



Tesco PLC Pension Scheme Climate Change Report for the year ending 31 March 2024

Climate change report 2024

Contents

Click on the links below to jump to each section.

	Page
Introduction from the Chair	2
Summary for Members	3-4
Introduction	5
Governance	6-10
Strategy	11-16
Assessing investments	17
Climate-related risks and opportunities	18-23
Identifying risks	18
Assessing risks	18-19
Monitoring and Managing Risks	19-20
Metrics, Targets, and Net Zero Commitment	24-39
Climate-related activities and action planning	40-41
Appendices	42-55

Introduction from the Chair.

I'm delighted to share our 2024 Climate Change Report with you, on the Trustee's behalf. This report provides an update on the progress we have made towards:

- Meeting our aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050
- Improving and increasing the monitoring and reporting of climate-related financial information, including climate-related risks and opportunities.

As the Trustee, we understand that our top priority is to invest the Scheme's money to get the returns we need to pay pensions and other benefits to you, our members. We believe that climate change is a financial risk that we need to consider when making investment decisions for the Scheme. We also understand the importance of investing responsibly and recognise that this plays a key role in protecting members' pensions and creating a more sustainable future for everyone.

As well as showing you the progress we're making, this report also gives you the opportunity to learn more about the work on climate change that the Trustee has done and is continuing to do.

We've used the data we've collected to measure how we're doing against the targets we set for the Scheme's investments, so we can monitor our progress towards our aim. It's an ambitious target, but with the help we get from our investment managers, advisors and suppliers, and through improvements to the emissions data, we're committed to achieving better outcomes for our members.

Over the last three years, we've made a number of changes to the Scheme's investments, to reduce investment risk, to increase liquidity, and to adapt to a higher interest rate environment. At the same time, we've increased the range of assets on which we collect climate data and continued to engage with the companies we're invested in, to meet our aims and address the potential impacts of climate change on the Scheme. All of this means we've had to consider the

data very carefully, to understand what progress we've made, taking into account the changes made to our investments.

Earlier this year, following a careful review of the long-term needs of the Scheme, the Trustee decided to appoint Schroder Investment Management (Schroders) as the Scheme's principal investment manager, to replace and build on the achievements of Tesco Pension Investment (TPI). Schroders was chosen because of its deep investment expertise, alignment to the needs of the Scheme, and determination to have a positive impact on the financial future of the Scheme, society, and the environment. The transfer from TPI to Schroders was completed in summer 2024. We look forward to sharing more information on how we're working with Schroders to meet our climate commitments in next year's report.

The Trustee recognises the pace at which new information and thinking become available, which is why the Trustee and its sub-committees continue to have extensive training to improve their knowledge and understanding. This year the Trustee's training included important areas of impact on the environment, such as nature and biodiversity.

We hope you find this report helpful, and that it reflects our commitment to protecting your pensions from the impact of climate change. You may not be familiar with some of the terms used in this report, so we've included a simple guide to explain them.

See [Appendix 7](#).

If you have any comments or questions about this report, please call the Pensions Team on **0345 070 1113**, or email us at pensions.dept@tesco.com.

Ruston Smith,
Chair of the Trustee





Summary for members

The Trustee's key priority is to pay pensions and other benefits to our members, so we must consider financial risks such as climate change when making investment decisions for the Scheme. The Trustee is committed to playing its part in aiming to achieve a low-carbon world, where the more significant physical impacts of climate change that could negatively affect the Scheme's investments are avoided. Taking positive action against climate change not only protects the retirement funds of our members, but it also contributes to creating a sustainable future.

What we've done this year:

- **Made progress towards the targets we've set for the Scheme.**

The Trustee remains committed to its ambition for the Scheme's assets to have Net Zero carbon emissions by no later than 2050 and believes the Scheme is on track to meet its interim targets, including a 50% reduction in carbon emissions by 2030 (compared to 2019 baseline emissions).

- **Broadened the range of our reporting by including metrics for our private credit mandates.**

The Trustee will continue to look for opportunities to improve the scope of the metrics data we use.

- **Been more demanding of our external managers and continued to extend the data coverage for Scope 3 emissions, as well as Scope 1 and Scope 2 emissions.**

An explanation of Scope 1, 2 and 3 emissions is included in [Appendix 1](#).

- **Participated in industry initiatives**, such as the [Asset Owner Council](#) (in which we have an active role), Climate Action 100+, and Nature Action 100 (a new initiative, which we've supported this year).

- **Continued to develop our knowledge and understanding of climate-related risks and opportunities. The Trustee received training on:**

- Nature and biodiversity – June 2023
- Climate solutions – September 2023
- DWP Taskforce on Social Factors – November 2023
- Refresher training on the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#) and climate metrics and targets – February 2024

- **Continued with engagement activities across our assets, with a focus on supporting our target:** to aim to achieve Net Zero carbon emissions by no later than 2050. We've provided case studies on some of our activities throughout this report.

- **Reviewed the Environmental, Social and Governance (ESG) aspects of the Scheme's private market allocation in more detail.**

We reviewed the results of the private market managers' due diligence research, which the Trustee's principal investment manager, Tesco Pensions Investment Limited ("TPI"), carried out on our behalf. This looked at managers' practices and the progress managers had made.

- **Carried out updated climate-scenario analysis, to evaluate the potential impact of various climate outcomes on the Scheme's funding position.**

In September 2023, following changes to our investment strategy, we updated our climate-scenario analysis.

Where are we now and what's next?

