August 2023 | royalmailpensionplan.co.uk

Climate Strategy ...2023

Royal Mail Pension Plan

Contents

Abbreviations

ARF	Audit, Risk and Finance Sub-Committee
CI	Carbon Intensity
DBCBS	Defined Benefit Cash Balance Section
ESG	Environmental, Social and Governance
FSB	Financial Stability Board
GHG	Greenhouse Gases
ISC	Investment Sub-Committee
LDI	Liability Driven Investment
PCAF	The Partnership for Carbon Accounting Financials
POL	Post Office Limited
OCID	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
SBTi	Science Based Targets Initiative
TCFD	Task Force on Climate-Related Financial Disclosures
TPI	Transition Pathway Initiative
UNEPFI	United Nations Environment Programme Finance Initiative
WACI	Weighted Average Carbon Intensity

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.

About the Royal Mail Pension Plan (“RMPP”)

The RMPP ("The Plan") has £9.7 billion of investment assets as at 31 March 2023 representing the pensions of 123,590 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 was not detrimental to risk, that it could also assist in risk management and that it may enhance the sustainable long term expected returns from the Plan’s investments;
- We aim to appoint and retain managers whose beliefs and practices are consistent with our beliefs on Climate risks and opportunities (where relevant to their mandate) and we encourage best stewardship practice from our investment managers; and
- As part of our commitment to RI, the Plan is a signatory to the United Nations-backed Principles for RI and is a signatory to the FRC Stewardship Code.

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 second 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

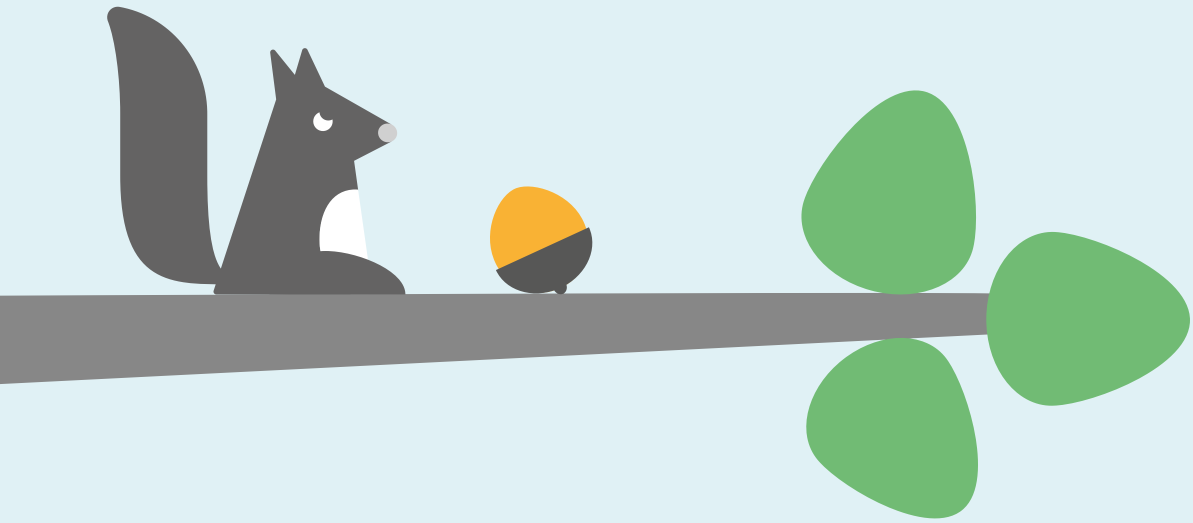
The Trustee believes that the climate crisis requires urgent action. The Plan is a signatory to the United Nations-backed Principles for Responsible Investment which acts as a framework for investors to take ESG issues into account. The Plan is also a signatory to Climate Action 100+ and Transition Pathways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

This is the first time 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. This total is split by yearly emissions for the RMG section of 3.91 million tonnes and for the DBCB section, 0.679 million tonnes.

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 1°C 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 preindustrial levels.

The Plan is also setting 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. This is above the Low Energy Demand pathway (explained later in the Metrics and Targets section) but below the 1.75°C pathway. This is because of the aggressive assumptions for the Low Energy Demand pathway between 2025-2030, although the Trustee is still aiming for an orderly transition, avoiding the assumption for emission reductions to be backloaded.

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 use 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, they have 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 truly achieve their net zero ambitions. This year, around 37% of the data disclosed was from publicly available data, and 2/3rds of that was verified by a third party, which is in line with the coverage results 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 Investment Sub-Committee ("ISC"), which meets 3 to 4 times a year. When selecting and appointing investment managers, the ISC will consider how ESG, climate change and stewardship are integrated within the managers' investment processes. A separate ESG/ Climate risk "RAG Scoring" chart has been devised to capture prospective managers' ESG and Climate risk/opportunities development and integration into their processes. This is also used to monitor existing managers' progress. This will be balanced against other manager selection criteria such as (but not limited to) idea generation, portfolio construction, implementation, business management and fees and charges. The ISC agreed that the Plan's assets as possible would be measured this year. Where possible, published stock specific information was input (listed stocks) and where information was not directly available, stock specific proxies were input (unlisted stocks). 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. Absolute return, physical assets, and scope 3 for sovereign bonds have now been included. This year we have achieved scope 1, 2 and 3 emissions reporting in relation to 83.8% of the Plan's 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 ISC so direction, challenge and feedback can be given by members of the ISC 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 ISC is advised by, and the Trustee Executive is supported by, a number of external service providers including:

- BlackRock – who act 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.
- LCP – provides risk and performance reporting to the Trustee, including scenario modelling on climate change.
- Redington – provides advice and portfolio level climate related investment opportunities.
- 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
- Carbon Offsets
- Nature Related Investments
- 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 included a skills audit and climate has been added to the Trustee Knowledge and Understanding assessment that takes place every year to establish training needs.

