelling approach:

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

Modelling assumptions for Scenario Analysis

Impact of climate change on life expectancy

- If a member lives longer, the Plan pays the member's pension for longer and therefore needs more assets to make the payments.
- The Trustee incorporates significant prudence in the mortality assumption to mitigate longevity risk whether that's due to climate change or other factors.
- Like the economic impacts, the impact of climate change on life expectancy is highly uncertain. As part of the information on the climate scenario analysis, the Trustee considered the various possible drivers for changes in mortality rates with both positive and negative impacts expected in each of the scenarios considered.
- Given the level of uncertainty, the Trustee noted that no specific allowance has currently been made in the scenario analysis, but that it would keep up to date on developments in this area and consider it further at the next actuarial valuation.

Modelling assumptions for Scenario Analysis

Asset class returns – 31 December 2021:

Expected return (% pa)	Climate uniformed base case			Paris Orderly Transition			Paris Disorderly Transition			Failed Transition		
Years	**5**	**10**	**40**	**5**	**10**	**40**	**5**	**10**	**40**	**5**	**10**	**40**
Money market cash	0.8%	1.0%	0.9%	0.8%	1.0%	0.9%	0.8%	1.0%	0.9%	0.8%	1.0%	0.8%
Fixed interest gilts (18 years)	0.8%	1.0%	0.9%	0.7%	1.0%	0.9%	0.9%	1.0%	0.9%	0.8%	1.0%	0.9%
Index-linked gilts (23 years)	0.8%	1.0%	0.9%	0.8%	0.9%	0.8%	0.9%	1.0%	0.8%	0.7%	1.0%	0.8%
Investment grade corporate bonds (8 years)	1.7%	1.9%	1.8%	1.6%	1.9%	1.8%	1.7%	1.9%	1.8%	1.6%	1.8%	1.7%
Investment grade (ex-BBB) corporate bonds (8 years)	1.5%	1.7%	1.6%	1.4%	1.7%	1.6%	1.5%	1.7%	1.6%	1.4%	1.6%	1.5%
UK equities	5.9%	6.1%	6.0%	5.3%	5.8%	5.8%	3.3%	4.9%	5.6%	5.6%	5.6%	4.8%
Low carbon UK equities	5.9%	6.1%	6.0%	6.2%	6.4%	6.0%	6.3%	6.4%	6.0%	5.6%	5.6%	4.8%
Overseas equities	5.9%	6.1%	6.0%	4.5%	5.2%	5.5%	2.0%	4.0%	5.1%	5.6%	5.5%	4.5%
Overseas equities (currency hedged)	5.8%	6.%	5.9%	4.8%	5.5%	5.6%	2.3%	4.4%	5.4%	5.5%	5.%	4.4%