- There's more information in this report on how the Trustee is identifying, assessing, monitoring and managing climate-related risks and opportunities for the Scheme.
- The Trustee has selected a range of climate-related metrics to report on and set specific targets to support its Net Zero commitment.
- We'll engage with our new principal investment manager, our other external managers, and our advisors to make sure we are influencing change.
- We expect to review the "in-scope" assets to be considered for data collation and target setting, as well as reviewing the targets themselves in the context of any investment changes we make.
- We'll work with our new principal investment manager to consider what additional climate-related risks and opportunities are available in the various asset classes we invest in. In particular, we'll be looking at how we better integrate ESG considerations into our equity and fixed income portfolios, and we'll be looking at investments in climate solutions.
- We'll also continue to consider the Trustee's RI policy and Stewardship priorities, to make sure they remain aligned with the Trustee's goals, objectives, and investment beliefs.

Full details on the climate data collected and the progress towards targets made this year is set out in full in this report. The metrics and analysis that we've reported on are improving, but there are still some limitations with the availability of data in some asset classes. We've provided detailed notes in our disclosures on the challenges we've encountered. Despite this, we hope that this report will give members a good understanding of the work we're doing and the progress we're making.

The Trustee will monitor progress against targets and provide updates each year.



Introduction

Key information about our Scheme

The Tesco PLC Pension Scheme (“the Scheme”) is a defined benefit scheme with over 330,000 members. It was closed to future service benefits in November 2015. The Scheme had total assets of approximately £12.7bn as at 31 December 2023.

The Trustee’s main objective is to make sure that the Scheme is able to pay the members and their families their promised benefits. In order to achieve this now and in future, the Trustee needs to invest the Scheme’s money.

The Trustee’s investment strategy is to generate the returns required in the Scheme’s funding plan in a risk-controlled way, by investing in a range of different types of assets.

The table below is a summary breakdown of how the assets were invested as at 31 December 2023, compared with the same date in 2022 and in 2021. The Scheme’s asset allocation has changed materially since 31 December 2021, due to changes in the investment strategy that were agreed in 2022 and implemented during 2022 and 2023. The change to the investment strategy since December 2021 has aimed to reduce our investment risk, create even greater liquidity, and generate benefit from higher interest rates.

Asset class		31 December 2021 (%)	31 December 2022 (%)	31 December 2023 (%)
Matching	Gilts, collateral and hedging, and asset-backed securities	27%	59%	45%
	Total matching	27%	59%	45%
Income/ Credit	Credit	19%	3%	10%
	Opportunistic Portfolio	5%	-	-
	IGAs	6%	14%	16%
	Total income	29%	17%	26%
Return-seeking assets	Property	7%	11%	7%
	Equity	26%	1%	12%
	Alternatives	11%	13%	10%
	Total return-seeking	44%	24%	29%
		100%	100%	100%

The Trustee has appointed a principal investment manager to implement the Scheme’s investment strategy. The principal manager has overall control of the Scheme’s investments, managing some of them directly, and appointing external investment managers for others.

During the Scheme year, TPI was the appointed principal investment manager. Schroders replaced TPI and became our new principal investment manager after the Scheme’s year-end date.

The Trustee invests its assets responsibly in delivering its objective to pay the right benefit to the right person at the right time. In doing so, it considers **Environmental** (including Climate Change), **Social** (including human rights and diversity and inclusion) and **Governance** (including ethical corporate behaviour) factors as financially material risks to the Scheme.

The Trustee is required to produce formal disclosures in line with the [recommendations](#) of the TCFD. The Trustee is using the [IIGCC Net Zero Investment Framework](#) to support its work associated with our Net Zero commitment, and we’ve therefore included metrics and disclosures related to our Net Zero commitment in this report, in addition to our TCFD disclosures.

This report is structured in line with the TCFD framework and covers:

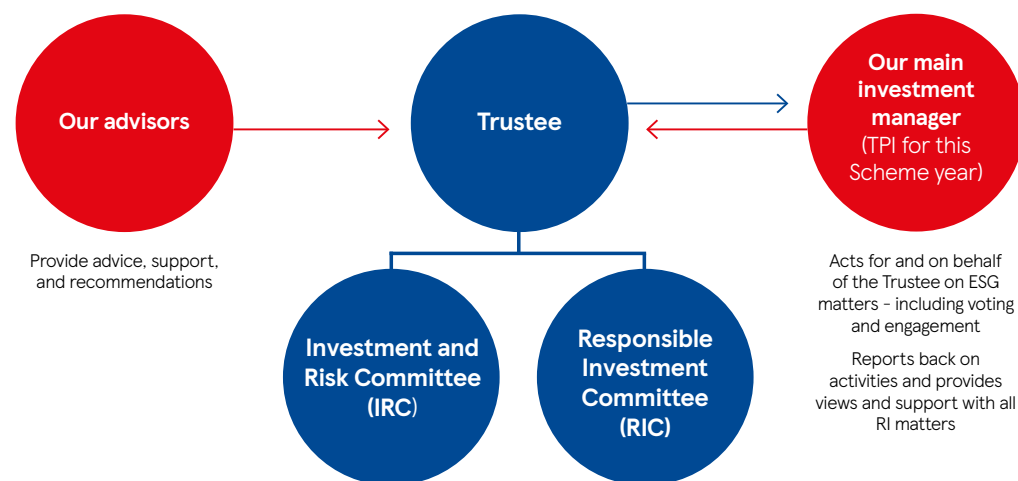
- **Governance:** the governance structure and arrangements that the Trustee has used to consider climate-related risks and opportunities
- **Strategy:** the approach and impact of integrating climate-related risks and opportunities into the strategy of the Scheme, including the assessment of climate-scenario modelling
- **Risk management:** including how the Trustee identifies, assesses, and manages climate-related risks and opportunities
- **Metrics and targets:** and how they are used to assess and manage climate-related risks and opportunities

Climate Governance

The Trustee has a robust governance structure in place, which benefits from collaboration with, and advice from, our advisors and the principal investment manager, with the aim of better identifying and assessing climate-related risks and opportunities for the Scheme.

