March 2022 | royalmailpensionplan.co.uk

Climate Strategy ...2022

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
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
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 £13.5 billion of investment assets as at 31 March 2022 representing the pensions of 123,874 members.

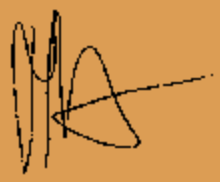
The Plan is sponsored by Royal Mail Group and Post Office Limited. The assets are sectioned to represent these two sponsors, and the change to DBCBS (for RMG) effect from 2018. The Post Office Limited ("POL") section, which is insured via a 'buy-in' with Rothesay Life and transitioning to a 'buy-out'.

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 has submitted an application to the new FRC Stewardship Code 2020 (previously a Tier 1 signatory to their old 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 inaugural report on climate strategy produced by the Trustee of the Plan and the Board recognises that this is just the beginning of a challenging journey. It will take time and considerable effort to make the right adjustments, especially in the assets where methodologies for measuring carbon are still emerging, including and most importantly for us, UK gilts. Like many asset owners around the world, achieving our ambition is highly dependent on the actions of others and we are 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.

The Plan's equities and corporate bonds emissions were 749,450 tonnes of CO2 equivalent on a scope 1, 2 and 3 basis.

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.

Next year's report will cover the entire portfolio of assets. As stated within this report, there were several reasons why asset classes such as alternatives were not included in this year's data. 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 back loaded.

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 pensions scheme
Risk Management	How 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, just over 36% of the data disclosed was from publicly available data, and 2/3rds of that was verified by a third party.

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 take into account 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 and are scored against accordingly. 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 equities and bonds emissions data would be measured in the first 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 and physical assets will be included next year (further information on this is provided in the 'Plan for the Next 12 Months' section later in the report) and this year we have achieved scope 1 and 2 emissions reporting in relation to 82.9% 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:

- 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.
- Urgentem – 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:

- ESG Strategy
- TCFD Reporting
- Net zero & Interim targets
- Forestry and other investments
- Carbon Analytics
- Climate Scenarios

Governance

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 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. In 2021, the Trustee commenced a comprehensive review of its approach and governance arrangements in relation to ESG and climate change with input from the Trustee Executive and advisors. Several changes were proposed, and the Trustee has a 'roadmap' in place to continue to review and develop its approach. 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 future, 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. Overall, the Trustee is aware that this is a significant, important and long-term project. They felt it important to spend the inaugural year to satisfy themselves that the right framework was in place to use as the foundation to build on in the coming years.

> **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.75% 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.

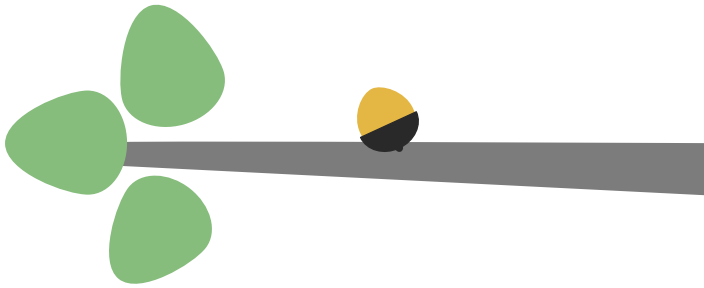
The Plan completed a Climate Risk Exposure review of all the non-alternatives managers, and a broad ESG review (including climate risk awareness and TCFD preparation) of alternative asset managers to set the baseline and structure for ongoing formalised ESG monitoring.

The Climate Risk Exposure review rated 13 managers according to their understanding and approach to climate risk:

- Two managers were rated Strong
- Two managers were rated Good/Strong
- One manager was rated Good/Fair
- Five managers were rate Fair
- Three managers were rated Weak

All managers' climate risk management is measured periodically, being included in an ESG (including Climate Risk) RAG Scoring Criteria (for non-alternatives and alternatives) and this is updated and reported to the Trustee when appropriate, at least once a year.