Global equities	5.9%	6.1%	6.0%	4.5%	5.2%	5.5%	2.1%	4.1%	5.1%	5.6%	5.5%	4.5%
Low carbon global equities (currency hedged)	5.8%	6.0%	5.9%	5.7%	6.0%	5.8%	5.7%	6.0%	5.9%	5.5%	5.4%	4.4%
Low carbon global equities (unhedged)	5.9%	6.1%	6.0%	0.8%	6.1%	5.9%	5.8%	6.1%	6.0%	5.6%	5.5%	4.5%
Emerging markets equities	7.0%	7.2%	7.1%	6.0%	6.6%	6.8%	2.9%	5.2%	6.4%	6.8%	6.7%	5.4%
Private equity	6.9%	7.1%	7.0%	5.8%	6.6%	6.6%	3.2%	5.5%	6.3%	6.6%	6.4%	5.2%
High yield debt	2.8%	3.0%	2.9%	2.6%	2.9%	2.9%	2.8%	3.1%	2.9%	2.6%	2.9%	2.8%
Emerging market debt	3.5%	3.7%	3.6%	3.3%	3.5%	3.6%	3.6%	3.6%	3.6%	3.4%	3.6%	3.5%
EM multi-asset	5.6%	5.8%	5.7%	5.0%	5.4%	5.5%	3.7%	4.8%	5.3%	5.4%	5.5%	4.8%
UK property	4.3%	4.5%	4.4%	4.2%	4.5%	4.3%	2.5%	3.8%	4.1%	4.%	3.9%	3.%
Global property	5.0%	5.2%	5.1%	4.9%	5.2%	5.0%	3.2%	4.5%	4.8%	4.7%	4.6%	3.7%
Absolute return bonds	2.0%	2.2%	2.1%	1.9%	2.2%	2.1%	2.1%	2.2%	2.1%	1.9%	2.2%	2.1%
Diversified growth (traditional)	4.0%	4.2%	4.1%	3.5%	3.9%	3.9%	2.3%	3.4%	3.9%	3.8%	3.9%	3.3%
Diversified growth (relative value)	2.7%	2.9%	2.8%	2.2%	2.6%	2.6%	1.0%	2.1%	2.6%	2.5%	2.6%	2.0%
Listed infrastructure equity	5.5%	5.7%	5.6%	4.9%	5.4%	5.3%	3.1%	4.6%	5.0%	5.3%	5.2%	4.3%
Unlisted Infrastructure equity	5.8%	6.0%	5.9%	5.2%	5.7%	5.6%	3.4%	4.9%	5.3%	5.6%	5.5%	4.6%
Commodities	4.2%	4.4%	4.3%	4.6%	4.6%	4.3%	1.5%	3.8%	4.1%	4.2%	4.4%	4.4%
Fund of hedge funds	4.0%	4.2%	4.1%	3.2%	3.6%	3.9%	2.8%	3.5%	3.9%	3.9%	4.0%	3.8%
Multi-asset credit	3.5%	3.7%	3.6%	3.4%	3.7%	3.6%	3.5%	3.7%	3.6%	3.4%	3.6%	3.5%
Opportunistic credit	6.5%	6.7%	6.6%	6.0%	6.5%	6.5%	5.5%	6.3%	6.4%	6.3%	6.4%	6.0%
Private credit	4.8%	5.0%	4.9%	4.8%	5.0%	4.9%	5.0%	5.2%	5.0%	4.7%	5.0%	5.0%
Long lease property	4.6%	4.8%	4.7%	4.5%	4.8%	4.6%	2.8%	4.1%	4.4%	4.3%	4.2%	3.3%
Alternative risk premia	4.0%	4.2%	4.1%	3.2%	3.6%	3.9%	2.8%	3.5%	3.9%	3.9%	4.0%	3.8%
Insurance-linked securities	5.2%	5.4%	5.3%	4.4%	4.8%	5.1%	4.0%	4.7%	5.1%	5.1%	5.2%	5.0%
Asset-backed securities	2.6%	2.8%	2.7%	2.6%	2.8%	2.7%	2.6%	2.8%	2.7%	2.5%	2.8%	2.7%
Credit default swaps fund	1.9%	2.1%	2.0%	1.8%	2.1%	1.9%	1.8%	2.1%	1.9%	1.8%	2.0%	1.8%