The Trustee uses Trustee sub-committees, including a Responsible Investment Committee (RIC), which meets to discuss all aspects of ESG and supports the Trustee in managing Responsible Investment (RI) activities, including climate change. The RIC makes recommendations to the Trustee on identifying, assessing, monitoring, and managing climate-related risks and opportunities.

Governance structure for Responsible Investment matters



The RIC has met four times this year to progress RI activities, and to consider recommendations to the Trustee. Climate change has continued to be a particular focus of both the RIC and the Trustee, and the Trustee has committed appropriate time and resources to make sure that its objectives in this area have been met. This has been driven by the Trustee's view on the potential impact of climate-related risks and opportunities, as well as compliance with the Trustee's legal obligations on climate.

In January 2024, the Trustee reviewed the Terms of Reference of the RIC and the associated roles and responsibilities of the Trustee's committees. There were no changes to the RIC Terms of Reference as a consequence of this review.

Over the Scheme year, the Scheme's principal investment manager, its investment advisor, and its legal advisor carried out regular monitoring and training sessions, covering RI and climate-related risks and opportunities. Any knowledge gaps identified were addressed with training. Specific training received this year included sessions on nature and biodiversity, climate solutions, the [DWP Taskforce on Social Factors](#) (including Diversity Equity and Inclusion), and a refresher session on the TCFD requirements, including climate-related metrics and targets.

The Trustee discusses, questions, and challenges the information it receives from third parties (the advisors and the investment managers). We include, below and in later sections of this report, information on the specific activities carried out by each of the parties during the Scheme year.

Roles and Responsibilities of key parties

The Trustee

The Trustee has ultimate responsibility for the effective governance of climate change risk and opportunities for the Scheme. This is carried out by the Trustee Board, the Investment and Risk Committee (IRC), and the Responsible Investment Committee (RIC), with support from the Trustee's advisors and the Tesco Pensions team.

As the Trustee has ultimate responsibility for the Scheme's governance activities, its role is to review and consider any information, decisions, and proposals made by its advisors and the Committees. Having done so, the Trustee will then confirm or amend any decisions or proposals made, and make sure they're implemented appropriately, with ongoing support from the IRC, the RIC, and its advisors.

The Trustee makes sure that climate change is addressed throughout the Scheme's activities. It does this by overseeing the identification, assessment, and management of climate-related risks and opportunities that are relevant to the Scheme. This includes reviewing, discussing and challenging the information and advice it receives.

The Trustee's role also includes:

- Setting investment objectives and strategic asset allocation frameworks and taking decisions on the investment strategy
- Agreeing training requirements and scheduling them into the business plan
- Considering the results of climate-scenario analysis, to understand the range of potential outcomes and their implications
- Considering climate-related risks and opportunities (including climate-scenario analysis) and setting the Scheme's strategy over the short, medium, and long term
- Making sure the climate governance arrangements remain appropriate and effective
- Setting the Trustee's investment beliefs, RI policies, and risk registers
- Making sure the greenhouse gas emissions data attributable to the Scheme's assets is obtained in line with legislation
- Setting the Scheme's investment metrics and targets in connection with climate change and reviewing progress against targets

- Taking decisions on any covenant or funding-related actions required as a result of climate change reviews carried out by the Scheme, or on its behalf
- Challenging advisors to make sure they are delivering advice on climate change impacts that is relevant to the Trustee and supports the Trustee in the decisions it needs to take in this area
- Communicating with Scheme members and other stakeholders on climate change

The IRC and the RIC

The IRC and the RIC provide the Trustee with regular updates and guidance on their activities and make recommendations for the Trustee to consider.

They achieve this by:

- Reviewing and discussing all investment advice received, including advice that considers climate change
- Reporting back to the Trustee on investment advice and recommendations, including any advice relating to climate change
- Getting input from the Trustee's investment, actuarial, covenant, and legal advisors, to make sure that the Trustee is able to fully consider, identify, assess, and manage climate-related risks and opportunities at a Scheme-wide level
- Making sure any advice from the advisors is requested and carried out appropriately and providing assessments and recommendations on the advisors' competency
- Reviewing and performing detailed analysis, and making recommendations on the various areas in which the Trustee takes decisions on climate change (see above)
- Reviewing the competency of advisors, including their advice on climate change, and taking action if and when any concerns are identified.

The Principal Investment Manager

During this Scheme year, TPI provided the Trustee, the IRC, and the RIC with regular updates on their approach to managing climate-related risks and opportunities, and on any relevant action taken by the Scheme's external managers on the assets of the Scheme.

TPI did this by:

- Providing monitoring information and support to the RIC
- Providing information on the approaches that it and the external managers took to managing climate-related risks and opportunities
- Providing reporting to the Trustee, the IRC, and the RIC on climate-related risks and opportunities, including developments on processes and on engagement activity, which will include relevant case studies
- Sourcing emissions and alignment data for the Scheme, to the extent possible and engaging with external managers on sourcing data as fully as possible
- Working closely with the Scheme's advisors and the pensions team, to make sure all necessary activities are carried out, and that the required information is reported to the Trustee, the IRC, and the RIC.

The Trustee, the RIC, and the Trustee's advisors worked with TPI to make sure the Trustee had sufficient and appropriate information to carry out its governance activities.