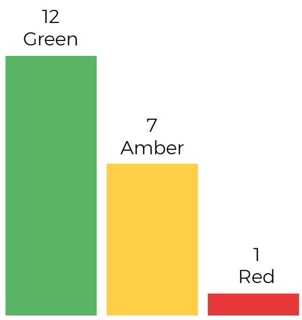
The Trustee also regularly assesses its advisors and in the next assessment currently underway, the approach to climate will be built into the reviews of all advisors, including legal and actuarial. The Trustee is also seeking assurance as part of its internal audit plan on the approach of its various climate specialist providers, particularly data and analytics, to satisfy themselves best practice is in place. When selecting the OCIO, approach to and capability in ESG was a key requirement. 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 to the planet 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.**

The Plan's Executive schedules ESG (including climate risk) monitoring meetings with managers across all asset classes including Liability Driven Investment (LDI) managers (that make up c.63% of the whole Plan's investment portfolio) to engage on their development of ESG and climate risk integration in their investment process and to ensure that they are prepared for complying with the reporting required by TCFD.

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 therefore 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 20 non-alternative managers rated, 12 are currently considered GREEN, 7 are on AMBER and 1 on RED.



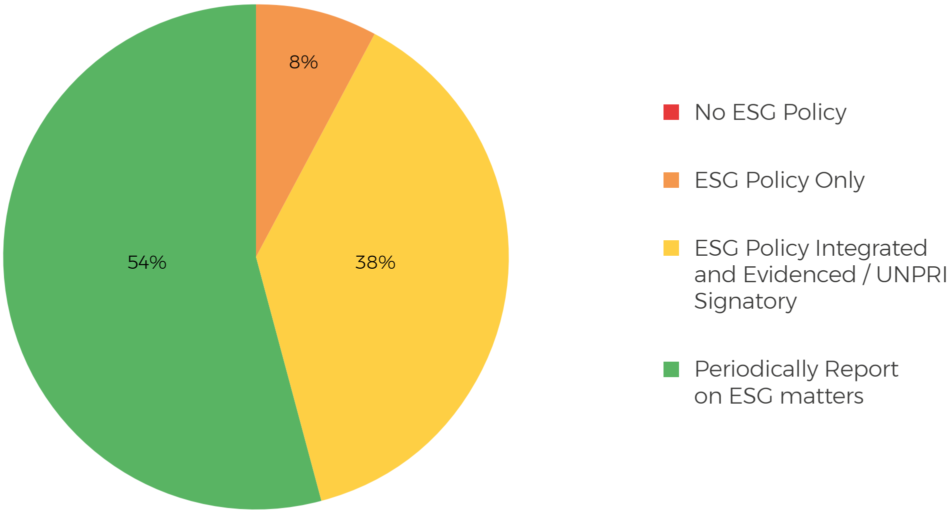
The only Red manager is expected to move to at least Amber as it works towards full coverage on Proxy Voting and will get a rating from UNPRI later this year.

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

Strategy

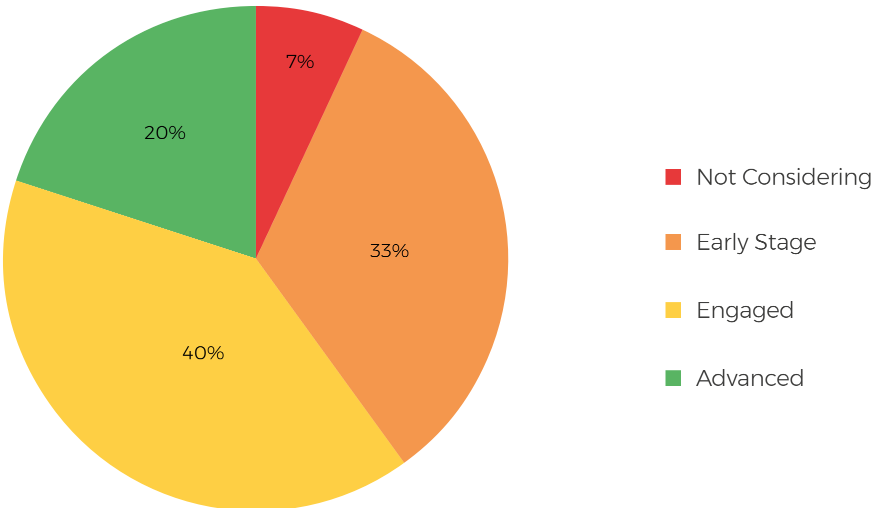
For private markets funds were categorised into Red/Dark Amber/Amber/Green ratings. The charts below evidence the positive trend amongst managers, with 92% (21 of 23 funds) reaching Amber or Green status in 2022. All private markets managers are UNPRI signatories.