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 Urgentem 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 • Sustainalytis 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 has recently updated its environment strategy to target net zero by 2040 (previously 2050). 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, PWC, 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: this is essentially the climate-related risk and control environment that covers the day-to-day operations.

2. Oversight functions: in larger organisations this would be 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. Essentially this is internal audit.

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 Strategy and 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 currently being scoped and is due to commence later this year.

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 results 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 Trustee understands and appreciates that this is a relatively new area where the data quality is developing over time and has taken a view that the accuracy and coverage will improve, and good practice will soon include scope 3 emissions. The aim is to have a fuller understanding of the Plan's total carbon footprint to use as a tool for developing their carbon impact strategy and achieve their net zero commitments. Whilst acknowledging the challenges of collating and reporting the Plan's emissions data, the Trustee has selected a provider whose methodology was developed in collaboration with the science-based protocols. The methodology can also be used to temperature score the Plan's investment portfolio and align the portfolio with long term temperature goals and compares the Plan to the global emissions expected under the scenarios estimated by the International Energy Agency.

> **The Trustee has selected Urgentem to help measure and present the results of the emissions data to assess and help manage the risks and opportunities due to climate change.**

The portfolio emissions metrics used by Urgentem measure both the emissions intensity and absolute financed emissions. Urgentem's Weighted Average Carbon Intensity ("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 GHG emissions are expressed in terms of carbon dioxide equivalent (CO2e) per the GHG protocol).

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. For example, the WACI of a portfolio can be easily compared to the WACI of its benchmark such as an index or broader stock market average.

This approach also allows for more detailed portfolio analysis, including attribution analysis, highlighting where a portfolio is misaligned to its benchmark. However, this metric can be sensitive to outliers.

We chose this method as it is the approach recommended to TCFD by the Partnership for Carbon Accounting Financials (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 translating currencies for each year's data.

Metrics and Targets

Data Results

The Plan has now collated its first year's carbon emissions data and climate risk analytics. In this first year, the Trustee has decided that it will measure equities and bonds, both listed and unlisted. Listed equities and corporate bonds were gathered as part of phase 1, unlisted equities and corporate bonds and sovereigns were phase 2. Next year, the Trustee will also gather data for phase 3, which includes the Plan's physical assets (property, infrastructure) and develop a policy for synthetic assets (absolute return strategies, derivatives), but these two asset classes were not covered in the augural report. The Trustee notes that scope 3 emissions for (G7) sovereigns is not available this year, but their data provider is in beta testing to have this included next year, in conjunction with discussions with the Net Zero Alliance. This is particularly important to the Trustee given the significant allocation to UK Gilts in the Plan's investment strategy. (Further detail and reasoning on this are provided in the 'Plans for the Next 12 Months' section later in this report.) Therefore, next year's aim is to have all the Plan assets covered by undertaking data collection phases 1, 2 and 3 in their assessment, and including scope 3 emissions for all assets (this excludes POL assets given they are out of scope for this project).

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 total emissions will give the Trustee a gauge as to how much the Plan is contributing to global emissions and provide the scope of what needs to be achieved to reach net zero, and the aim of the intensity measurement is to provide a consistent basis to compare how harmful the Plan's investments are relative to their benchmarks and to other investments. The Trustee also considers a portfolio alignment metric to calculate the temperature score of the Plan's portfolio to align with the pathway to 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.