With its advisors, the Trustee supported, reviewed, and challenged TPI to make sure the information it gave to the Trustee was appropriate. For example, in selecting metrics and targets during the Scheme year, the Trustee challenged TPI on the scope and quality of the data it was collecting, including the extent to which assets were included "in-scope" and whether improvements in data availability and quality meant that further assets were brought "in-scope".

The Tesco Pensions team

The Tesco Pensions team plays a key role in the governance of the Scheme, supporting the Trustee and acting as the Trustee's risk management function. This includes supporting the Trustee with managing its climate-related risks and opportunities register. The team makes sure that the Trustee Board, the IRC, and the RIC and its advisors have full access to all the information needed on the Scheme, and to support any decisions made.

The Tesco Pensions team attends the Trustee's climate-related training sessions, the IRC's and the RIC's meetings, and is part of the regular and ongoing calls with the advisors and the principal investment manager. The Tesco Pensions team also represents the Trustee on various groups; attending industry collaboration groups on behalf of the Scheme, for example.

Other advisors

The Trustee has appointed various advisors to provide support and advice in assisting the Trustee with all aspects of the Scheme's governance activities, including climate-related risks and opportunities. These advisors include:

- Eversheds Sutherland, its legal advisors
- Lane Clark & Peacock (LCP), the Trustee's investment advisors
- Interpath, who provide advice on the sponsoring employer's covenant (ie Tesco's ability to provide financial support to the Scheme)
- Willis Towers Watson (WTW), who provide actuarial and funding advice and support

Reviewing the governance structure

With support from the RIC, the Trustee carefully considered its advisors' recommendations on all aspects of their governance activities around climate change and other ESG matters. This took place as part of the formal review of the climate-related risks and opportunities register in September 2023 and February 2024. It also took place through the regular monitoring of engagement and Stewardship that the RIC considered, and through ad-hoc updates from its advisors.

The Trustee believes that its governance structure provides the right level of expertise to make sure that its advisors are challenged and questioned, and that everything is fully understood and in the best interests of the Scheme and its members.



The Trustee

Responsibilities:

- Governance and delegation to sub-committees
- Oversight of overall risk management
- Strategic decisions, including the funding journey plan and the investment strategy

Discretions Committee

Responsibilities:

Making certain discretionary decisions. Supported by the benefits oversight team

Valuation Sub-Committee (VSC)

Responsibilities:

To assist with the actuarial valuation and agree recommendations

Investment and Risk Committee (IRC)

Responsibilities:

- Integrated risk management, by monitoring:
 - The funding journey plan
 - Investment risk and return
 - Covenant
- To manage investment de-risking plan
- To consider investment advice and agree recommendations

Responsible Investment Committee (RIC)

Responsibilities:

- To consider RI objectives, including climate-related risks and opportunities, and make recommendations to the Trustee
- To obtain advice and climate change scenario analysis on the resilience of the Scheme's investment strategy
- To recommend climate change related metrics and targets to the Trustee
- To provide TCFD reports to the IRC or Trustee

Operations and Audit Committee (OAC)

Responsibilities:

- To review the Scheme's annual accounts and the audit report.
- Oversight and governance of operational functions, including administration and TPI
- To monitor operations risks and review the processes used to provide assurance/compliance
- Governance of Additional Voluntary Contribution (AVC) arrangements

Activities carried out this year

- The RIC met in June 2023, September 2023, November 2023, and February 2024 to progress RI workstreams including, but not limited to, climate change
- As its principal investment manager during the year to 31 March 2024, TPI provided analysis and reporting to support the RIC. This included providing the RIC with reporting on its engagement activity, including voting activity and case studies, to provide examples of engagement across asset classes. This was presented and discussed at each RIC meeting. TPI has provided information in relation to direct investments, as well as external manager activity, where relevant.
- To help the Trustee meet its TCFD obligations, TPI gathered and shared data and analysis on various climate metrics with the RIC over the Scheme year, including data gathered from other external managers. This included information on data coverage and quality. This was presented and discussed at the RIC in February 2024.
- The RIC and the IRC used information provided by LCP and TPI and, with advice from LCP, considered the climate-related risks and opportunities faced by the Scheme, within the context of the Trustee's climate and risk register and its broader risk register. This activity happens at least once a year. This year, it was reviewed in September 2023 and again in February 2024. The findings were reported to the Trustee for further consideration.
- The minutes of each IRC and RIC meeting, and the recommendations from the IRC and the RIC, were shared at the Trustee meetings for review, consideration, and a decision, where one was required. More urgent decisions or pieces of information go to the Trustee outside of its normal meeting cycle.
- At least once a year, the Trustee reviews and, if required, revises its governance arrangements, its investment beliefs, and its policies around climate change. The RI policy, including beliefs, was reviewed in June 2023. The governance arrangements were reviewed in January 2024. The outcome of those reviews, which we've detailed earlier in this section, were relatively limited.
- At least once every three years, the Trustee reviews the results of its climate change scenario analysis, which shows how the Scheme's assets and the cost of paying pensions and other benefits might be affected in various climate change scenarios. The analysis also provides commentary on the potential impact on Tesco PLC, as the sponsoring employer, and on the implications for the Scheme's funding and investment strategies. Climate-scenario analysis was carried out in September 2023. The details are included in this report.

Advisor objectives and reviews

The Trustee sets objectives for the Scheme's investment advisor and the Scheme's principal investment manager every year. The objectives include the requirement to support the Trustee in managing climate-related risks and opportunities for the Scheme.

The investment advisor and principal investment manager are assessed against these objectives every year, and the Trustee uses these assessments to make sure that sufficient steps are being taken to identify, assess, and manage climate-related risks and opportunities for the Scheme.