2022



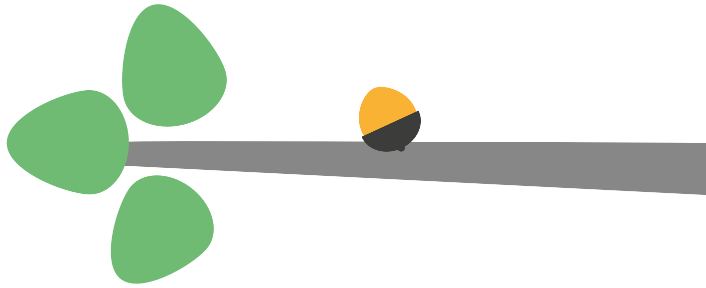
For the 15 Absolute Return managers, similar rankings were used and nine were either Advanced or Engaged. Nine managers were UNPRI (or other sustainability committed organisation) signatories.

2022



Managers are aware that the reviews will continue to 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, 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. • In private markets we have committed more than £150m to renewables. • We are currently working with Redington to look for more opportunities to add 'green' investments to the portfolio. Some of these may allow us to accelerate our net zero commitment.	• Using work by ICE to identify 'hot spots' and engage with managers. • Net zero target communicated to all managers and they will be asked to support • They will be asked to report on progress and the Executive will evaluate and challenge • The Trustee Executive 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 • 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. 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 additional cost of meeting transition risks is also challenging in the context of the recent performance of the business and industrial dispute. 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 Strategy and 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 • Investment / Funding / Administration Sub-Commitees	• Risk Manager • Audit, Risk & Finance Sub-Commitee	• 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:

- Horizon scanning with senior management and Board
- Attendance 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 Strategy and 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 is due to commence later this year (it was due to be commenced last year but was delayed).

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 Trustee's initial risk assessment was it was likely that climate risks would have a moderate impact on the Plan (Inherent Risk). They put in place a series of business operation, independent assurance, and oversight controls to mitigate the risks. The subsequent risk assessment was that it was likely that ESG risks would have a minor impact on the Plan (Residual Risk). 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.

In this section we discuss what is being measured in this year's report relative to last year, and how it is being measured. It was pleasing to see that The Pensions Regulator has encouraged schemes to embrace a broad framework where trustees understand and appreciate that the data quality is developing, and coverage will improve.

The Trustee selected ICE as their provider for calculating emissions as their methodology was developed in collaboration with the science-based protocols. The Trustee must now report their findings against four metrics this year. The Trustee has decided to publish the expected net zero pathway as the additional 4th metric. This will be alongside the total emissions, emissions intensity, and temperature score that were presented last year. 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.

The previous report covered scope 1, 2 and 3 emissions where available and assets included equities, corporate bonds and sovereign bonds. We are pleased to confirm that this year's report will cover nearly all the Plan's asset classes, all on scope 1, 2 and 3. We will be adding physical assets such as property, hedge funds, and scope 3 for sovereign bonds. Last year we set up the correct framework to build upon and the Trustee is now able to have a near complete understanding of the Plan's total carbon emissions to use as a tool for developing their carbon impact strategy and help achieve the Plan's net zero commitments. 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.

As outlined in following paragraphs, we explain the methodology for the data collected, largely as described in last year's report. In following years, we expect to move this to an appendix as methods, measurements, and terminology converge and become more commonplace.

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).

We chose this method 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.

Metrics and Targets

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.

As an addition to last year, we will be disaggregating the data by asset class. Funds will be categorised between: developed/ emerging markets; high risk/ low risk; listed/ unlisted; and equity/ bond/ property/ hedge fund. The outputs will be referenced against the emissions of well recognised, global, broad benchmarks. The aim is to identify if there are any obvious trends in allocating down into sub-asset classes, and whether they led to an increase or decrease in emissions intensity. For example, does a small cap equity allocation increase emissions relative to a wider global equity one? Or how does Asian private debt compare to a wider global high yield (listed) benchmark? However, this comparative analysis can be sensitive to outliers. Therefore, it is only expected that we would draw broad conclusions about how moving to more niche investment ideas to seek value has affected the Plan's emissions intensity. Reporting on the scoring of each mandate against its broad reference benchmark in isolation will have little value.

This year the Trustee is accounting for additional sovereign bond emissions to more completely account for the large Gilts holdings in the Plan. The ICE methodology for sovereign bond 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). 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.

Metrics and Targets

The Plan's Absolute Return portfolio is included in this year's data which includes hedge fund strategies. Whilst the managers were, on average, somewhat reluctant to engage with the process, we formed a broad policy that enabled them to respond to our data requests. The approach taken 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 standardisation 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.

Data Results

The Plan has now collated its second year's carbon emissions data, expanding on the coverage from last year to cover all assets and a fuller understanding of emissions from its Gilts holdings. The Trustee considers both an absolute total emissions figure and an emissions intensity figure ((metric) tonnes of CO_2 equivalent emitted per $1 million of revenue).

> **The results for the Plan show that 83.8% of the Plan's assets were covered on the full scope 1, 2 and 3 basis (up around 1% from last year), and covered 53 funds, up from 34 last year.**