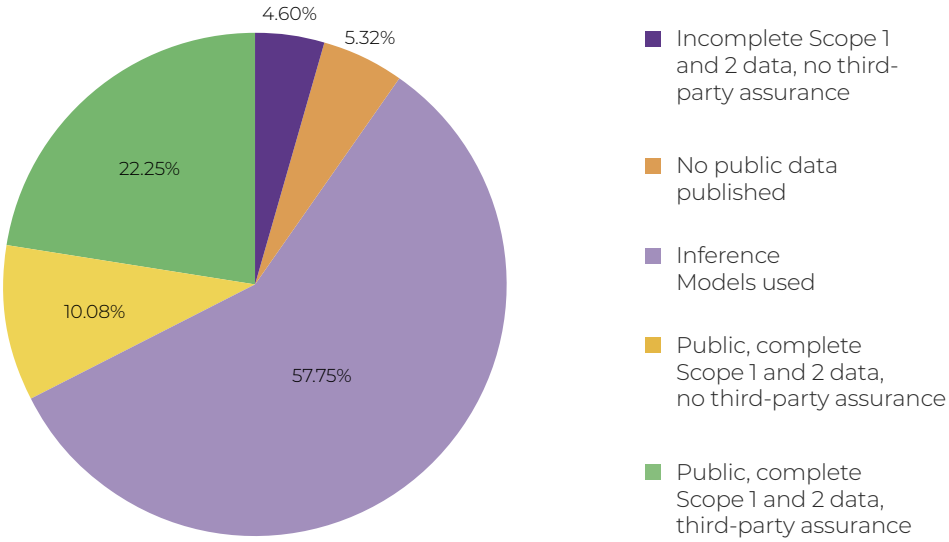
> **The initial results for the Plan were promising. 82.9% of the Plan's assets were covered on a scope 1 and 2 basis, covering 34 funds. The Plan's Equities and Corporate bonds also included scope 3 and account for 7.2% of the Plan's assets, covering 29 funds.**

The Plan invests 75.7% of total assets in sovereign bonds (of which nearly all is in the matching (Gilts) portfolio). Conversely 24.3% of total assets are Growth assets, and 17.1% of assets were not assessed this year (they fall under phase 3 and will be covered next year).

Of the data disclosed on a scope 1 and 2 basis, the below chart highlights the issues of the Disclosure Gap when collating data and the need for companies to disclose, and have verified, their emissions data (the chart below excludes sovereign bonds). Just a third of the data was publicly disclosed and two-thirds of that was verified by a third party. The Trustee expects this data quality to improve in the coming years.

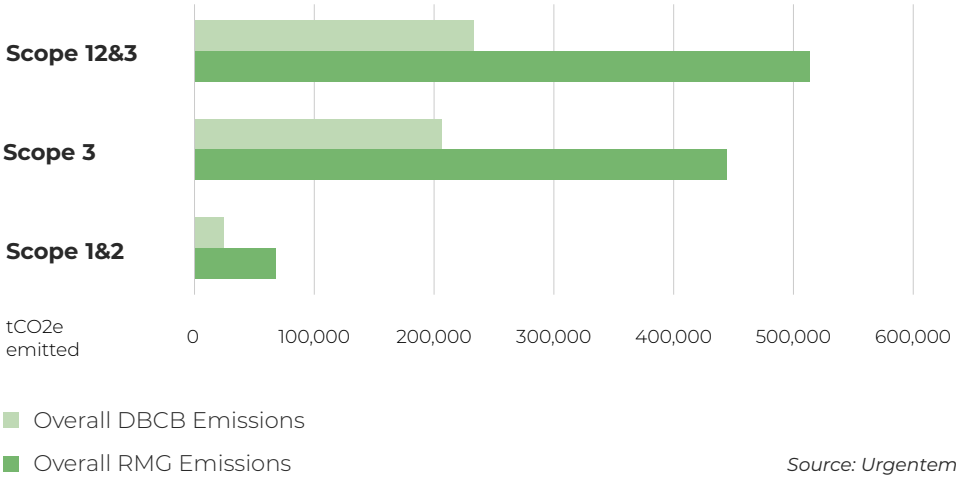
Metrics and Targets

RMPP Data Disclosed



Starting with the Plan's total CO2e, or the total GHG emissions, the Plan's equities and corporate bonds emissions were 749,450 tonnes on a scope 1, 2 and 3 basis. This is calculated on an Enterprise Value basis including cash (as this is emerging as the more popular calculation across Europe and is recommended by PCAF) and provides a more consistent basis for measuring both equity and bonds. The total emissions for the RMG section equity and corporate bond assets are 515,173 tonnes and for the DBCB section, 234,277 tonnes.