The Trustee carries out regular reviews of all its advisors. As part of these reviews, the extent to which advisors have assisted the Trustee with its governance activities (including those that relate to its climate activities) are considered, and any pieces of feedback or required enhancements are communicated to the advisors. In this Scheme year, the Trustee reviewed WTW, the actuarial advisor, and the Scheme Actuary. There were no changes as a result of this review.

When the Trustee reviews its agreements with an external advisor or appoints and puts agreements in place with a new advisor, the advisor's climate-related responsibilities are reviewed and any climate-related objectives are reviewed or set. The Trustee expects climate-related responsibilities for any new external investment managers to be discussed and agreed at the start of their appointment.



Strategy

This section sets out the strategic approach the Trustee is taking to meet its aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050. This Net Zero aim is driven by the Trustee's view that climate-related risks and opportunities could affect the value of the Scheme's assets, due to the impact of climate change on specific holdings, or from its broader impact on the global economy.

The Trustee's different time horizons

The Trustee has chosen short, medium, and long-term time horizons for considering the climate-related risks and opportunities faced by the Scheme. These remain the same as in the previous Scheme year and are as follows:

Time Period	Date	Rationale
Short Term	2026	5 years from when the requirements came into force (ie in 2021) - Deemed suitable based on expected changes in climate change data quality and climate regulations
Medium Term	2030	9 years from when the requirements came into force (ie in 2021) - Considered the likely importance of significant changes being made over this time period, to limit global warming - Aligned with the Scheme's emissions reduction target, set for 2030 - Aligned with significant progress towards the Scheme's "Safe Harbour" funding target, and significant de-risking of assets to be targeted by this date
Long Term	2045	- Broadly aligned with current estimates of the duration of the Scheme's liabilities - Broadly aligned with the target to achieve Net Zero by no later than 2050

These time horizons were reviewed and reconsidered by the RIC and the Trustee in February 2024.

Assessing the strategy

The Trustee uses various tools to assess the impact of climate-related risks and opportunities on the strategy and the investments that are held by the Trustee. These include:

- **Completing climate-scenario analysis** – to consider how the Scheme may be affected under a range of different climate scenarios. This includes the implications for the Scheme's funding and investment strategies, and its journey plan. An important part of this analysis is the consideration of how the Sponsor might be affected by climate-related factors, and the implications for the Scheme.
- **Assessing investments** – the Trustee, with support from its principal investment manager and its advisors, periodically (including during the Scheme year ending 31 March 2024) considers the activities of the asset managers it is invested with, or that it intends to invest with, in the context of climate-related risks and opportunities. This includes assessments of current and prospective investments and external managers by its principal investment manager (taking materiality and appropriate frequency and depth of review into account). The assessments are carried out in a way that's proportional to the scale and impact of the investment.
- **Monitoring a range of climate-related metrics in relation to the Scheme's assets** – the Trustee considers a range of climate-related metrics and is provided with training and support from its principal investment manager and its advisors on assessing which metrics the Trustee will monitor. The metrics are set out in pages 24-38 of this report.

The Trustee has received advice from its advisors on how climate-related factors may affect the investment strategy, the funding position, and the Sponsor. It has also considered the expected impact of these risks and opportunities on the investment strategy, the funding strategy, and the Sponsor.

The climate-related risks and opportunities that have been identified are monitored and managed at RIC and Trustee meetings, through the climate-related risks and opportunities register. There was a formal review of the risk and opportunities register in September 2023, and in February 2024.

Each of these risks and opportunities can have an impact on the Scheme over the short, medium, and long term.

During the year, the RIC reviewed the risks in detail and updated the ratings where required. More detail on some of the potential risks and their possible impact on the investment strategy, funding strategy, and Sponsor covenant are outlined below.

Investment-specific risks and opportunities include:

- **Market-wide financial risks (medium term)** – for example, lower and/or more volatile long-term returns, mispricing of risk and opportunities, heightened geopolitical risk, and the potential for broad market instability
- **Regulatory risks (medium term)** – for example, carbon tax or carbon pricing and the potential impact on global markets and asset pricing, or increased regulations and the resulting impact on business models and asset pricing
- **Sector or company-specific risks (medium to long term)** – for example, potential impacts on company earnings, increased risk of stranded assets or reduced sentiment, or reputational risk impacting security prices
- **Sector or company-specific opportunities (medium to long term)** – for example, potential growth areas as a result of new technologies or regulation
- **Variations by asset class (medium to long term)** – various asset classes may be affected by climate change in different ways. Equities are likely to be the most exposed to price volatility. Downside and default risks matter for credit-related assets. Physical risks are particularly important for real assets
- **Manager-related risks (short to medium term)** – for example, the risk of insufficient expertise to make climate-informed decisions, inadequate data on individual holdings, insufficient portfolio-level risk analysis, or ineffective Stewardship

Funding and covenant specific risks include:

- **Potential financial and demographic impact on cashflows (medium to long term)** – for example, potential shocks to gilt yields and inflation (which could have a positive or negative impact on the Scheme’s funding position), and direct or indirect impacts on life expectancy (which could also be positive or negative)
- **Potential impact on journey planning (medium to long term)** – for example, market shocks caused by climate change could throw the Scheme’s de-risking journey plan off track, or climate impacts and regulatory requirements could affect the cost of any insurance options that the Trustee may want to consider
- **Significant changes in covenant security (medium term)** – for example, climate-related risks and opportunities and supply chain issues caused by climate change (which could impact Tesco and its ability to fund the Scheme)

There were no changes to the movement in risk over the year, but the Trustee approved a refreshed combined risk register in July 2023. This includes a new dedicated ESG section which the RIC oversees and reviews at each of their meetings (in addition to the review of the climate-related risks and opportunities register).