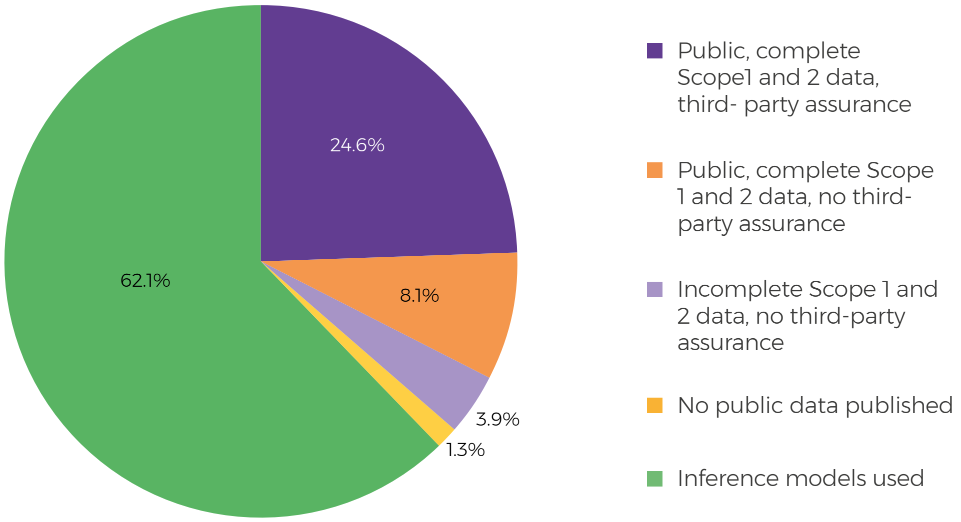
The Plan invests 62.9% of total assets in the Gilts (LDI) portfolio. Conversely, 31.8% of total assets are Growth assets, and 16.2% of assets were not assessed this year.

Of the data disclosed, the below chart 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). As with last year, just a third of the data was publicly disclosed and two-thirds of that was verified by a third party. This year we have gathered more asset classes and funds, and the amount of modelled data is up marginally from 58% to 62%. The Disclosure Gap is still a material issue for investors. Although the scale of the task ahead is identifiable, granular data will need to be available to improve the confidence of decision making in achieving targets.

Metrics and Targets

RMPP Data Disclosed and Published

Emissions Data Disclosures

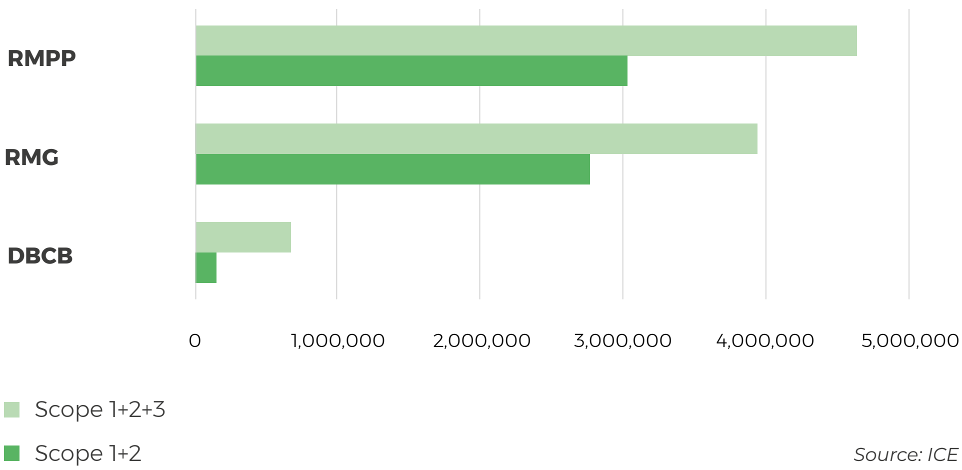


Source: ICE

Metric 1

For the first metric we have measured the Plan's total GHG emissions in "CO2e", the Plan's total emissions were 4.59 million tonnes emitted on a scope 1, 2 and 3 basis. This is calculated on an Enterprise Value basis including cash for corporate emissions, and PPP adjusted GDP for sovereign emissions. This is the first time we have been able to calculate the total emissions of the Plan, so the Trustee now has a (near) complete figure to fully understand the scale of the Plan's contribution to global emissions. This total is split by emissions for the RMG section of 3.91 million tonnes and for the DBCB section, 0.679 million tonnes.

RMPP Total GHG Emissions (Tonnes of CO2e emitted)



Source: ICE

Metrics and Targets

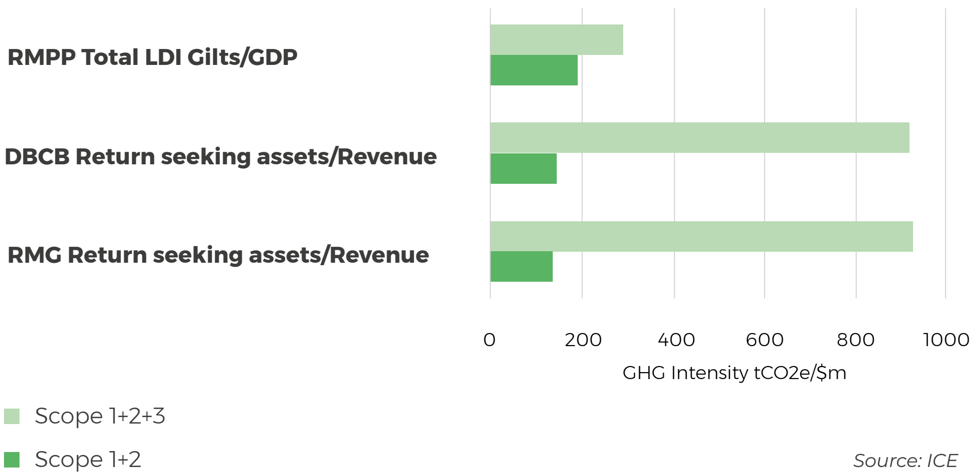
Metric 2

We now move on to the intensity of the Plan's emissions. The intensity of the Plan's return seeking assets for the two sections is highlighted in the chart below and this year we have now included Gilts. 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 CO2e per million dollars of GDP.