RMPP: Total GHG Emissions – Equities and Corporate Bonds



Source: Urgentem

Metrics and Targets

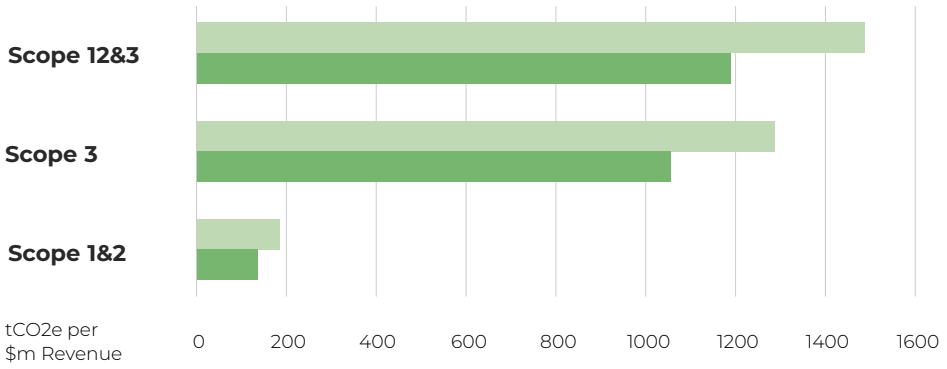
We now move on to the intensity of the Plan's emissions. The intensity of the Plan's two sections is highlighted in the chart below. This is measured on the carbon emissions intensity of tonnes of CO2 equivalent emitted per $million of revenue for scope 1, 2 and 3.

The results for the RMG section are an intensity of 1,482 tonnes of CO2 equivalent per $1 million of revenue. Looking at the sectoral data, the RMG section has significantly lower contributions in Healthcare, consumer cyclicals and Technology and Comms. This gives a lower emissions intensity than its broad benchmark.

The DBCB section's emissions intensity is in the chart below, also for its equity and corporate bonds. The results are 1,188 tonnes of CO2 equivalent for each $1 million of revenue.

Benchmarks for both sections will be updated next year on a mandate-by-mandate basis to provide a more accurate assessment for the Plan's assets. Given the crossover of funds used for the DBCB section, the sector analysis shows similar output with lower emissions intensity from healthcare and Technology. Further data not assessed as part of this year's TCFD report provides attribution effect by sector, detailing the differences between stock selection, sector allocation and the interaction effects of the Plan's active managers. This analysis will be picked up in the Manage stage of Trustee project, which is explained later in this section.