Climate-scenario analysis

The Trustee has various processes in place for identifying, assessing, monitoring, and managing the climate-related risks and opportunities that are relevant to the Scheme. This section focuses on the **assessment** of climate-related risks and opportunities through scenario analysis and investment assessments.

Scenario analysis is a useful tool for examining and evaluating the different ways in which the future may unfold. The Trustee uses scenario analysis to consider how climate change might affect the Scheme’s funding position, the cost of paying pensions and other benefits, the Scheme’s funding and investment strategies, and Tesco’s covenant (ability to fund the Scheme).

As well its impact on the Scheme investments, climate change could affect the Scheme’s liabilities. For example, through affecting members’ life expectancy or the increases made to pensions each year, which are linked to inflation. It could also affect Tesco PLC and its ability to provide ongoing and future financial support to the Scheme.

Climate change could therefore impact the Trustee’s aim for the Scheme to reach full funding on a “Safe Harbour” basis (ie, to be in a position where it’s able to meet all its future liabilities with returns of just 0.5% a year above gilts). This was considered in detail during the climate-scenario review in September 2023.

Overview of the scenario modelling approach

In September 2023, the Trustee used climate-scenario analysis to assess the potential impacts of climate change on the investment strategy and the funding position, as well as considering what impact climate scenarios could have on the sponsoring employer. The scenario modelling was supported jointly by the investment, actuarial, and covenant advisors who worked together to help the Trustee consider the effect on each of these aspects.

The scenario modelling and the advice that was presented to the Trustee considered the anticipated changes in the Scheme's asset allocation over time. It also considered the potential impact of market and broad economic factors, including factors that might result from steps taken by governments, and how they may influence the Scheme's assets and liabilities over time. The modelling provides market average outputs, but in practice the Scheme's investment portfolio may not experience climate impacts exactly in line with the market average. The Trustee therefore considered a range of outcomes as well.

The scenario analysis used a model developed by Ortec Finance and Cambridge Econometrics. For more information about this, including a detailed explanation of the modelling approach and its limitations, please see [Appendix 5](#). Note that the Trustee was able to obtain all the data required to identify the potential impact of the scenarios on all asset classes.

The date of the calculations for the modelling was 31 March 2023 (ie the start of the Scheme year) and the results were discussed in September 2023. Note that these results were the same as those included in last year's Climate Report, as it was published in October 2023.

The scenario analysis considered the impact of climate on investment, funding, and the Sponsor covenant.

Overview of the scenarios considered

The three climate scenarios considered were:

- **High Warming:** Only existing global climate policies are implemented. The world fails to meet the Paris Agreement goals, and the resulting high warming leads to severe global physical impacts and significantly lower global economic growth. Average global warming is around 2°C by 2050 and rises to around 4°C by 2100, compared to pre-industrial levels
- **Limited Action:** Policymakers implement limited new climate policies and fall short of meeting the Paris Agreement goals, resulting in a combination of transition and physical risks, and lower global economic growth. Average global warming is around 1.8°C by 2050 and rises to 2.8°C by 2100, compared to pre-industrial levels
- **Net Zero Financial Crisis:** Global Net Zero CO₂ emissions achieved by 2050 via rapid and effective climate action. Average global warming stabilises at around 1.5°C above pre-industrial levels. However, financial markets are slow to react, and then react abruptly creating market volatility over the transition

More detail on these scenarios can be found in [Appendix 5](#).

The three climate scenarios were also compared with a "climate-uninformed" scenario, which broadly reflects the projection underpinning the Safe Harbour funding plan. It assumes no increase of physical risks due to climate change and does not make any explicit assumptions about the transition to a low carbon economy, beyond what is already priced into market expectations.

The 2023 analysis included some updates to the three climate scenarios, compared to the 2022 modelling. The Trustee chose to drop the Paris Orderly Transition scenario that had been modelled in 2022. The Trustee considered that this was no longer a realistic pathway so focused instead on scenarios where the Paris goals were either not met or met but with potential negative impacts on the economy.

The climate scenarios were chosen to be examples of plausible scenarios. The Trustee acknowledges that many alternative plausible scenarios exist, and that other scenarios could point to better or worse outcomes for the Scheme.

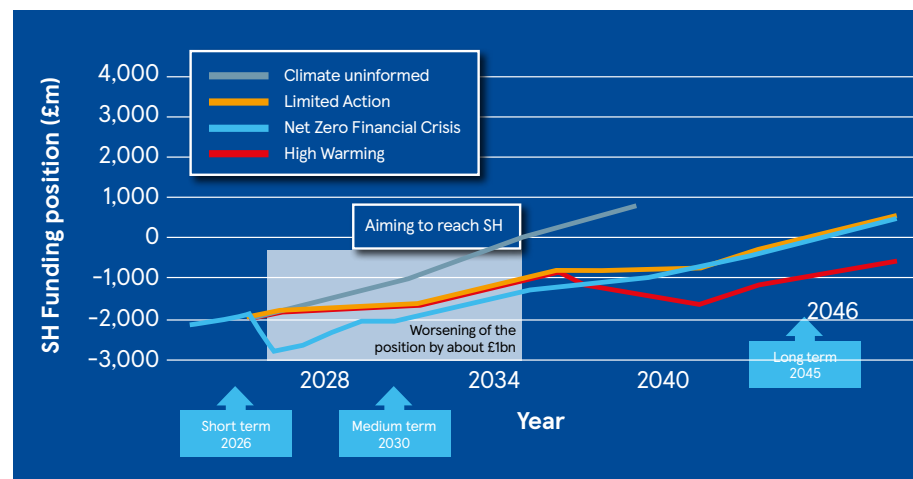
Output from the scenario analysis

The Trustee considered the different climate scenarios and the expected impact of each of these on the projected assets, liabilities, investment strategy, funding position, and strategy of the Scheme. The impacts were considered in three broad areas:

- Financial market impacts
- Societal impacts (ie life expectancy)
- Covenant impacts (ie the impact on the Scheme's Sponsor)

As at 31 March 2023, the assets were around £13.4bn and the Scheme was 102% funded on its ongoing valuation basis. For the climate scenario analysis, the Trustee considered a more prudent assessment of the Scheme's liabilities, calculated on the "Safe Harbour" basis – ie, where the Scheme is in a position to be able to meet all its future liabilities with returns of just 0.5% a year above gilts. On the Safe Harbour basis, the liabilities were around £15.5bn as at 31 March 2023, representing a deficit of around £2.1bn.

Financial market impacts:



Scenario	Impacts
High Warming	Detrimental impacts of physical impacts of climate change reduce funding position over time relative to climate uninformed base-case. Materially worse over subsequent decades, unless mitigated through changes in investment and/or funding strategy.
Limited Action	Funding position worse over next decade, then impacted by transition costs and physical risks over subsequent decades.
Net Zero Financial Crisis	Sharp repricing of assets and sentiment shock in short to medium term due to reaction to Paris targets. Recovers somewhat but remains significantly worse than climate uninformed base case.

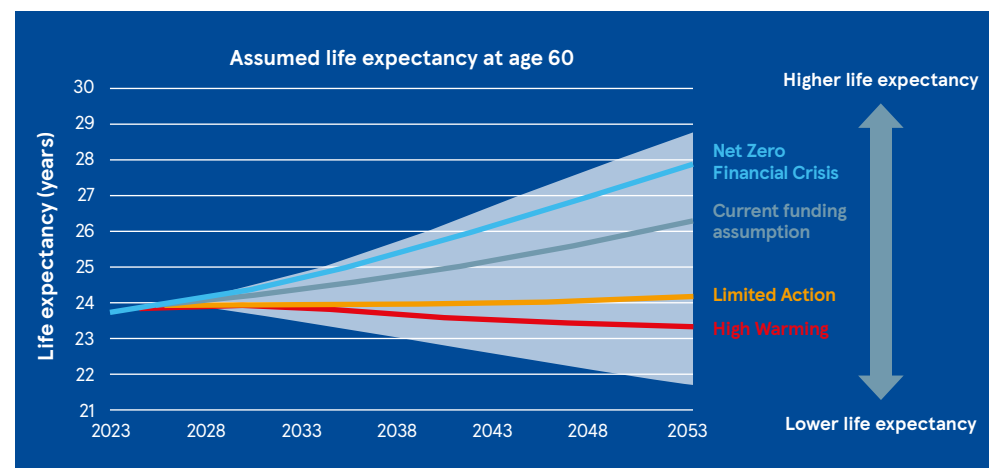
In all scenarios, at the point at which the Scheme was expected to reach Safe Harbour, the funding position could deteriorate by roughly £1bn, when considering only the likely investment and financial market effects in isolation.

Societal impacts:

Climate-related factors may influence UK mortality rates in future, including direct factors such as changing temperatures and more extreme weather events and indirect factors, such as economic impacts and changing lifestyles.

Under the Limited Action and High Warming scenarios, the dominant effects are assumed to be rising global temperatures and economic losses which lead to an increase in death rates.

Under the Net Zero Financial Crisis scenario, global temperature rise is kept around 1.5°C, limiting the direct and economic impacts of climate change. Under this scenario, political and social change are assumed to be more dominant factors leading to a healthier living environment and lifestyles which reduces death rates.



The potential impact on life expectancy of the three scenarios could vary. Under the Limited Action and High Warming scenarios the detrimental impact on life expectancy could reduce funding costs by about £1bn by 2034. Conversely, the potential for longer life expectancies under the Net Zero Financial Crisis could result in additional funding costs of around £1bn by 2034.

Potential impacts on the Scheme's Sponsor

The Trustee also considered potential business consequences of climate-related risks and opportunities on the employer covenant supporting the Scheme (the Sponsor) – over the short, medium, and long term, as described elsewhere in this report. This was supported by advice and analysis from their covenant advisor, Interpath. Interpath's analysis was based on certain initial climate financial modelling prepared by Tesco.

The analysis considered how climate-related risks and opportunities could impact the inputs and costs associated with the Sponsor's own operations, as well as how it could impact on the Sponsor's supply chain. The Trustee also considered the impact of climate change on the Sponsor's brand reputation.

Interpath worked with LCP and WTW to provide this advice to the Trustee, and Interpath's qualitative and quantitative assessment was presented alongside the scenario analysis modelling, so that the Trustee could consider the impact of investment/funding and covenant risks together. The advice was presented alongside the climate-scenario analysis and considered the same short, medium, and long-term time horizons.

Potential risks that were noted were:

- The potential for product shortages
- Operational issues
- Climate litigation
- Loss of customer demand
- The impact of changing fiscal policy
- The potential for lost revenue and increased costs

The Trustee also considered the Sponsor within a wider sector context.

The Trustee considered the quantified risks reported by the Sponsor, to understand the potential impact on profits, and therefore the Sponsor's ability to support the Scheme in the future. The Trustee noted that clear steps are being taken by the Sponsor Group, including disclosure against the TCFD recommendations, Tesco PLC's commitment to reaching Net Zero emissions across Group operations by 2035 (and across its full value chain by 2050), and various initiatives to manage risks to the business associated with climate change.