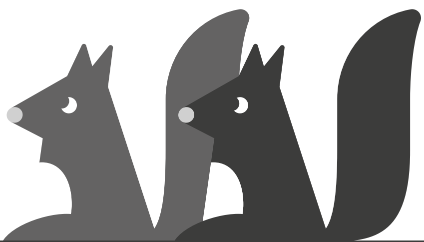
> **The results for the RMG section are an intensity of 930t CO2e/$m and for DBCB section 923t CO2e/$m. This compares to a UK sovereign intensity of 288 t CO2e/$m GDP.**

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. Last year we were unable to do this but as explained in the earlier section, we now have an approach that is agreed with PCAF to assess total assets on a like for like basis. Last year we identified that the UK had a lower emissions intensity than the G7 average, and we can see that the intensity is markedly lower than corporate emissions.

RMPP Plan Assets Carbon Intensity



Source: ICE



Metrics and Targets

Metric 3

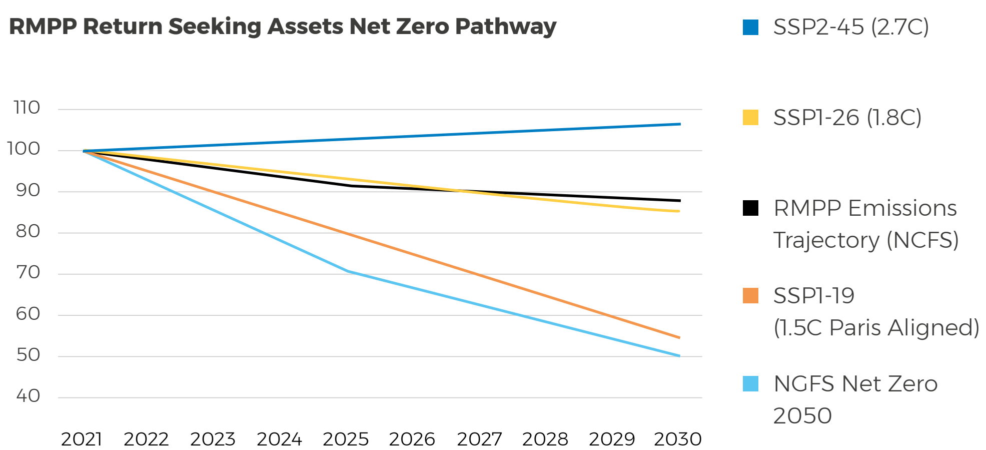
The Trustee considers a portfolio alignment metric to calculate the temperature score of the Plan's portfolio to align with the long-term temperature goals of the Paris Climate Change Agreement of 2015, to keep global surface temperatures to well below 2˚C above pre-industrial levels and achieve net 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 companies represented in the Plan's equity and corporate bond portfolios continue to emit at the same rate, they would contribute to the planet's surface temperatures rising by between 2.99˚C and 3.13˚C from pre industrial levels on a medium and long-term basis. This is down from the respective 3.15˚C and 3.19˚C that we reported on last year. The high temperature score 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).

Metric 4

In addition, this year we have projected what the expected pathway is for the Plan's portfolio given reasonable emission reduction plans, current trends and momentum, and any company specific targets published, called the net zero pathway. This is different to the temperature score which assumes that no additional action is taken from the current portfolio and emissions. Given work by the Trustee this year on the feasibility of achieving the Interim Target (of reducing emissions in the equity and corporate bonds by 50% by 2030) we have focused this metric on the projected pathway to 2030, rather than 2050. Clearly the Interim Target is more tangible being 7 years ahead, rather than 27, and further, the low energy demand pathway accelerates emission reductions more steeply to 2030. The below chart shows that the Plan's trajectory is close to the 1.8˚C pathway, which is pleasing to see as it is below the broad target of keeping temperatures to below 2˚C above pre-industrial levels. It is however, currently some way off the Paris aligned low energy demand pathway of 1.5˚C.

RMPP Portfolio Alignment to the Transition Pathways



Metrics and Targets

Carbon Impact Investment Strategy

> **The Trustee continues with its Carbon Impact investment strategy, which has four broad steps: Measure; Manage; Mitigate; and Monitor. Further work is underway and is centred around the "Manage" stage to aid future portfolio decision making.**

Since the last report, the Trustee has continued to spend time on developing its knowledge and skills for the Plan's Carbon Impact strategy. A training session took place in the summer on developments in Natural Capital investments. Forestry was discussed as a potential asset. However, the Trustee notes that such assets currently come with long term illiquidity, which may not be appropriate for a well-funded, mature defined benefit scheme. The Trustee also undertook a training session on voluntary carbon credits that may come as part of an investment in Forestry. No consensus was achieved on how they might be treated. They could either be sold to boost returns, held as an asset, or held as a hedge against a disorderly transition. If they were to be held, the Trustee noted there may be issues with regular and robust price discovery and registration. Carbon credits don't necessarily stop carbon being emitted elsewhere (like carbon allowances do) but by holding them for the benefit of the members, they may increase the cost of emitting GHG, and this can help drive change in the transition to a low carbon economy and effect real change. Therefore, this area will be monitored for future consideration as the market develops and evolves.