RMPP: Carbon Intensity – Equities and Corporate Bonds



RMG Equities and corp Bonds

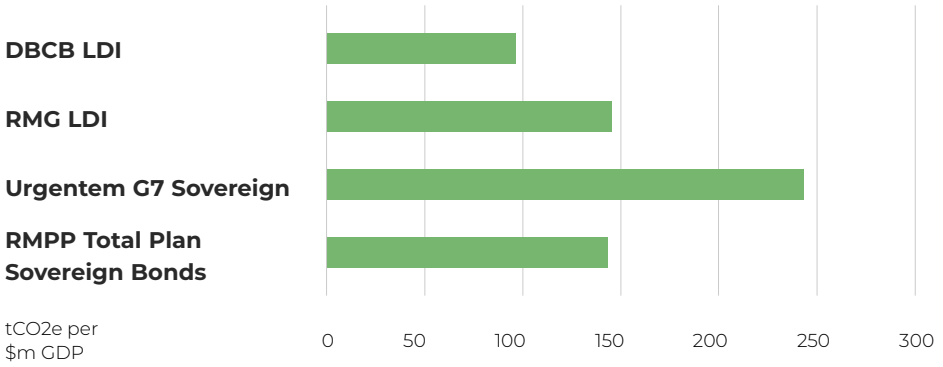
DBCB Equities and corp Bonds

Source: Urgentem

Metrics and Targets

The Plan's sovereign bonds are measured only on scope 1 and 2 for this year given ongoing developments in this area. However, indications are that the Plan's total emissions from sovereign bonds are 2,469,465 tonnes of CO2 equivalent. It is possible to measure the carbon intensity for the Plan's gilts exposure for the LDI interest rate and inflation hedging for both the RMG section and the DBCB section separately. The results show that a longer duration (for the RMG section) affects the intensity per $1 million of GDP. However, the Plan's Gilts holdings are lower than the equivalent G7 Nations' average carbon intensity, and the sovereign bonds held elsewhere in the Plan's portfolio are also behind the G7 average. The total sovereign bond intensity of the Plan is 143.7 tonnes of CO2 equivalent per $1 million GDP.

RMPP Sovereign Bonds Carbon Intensity



Source: Urgentem

Data Targets

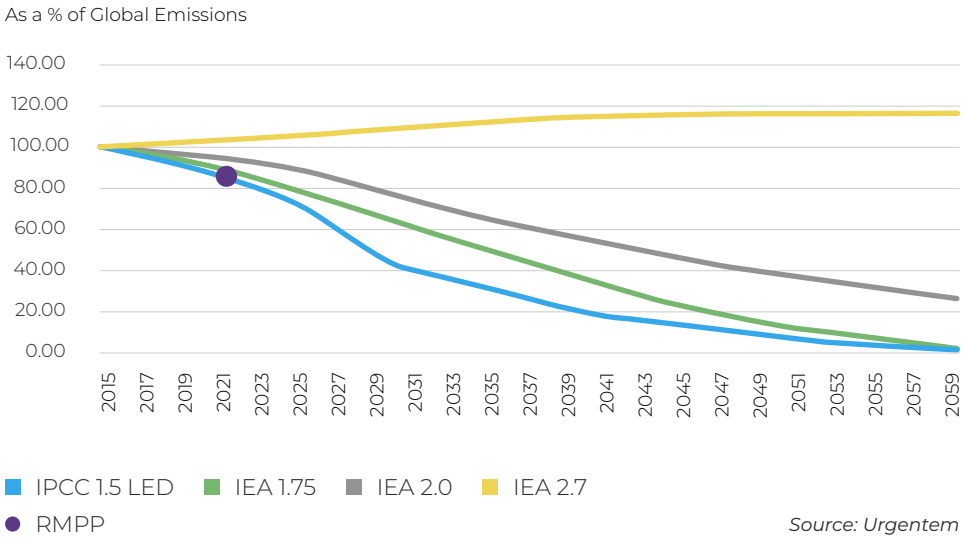
Part of the Trustee's longer-term target is to achieve net zero by 2050, and it has an interim target of reducing emissions by 50% in corporate bonds and equities by 2030 relative to the global economy's 2015 baseline and therefore be aligned to the Paris Agreement pathway. The steps the Trustee is taking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

> **The chart overleaf shows how currently the Plan's emissions broadly align to the Low Energy Demand pathway, or 1.5°C above pre-industrial levels.**

For this year, we have included only the equity and corporate bonds for scope 1, 2 and 3, given the issues discussed above for sovereign bonds emissions. The results show that the Plan's equity and corporate bonds are very close to the Low Energy Demand pathway with a score of 85.9% of emissions intensity relative to global 2015 levels. It is therefore expected that the Plan's total portfolio including sovereign bonds will be ahead of the Low Energy Demand pathway given their relatively lower contribution to emissions intensity.

Metrics and Targets

RMPP Portfolio Alignment to the Transition Pathways



Source: Urgentem

A further forward-looking metric includes using temperature scores. Urgentem's Temperature Score follows the SBTi (Science Based Targets initiative) methodology and incorporates the temperature targets and GHG emissions reduction ambitions published by individual companies. 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. Under the SBTI methodology Short-Term refers to 2021-2024, Medium-Term to 2025-2035 and Long-term to 2035-2050. The Temperature Score metric is used to assess the temperature alignment of portfolios based on the emissions reduction ambitions of the underlying companies in the portfolio.