- The table on page 34 shows the investment annualised returns assumed under each scenario in our modelling over a specified time horizon from 31 December 2021, updated to reflect changes in market conditions since 30 June 2021. These annualised returns are a consequence of the many assumptions underlying the scenario modelling.
  Alternative assumptions may be justifiable; the choice of assumptions will impact the output of our modelling.
- We have illustrated returns over distinct periods. As such, these do not show the timings of exactly when these returns are expected to take place, in particular the timings of any market shocks described throughout this report.
- The "Paris Aligned" equity indices are calibrated to limit temperature rise to 1.5°C by 2100, and as a result assume significant reductions in carbon emissions over the coming years. In reality we expect client portfolios to be less extreme / have smaller deviations from traditional market cap indices. Therefore, modelling of a typical "low-carbon" equity portfolio will reflect a composite of the market cap and Paris Aligned equity indices.

Data and Calculation Methodology

The portfolio emissions metrics used by ICE measure both the emissions intensity and absolute financed emissions. ICE's WACI approach is TCFD aligned and provides a portfolio's carbon intensity expressed in terms of tonnes CO2e per $1M of revenue, covering Scope 1, 2 and 3 (the six main GHGs are expressed in terms of carbon dioxide equivalent (CO2e) per the GHG protocol).

This method was chosen as it is the approach recommended to TCFD by the PCAF for the global GHG accounting and reporting standard for the financial industry. The reason that CO2e/ $ million revenue was used rather using £ as the Trustee's base currency, is that the Plan is a global investor and US$ is the most widely reported currency for investors. It provides a more consistent and easily comparable metric than having to translate currencies for each year's data.

For this approach, GHG emissions are allocated based on portfolio weights (the current value of the investment relative to the current portfolio value) using individual company level emissions data. This metric, using revenue to normalise emissions for company size, allows for easier comparisons across different asset classes and between portfolios and benchmarks.

The methodology for sovereign bond (Gilt) emissions accounting follows the proposed approach agreed by PCAF, UNEPFI and PRI.

There are two possible approaches for accounting for the GHG emissions of sovereign bonds, territorial and government. We discounted the territorial approach where we consider all emissions holistically within the economic boundary within sovereign emissions (and scope 3 relates to exported emissions) as this leads to double counting of emissions with corporate emissions. The government approach treats the government as an economic entity in which we consider only those emissions that are generated by the public sector. Under this method, scope 1 accounts for the direct emissions of central government, scope 2 accounts for emissions from energy purchases, and scope 3 accounts for emissions from government expenditures in other sectors and all other territorial non-govt emissions. However, acknowledging that emissions accounting for corporates and sovereigns are significantly different, both in terms of scope, coverage, and time lag, ICE has developed the following methodology to combine the measurement techniques from both.

Financed emissions from corporations calculated using the PCAF methodology (Enterprise value including cash) can be combined with the financed emissions from sovereigns using the PPP-Adjusted GDP metric, also a methodology recommended by PCAF (purchasing power parity ("PPP") helps normalise across sovereigns). A combined asset class intensity of Revenue and GDP can be calculated by using intensity of revenue for corporates, and intensity of PPP-Adjusted GDP for sovereigns. This is then calculated with the weighted average approach to give an overall emissions figure that is broadly comparable.

Analysing the emissions from property also requires a different method to the more regular financed emissions. Each asset is assessed by type (to the most granular sub-type available) along with use of the property, size, and location. Specific metrics include energy consumption of the property by floor area, considering the property sub-type, location, and energy source. Renewable energy produced and used at the property can also be taking into consideration if the data is available. These are the key factors which are taken into consideration when calculating the carbon emissions for property assets.

Asset backed securities and securitised funds proved challenging to assess with an appropriate degree of confidence and so have been left out of the data set for this year.

The approach for Absolute Return strategies is to only report on the long positions within the portfolio. While market neutral strategies (and others) could argue they have no positive direction and therefore no positive emissions, we believe that each position in isolation was contributing capital and therefore contributing to emissions. We are aware that some short positions are taken as climate activist positions, but to apply that to all short positions would not be appropriate and hence short positions were not offset. We did consider the separate reporting of the short positions, but for now, we do not believe that there is a credible argument for reporting in this way.

Further, we took the approach that as many of the long positions were expressed through derivatives, we assessed if the position had a clear asset look through and then accounted for the emissions of the derived asset (e.g. an S&P 500 future). But, if a position was part of a complex synthetic exposure or trade, we determined that the horizon for that exposure was too short and should therefore be treated as cash (and cash does not attract any emissions).

We take this opportunity to ask for some standardization and clarity of approach from the hedge fund community. Many of the managers were keen to work with us and find an approach that was sensible and appropriate, and in part it is our discussions with them from which our approach was formed, but we look forward to discussion and development in this area.

This point brings on to a wider issue of how to report on "negative emissions". Some schemes may have investment strategies that include short exposures, some may have investments which generate carbon credits or carbon allowances, and some data providers are able to account for avoided emissions. We are not yet aware of consensus in this area on how to report these emissions. Should they be excluded from the analysis, accounted for separately, or netted off against overall emissions? It may appear that an asset owners' results could benefit from their positive impact actions, but we appreciate that there may be unintended consequences to allowing broad participation of "negative emissions" making their way into overall netting of results. Again, we look forward to discussion and development in this area.

The Net Zero pathway uses forward looking factors such as momentum, trends, and specific published targets to plot the estimated trajectory of the pathway for the Plan's financed emissions. It is aligned to the Paris 1.5°C pathway and uses SBTi agreed temperature targets.

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