The Trustee held a session on their Interim Target, to reduce emissions in the equity and corporate bond portfolios by 50% by 2030, relative to a 2015 baseline. As things stood, the Trustee would not achieve their Interim Target without taking any action. Therefore, the Trustee has agreed that engagement will be the primary tool for reducing emissions, and this will be done through engagement with the asset manager. 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. Last year, the top 20 emitters (by stock) were assessed but it was evident that the results did not provide the clarity expected. Virtually all the responses came with credible emission reduction plans. We have thus been thinking about how to look through the narrative, determine if there is any greenwashing taking place, and increase the ability to avoid stocks involved in a disorderly transition ahead of time, as part of the engagement policy.

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 holdings. Their engagement ranges across several relevant UK entities, from the UK Government and Debt Management Office through to engaging with UK regulators. Examples of this engagement include:

- Engaging with The Pensions Regulator on their funding code consultation (response to be published shortly)
- Engagement with various regulators following the Autumn 2022 gilt crisis
- Periodic engagements with the Debt Management Office and His Majesty's Treasury on the green financing framework and green gilt issuance (including the proportion of proceeds being allocated to blue hydrogen).

Metrics and Targets

Carbon Impact Investment Strategy (continued)

At the request of HMT, BlackRock continues to engage with UK DMO and HMT on the green financing framework they have developed. BlackRock recently took part in an engagement call around the green gilt allocation report. The impact report is expected to be published in September 2023 and will show the impact of the £16bn of green gilt proceeds spending allocated so far.

In addition to better understanding where the Plan can help reduce its emissions, we have grouped funds together by broad asset classes and referenced them back to a wide, diversified index. This has enabled us to identify if there are any trends in allocating to specific sub asset classes rather more conventional asset classes. No direct action is to be taken from these findings; they are only to help understand if there are any trends in how sub asset class decisions can affect emissions. The return seeking assets were grouped into four main categories and their emissions were benchmarked against widely known and readily available indices. The categories were global equities, low risk bonds, high risk bonds, and absolute return strategies.

The Global Equities group included any equity type strategy and was measured against a global all-country equity index. While scope 1 and 2 were behind the benchmark, when considering scope 3, the emissions were significantly greater. This can be attributed in most part to an allocation to private equity extractives and minerals and so this will become a focus of engagement this year.

The Low Risk or investment grade bonds were measured against a global aggregate investment grade index. The funds in this group were short of the benchmark emissions on all scope basis, which is likely a fall out from the specific mandate parameters rather than a deliberate approach to reduce relative emissions.

The High Risk bonds were measured against a global high yield benchmark. The group included a wide range of strategies from listed global high yield to regional unlisted opportunity funds. The emissions of this group of funds on a scope 1 and 2 basis were just a fraction of the index, and scope 3 were less than half relative to the benchmark. Because of the focused approach to regions and strategies within the unlisted space, on a relative emissions basis, the High Risk bonds group performed really well.

The Absolute Return group were measured against a developed global equity index given the underlying strategies have a preference for liquid developed markets (only long exposures were considered) and aim to achieve a material margin above risk free over the longer term. We found that while the scope 3 emissions were in line with the index, scope 1 and 2 emissions for services and extractives were significantly greater than the reference index. However, because the time horizon for the absolute return strategies is generally much shorter than other longer term investments, it is hard to draw any conclusions here. We will however engage to see if the manager can justify why the emissions are so high.

In conclusion, by disaggregating the investments into broad asset classes we have identified that the Plan's equity type funds have a greater contribution to emissions than the reference benchmark. This will therefore be at the front of this year's engagement policy alongside the identified top 20 emitters, to progress the project's Manage stage.

We have yet to consider in detail how to deal with stranded assets, and on the other extreme, avoided emissions. Earlier in this report we refer to accounting for negative emissions and look forward to how this area of climate impact risk management will develop.

We look forward to seeing the Plan's climate impact investment strategy progress and developing further into the Mitigate stage of the project and sharing this in the next year's report.

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 (2021) 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. In the 2021 report they disclosed a reduction of 17% for the corporate portfolio and preliminary numbers for 2022 suggest they are on target to achieve the reduction.

Since the last report coverage has improved to 90% of their portfolio by market value (and retrospectively for 2020 causing a restatement to 211 tonnes of CO_2e per $1 million of borrower revenues). The reductions seen since 2020 for the portfolio as a whole are 7% in 2021 and preliminarily results for 2022 suggest this will continue to improve.

For 2021 we reported two additional metrics for the portions of the portfolio where data was available:

- Financed Emissions per £1 million of Market Value invested = 92.4 t CO_2e (coverage = 73% of total portfolio market value)
- Temperature Alignment Score = 2.7˚C (coverage = 15% of total portfolio market value)

We are expecting a number of enhancements in the next TCFD report produced by Rothesay, including further metrics and scenario analysis and we will continue to engage with and monitor them on progress.

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, ie 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.

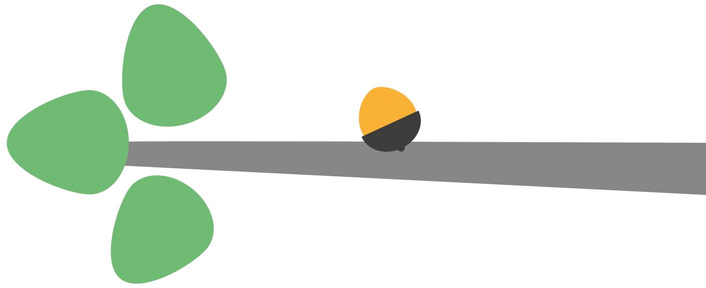
The scenarios’ key features are summarised in the appendix, along with the key assumptions.

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.