Given the existing portfolio, the scores estimate what temperature rises are expected by 2050. If the Plan's equities and corporate bonds continue to emit at the same rate or in line with their published carbon reduction ambitions, the planet's surface temperatures will rise by between 3.15°C and 3.19°C from pre industrial levels on a medium and long-term basis. This highlights the need to make changes earlier rather than later and avoid the scenario of a "disorderly transition" to a low carbon economy. It also highlights that 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).

Metrics and Targets

Carbon Impact Investment Strategy

> **Considering these results, the Trustees have already begun work on their Carbon Impact investment strategy, which has four broad steps: Measure; Manage; Mitigate; and (continuous) Monitoring. Now that this first step of the Trustee's Carbon Impact strategy has been completed, they are now moving on to the second and third steps of "Manage" and "Mitigate".**

Within the Manage step, assessment of "hot spots" (by sector and stock, with analysis of attribution), will trigger discussions on engagement as part of assessing how the Trustee will move towards achieving its net zero targets. Assessment has already commenced with assignment of specific benchmarks to each of the mandates to better understand how each investment manager is performing on a relative basis in their asset class. This will enable the Trustee to report its emissions figures on a less aggregated basis and report how each underlying asset class is scoring against its benchmark index in next year's report. The Manage stage of the project is also going to be used to force investment managers to understand the need to tighten and eventually close the Disclosure Gap. This will feed down to engagement with management at the stock level and highlight how seriously investors are considering these risks.

The Trustee has a broad belief that exclusions of a company's securities from the investable universe available to our investment managers are not as helpful as they appear at face value in relation to climate change. They may well reduce the Plan's emissions, but the Trustee is conscious that they have the potential to drive the wrong behaviours. An example of this might be cutting down rain forests to help provide cleaner biofuels. These are the unintended consequences that the Trustee wishes to avoid and are therefore currently investigating what support the science community can provide to help the decision making of the Trustee.

These 'Manage' steps will be undertaken in conjunction with some of the ideas already generated within the mitigate stage of the project where the Trustee actively seeks investments which have a direct impactful effect on the financial risks due to climate change. We are pleased to share that the Plan already invests in a low carbon power fund, and a renewable energy fund. In the meantime, the Trustee is actively investigating investment strategies under the "Natural Capital" label and are pleased to see a rapid development in the number and range of strategies coming to market or under development. The Trustee is also considering the effect of carbon offsets and allowances. Offsets can be generated when investing in assets such as forestry, and allowances are issued by central bodies to allow firms to pollute for a cost. Offsets don't necessarily stop carbon being emitted elsewhere but by holding them for the benefit of the members, they may increase the cost of emitting GHG and this can help drive change for a transition to a low carbon economy. The issuance of offsets needs to develop and standardise, but the Trustee is already considering how they may be incorporated in their strategy for managing the risks due to climate change.

We look forward to providing more information on these in the next year's report as this project progresses.

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 (2020) 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.

Rothesay has calculated its carbon intensity as 188 tonnes of CO2e per $1 million of borrower revenue covering scopes 1 and 2. This has coverage of 86% of their portfolio by market value.

We are expecting a number of enhancements in the next TCFD report produced by Rothesay, 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 trustees 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.

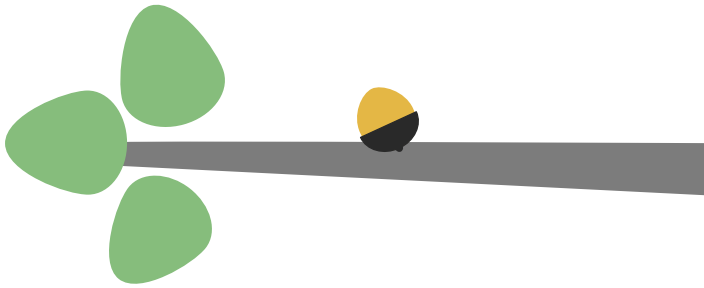
The scenarios’ key features are summarised in the appendix, along with the key assumptions.