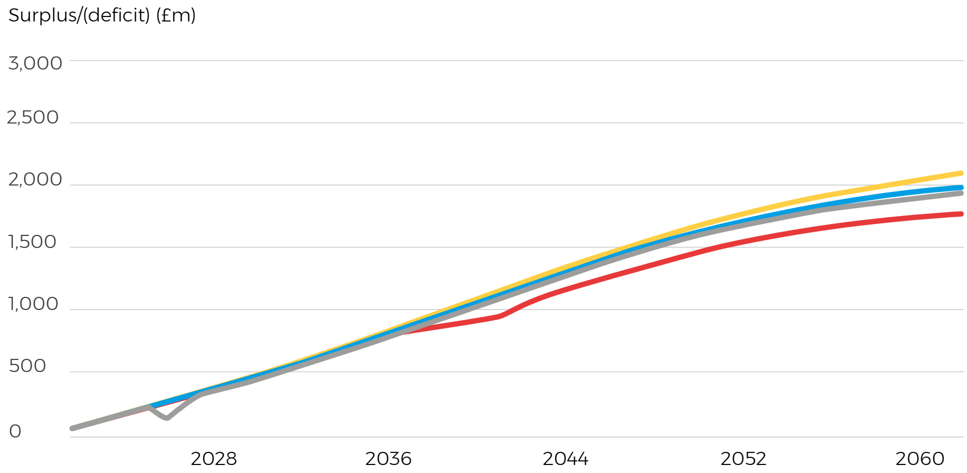
The analysis for the Plan has been carried out as at 31 December 2021 based on climate scenarios as at 30 June 2021. The Trustee was not able to update the scenario analysis for the current climate report due to major changes in asset allocation due to the gilts volatility crisis in September and October 2022. However, once the investment strategy is agreed in June 2023 an updated scenario analysis will be produced for the next climate report in 2024.

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



RMG Section



Climate uninformed base case
Paris orderly
Paris disorderly
Failed transition

Source: Urgentem

The chart shows the evolution of the surplus for the RMG Section under different modelled climate scenarios.

> **The RMG Section is relatively de-risked (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.**

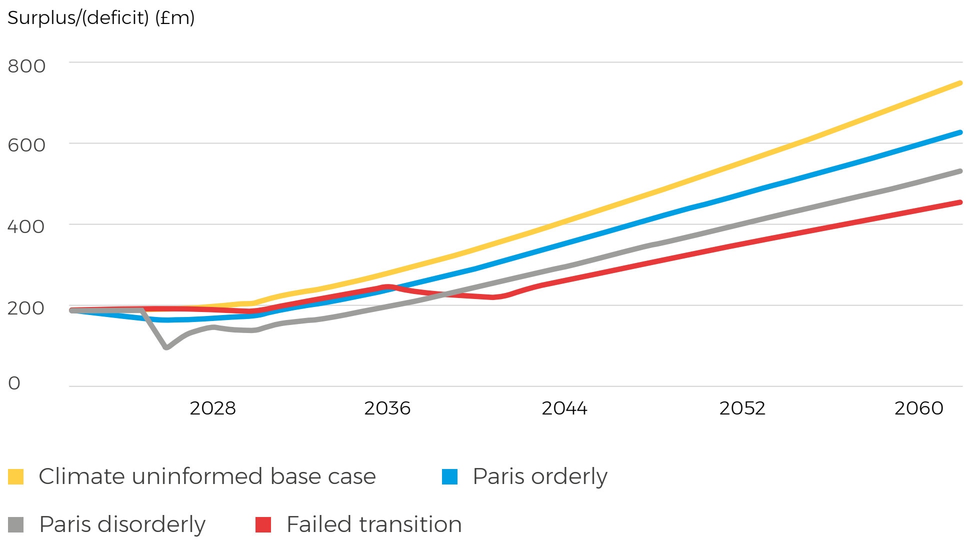
In the short term (over the next 5 years), a disorderly transition could have a negative impact, with a failed transition impacting in the longer term (15 years and on) if the Section has not de-risked further by then.

Scenario Analysis

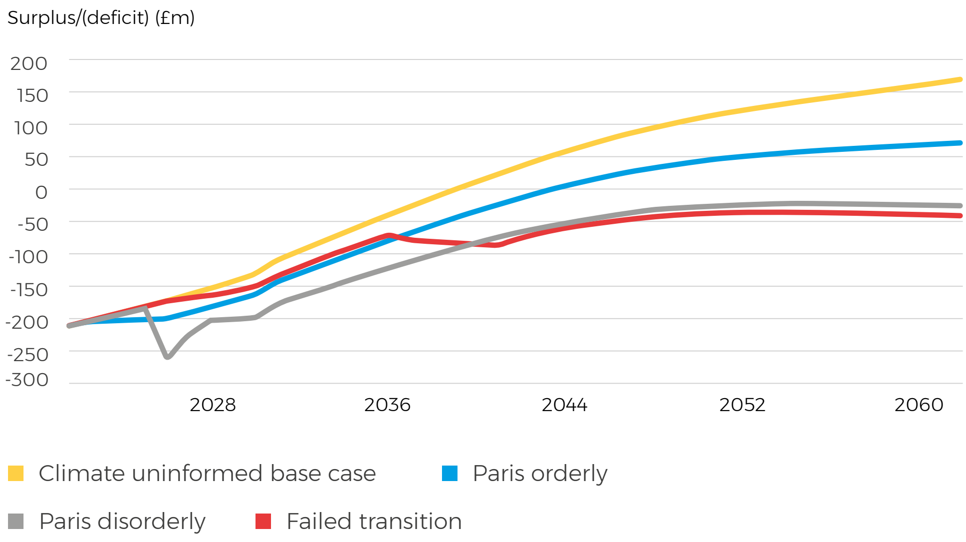
DBCB Section

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



The chart below shows in some scenarios, the opportunity of 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.

The DBCB Section is less de-risked 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).

Plans for the next 12 months

The Plan has established an ESG roadmap that sets out specific actions over the next 12 months, 1-2 years, and 2+ years. Many of these actions are climate-related and actions cover areas including:

• Governance

• Investment Strategy

• Risk Management

• Engagement; and

• Reporting and Transparency

The roadmap provides an aggregated view of recommended actions, some of which are already being done, some in progress, and others to be commenced. Each action is reported, tracked, and reviewed fortnightly by the ESG and Climate Working Group. Actions from 0 to 1 years have either been completed or have been included in ongoing annual reporting. 1 to 2 years actions are in progress and many of them are on track to be completed by end of Plan year in March 2024.

> **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 has commenced and this year's list will be added, with the managers' reasoning for including those stocks.**

Further engagement and analysis 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 its targets.

Work on negative emissions will continue, identifying avoided emissions and researching how they might possibly be recorded to identify where the Plan is improving its emissions. Also, we aim 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

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, ie 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

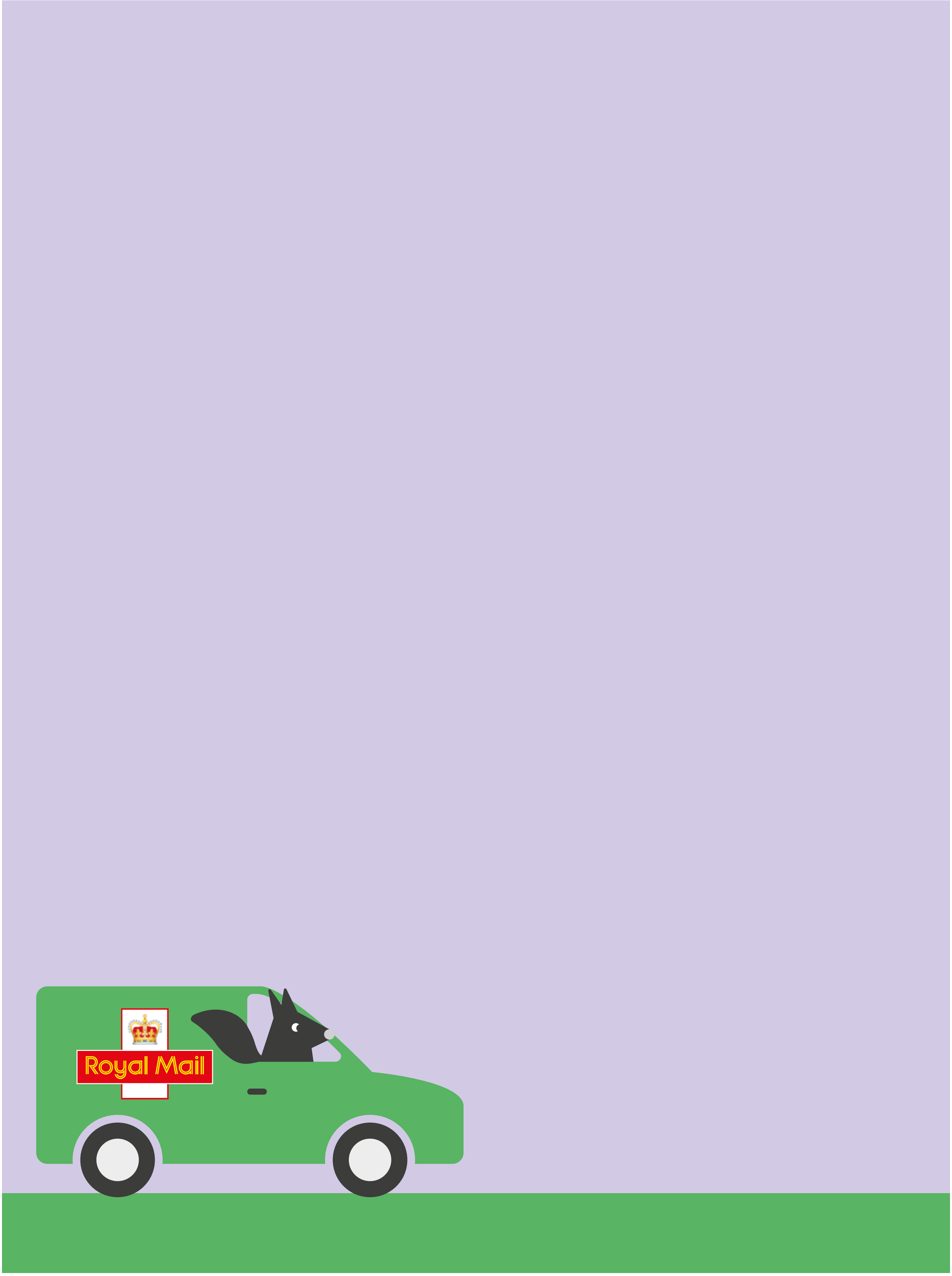
- If a member lives longer, the Plan pays the member's pension for longer and therefore needs more assets to make the payments.
- The Trustee incorporates significant prudence in the mortality assumption to mitigate longevity risk whether that's due to climate change or other factors.
- Like the economic 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.%	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.



Royal Mail Pension Plan