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.

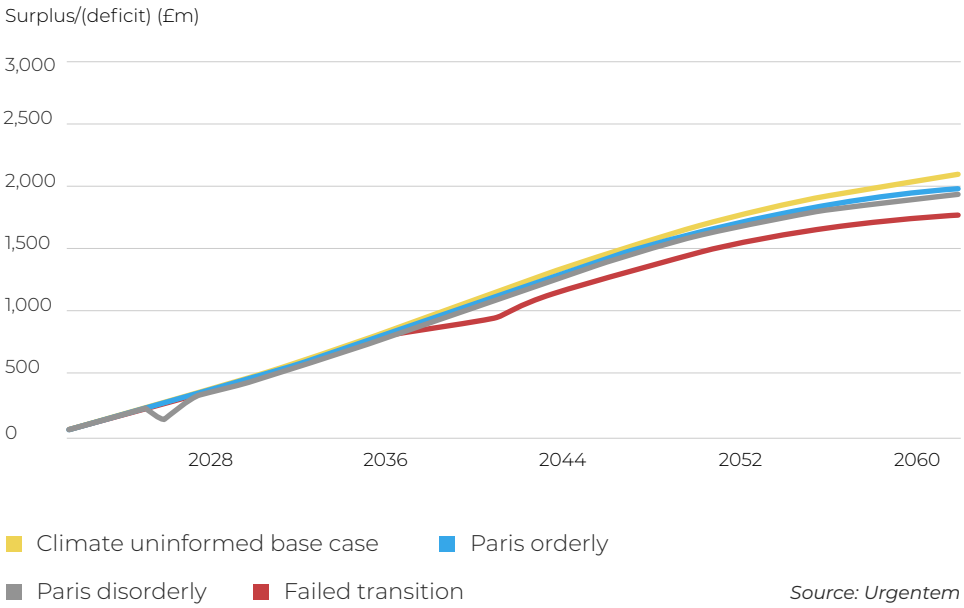
The analysis for the Plan has been carried out as at 31 December 2021 based on climate scenarios as at 30 June 2021.

The 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



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.**

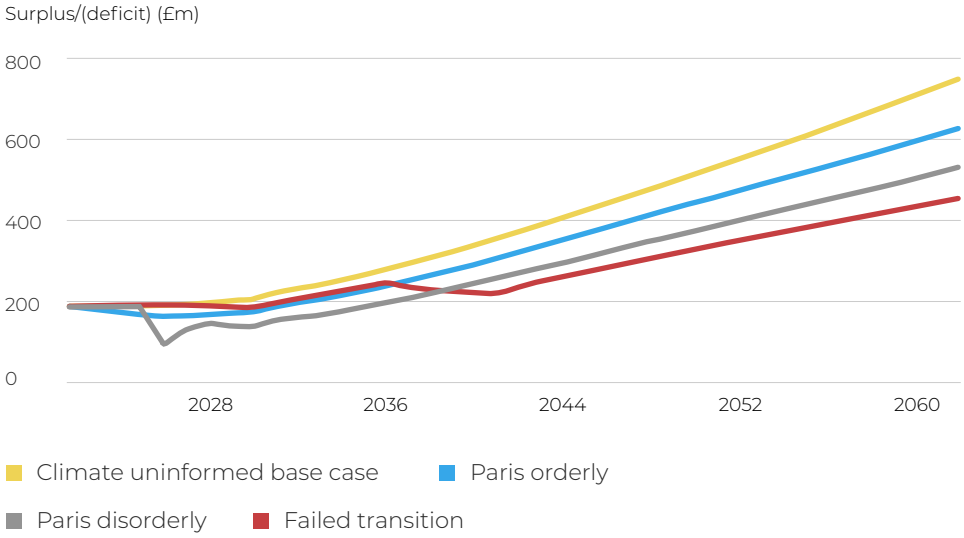
In the short term (over the next 5 years), a disorderly transition could have a negative impact, with a failed transition impacting in the longer term (15 years and on) if the Section has not de-risked further by then.

Scenario Analysis

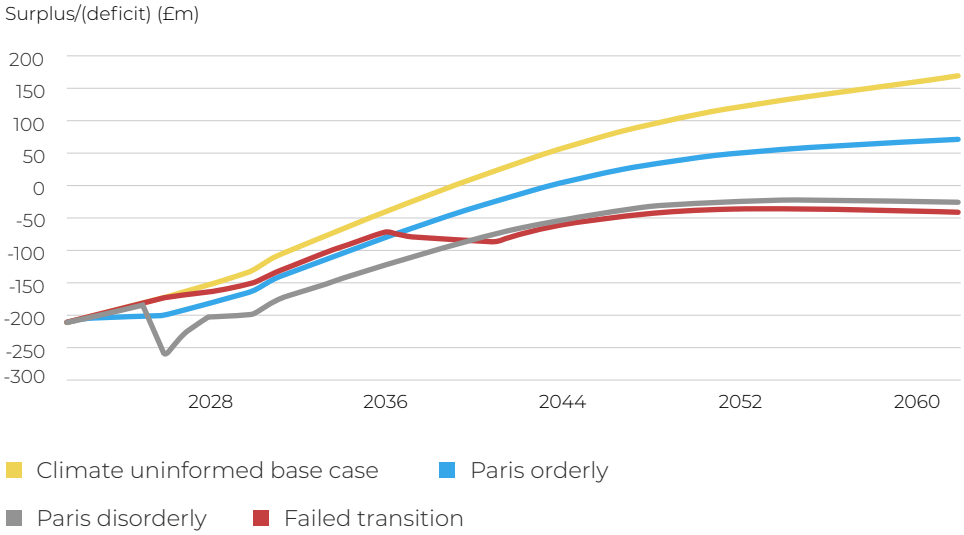
DBCB Section

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.

As highlighted in the Metrics and Targets section, next year's report will cover the entire portfolio assets. One of the reasons for leaving out some of the asset classes this year is due to resources. The adage of competing a project to time, to spec, and to budget, and at least one factor will creep. The Trustee didn't want to overreach with the scope of the initial findings for the inaugural report.

> **The Trustee decided that it was more important to ensure that the correct framework was in place and a wider understanding of the project and its data was achieved before later adding the complexities of certain asset classes.**

Absolute Return assets were not included this year, partly because this community of investment managers were, on average, reluctant to engage with the process, and partly because the ISC need to agree and record their policy for dealing with derivatives in portfolios. There is no clear answer to certain complex portfolios using derivatives and debate is needed in the industry to explore the possibilities. Physical assets were not included this year but will be next year. The Plan has a large, segregated property portfolio and dealing with the measurement of emissions for this mandate was best done on a bespoke basis to help improve accuracy.

Most importantly in terms of materiality, we are expecting to include the emissions footprint of sovereign bonds (gilts) on a scope 3 basis next year. We have included the emissions for scope 1 and 2 emissions this year, but the scope 3 emissions are still in Beta testing with methodology being agreed with the Net Zero Alliance.

Other areas of development which the Trustee is considering closely are Avoided Emissions and what beneficial aspect they should be contributing to the Plan's measurements. As part of Avoided Emissions, the Trustee is considering how carbon offsets, credits, and allowances might be used in the Plan's portfolio to help achieve either: net zero ambitions; increase valuations; or be included as part of a longer-term investment. Also, the identification of stranded assets (oil, gas and coal energy investments) to consider the investment managers' reasoning for including them in the portfolio and how the portfolio is expected to evolve over the short, medium and longer term.

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 32 shows the investment annualised returns assumed under each scenario in our modelling over a specified time horizon from 31 December 2021, updated from those provided in Appendix 2 of the pre-read 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.

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