Conclusions from the scenario analysis

Climate-related risk is a material financial risk to pension schemes in general, and to the Tesco PLC Pension Scheme. The impacts are likely to come from a range of sources – financial markets, societal, policy, and physical.

The time horizon for the Scheme is long. Safe Harbour is a milestone on a longer journey to make sure all the benefits are paid. Over this period, it is likely that the world will see material physical risks and changes, as well as material transition risks, which could lead to a significant impact on the Scheme's investments. There is also significant societal risk to factor in, however, when considering climate change. This risk could have wider consequences on the funding of the Scheme under some scenarios. Under one scenario, there could be a material impact to be addressed, with demographic changes potentially increasing the cost of the Scheme by about £1bn.

The Trustee considered the scale of potential climate-related risks and opportunities due to financial markets for the Scheme under the above scenarios, and compared this to wider market risks, based on a Value at Risk (VaR) measure. The combined analysis illustrated that the potential impact of climate-related risk could be in the region of £1bn, based on the median outcomes of the modelling, with the range of possible outcomes meaning much higher impacts could be seen. Although not directly comparable, the Scheme's estimated 1 year 1-in-20 VaR is about £1.5bn.

Based on the scenarios modelled, the potential negative impact on Tesco's profitability is broadly estimated at £0.3bn–£0.6bn a year. Materially larger impacts are also possible, especially if mitigation measures are unsuccessful.

The Trustee therefore concluded that climate investment risk could be meaningful, and comparable to other extreme market events that the Scheme could face.

The Trustee recognises that there are many reasons why the outcome might differ from those modelled. For example, there is a wide range of possible outcomes around the median outcome under each scenario, due to the usual investment market uncertainties and additional uncertainties arising from climate-related variables. It was also noted that the timing of the potential impacts of climate-related risk and societal changes are uncertain and could materialise over different time periods. In some scenarios, these could be at least as significant as the other risks that the Scheme faces.



Resilience of the Scheme's investment and funding strategy in these scenarios

The Trustee has an integrated monitoring framework that sets out potential actions – investment, funding, and covenant actions – should the actual or projected funding or covenant position worsen. This framework and the projection modelling have been agreed with the Sponsor and will be reviewed as part of the Scheme's actuarial valuation cycle. The Trustee considered the resilience of the Scheme's investment and funding strategies in light of the climate-related risks and opportunities modelled under the scenarios.

The Trustee considered that the investment and funding strategies remain resilient, having noted the potential actions available to them, as set out in their integrated monitoring framework. The Trustee also considered the framework itself, in light of the climate scenarios, and considered it to remain resilient. This is due to the clearly defined potential steps to take within the investment and funding strategy, should the funding or covenant position worsen.

Next steps from the scenario analysis

The Trustee has taken a range of steps to help mitigate climate-related risk within the Scheme. This includes making a commitment to aim to reach Net Zero by 2050, signing up to a number of wider investor initiatives and commitments, actively engaging with investments, and considering climate change within investment decisions (as detailed elsewhere in this report).

Following the scenario analysis, the Scheme's advisors suggested a number of further actions the Trustee could take, including the consideration of climate solutions (which the RIC received training on during the Scheme year). The Trustee also reviewed and updated its risk register following the consideration of this updated climate-scenario analysis.

To ensure it continues to make a difference, the Trustee will evolve the actions taken, including any changes to the investment strategy and manager allocations, over time. Ongoing engagement with the Sponsor Group will also be key to understanding how climate-related risk develops at the Sponsor level.

Assessing investments

Trustee's assessments

The Trustee expects its views on Responsible Investment to be reflected across the Scheme's whole investment portfolio, where appropriate and possible. The Trustee sets objectives for its principal investment manager every year. These objectives include the requirement to support the Trustee in managing climate-related risks to the Scheme. The principal investment manager is assessed against these objectives every year, and the Trustee uses these assessments to make sure that sufficient steps are being taken to identify, assess, monitor, and manage climate-related risks to the Scheme.

The RIC meets as often as required to monitor the principal investment manager and to progress RI workstreams, including but not limited to climate change. In the Scheme year the RIC met formally in June 2023, September 2023, November 2023, and February 2024. The RIC reported back to the Trustee following each RIC meeting.

Analysis of the principal investment manager is also considered by the Scheme's advisors, who provide the RIC with their views and advice.

Assessments by the principal investment manager

During the Scheme year, TPI considered the Responsible Investment impact of all potential new investments, as well as the ongoing impact of existing investments. TPI considered whether an investment is aligned with the Trustee's RI policy and RI objectives including its Net Zero ambitions, and it assessed the potential for climate-related risks and their impacts.

In making its assessment of potential investments, TPI looked at the following factors:

- **Consideration of how emissions-intensive an investment was likely to be.** To the extent that it was possible, TPI looked at the potential physical and transitional risks to the investment, and the impact that the potential investment may have. It also considered whether the investment offered opportunities for positive change
- **Consideration of management.** For example, it looked at whether a company or investment manager provides emissions data and TCFD reporting, and whether it has set appropriate Net Zero-aligned targets and clear plans for how to achieve them. It looked at policies and practices, and how climate-related factors are incorporated into investment or business processes and management
- **Requirement to be aligned with Net Zero.** Any proposal to invest in a new fund or mandate that did not have a Net Zero aligned commitment needed to be escalated to TPI's Head of Responsible Investment and be discussed with the Chief Investment Officer (CIO)

More detail on the assessments TPI carried out at an asset class level are set out in [Appendix 6](#).



Climate-related risks and opportunities

The Trustee believes that climate change is a material financial risk to the Scheme which, alongside other ESG considerations, is likely to influence the risk and return of the Scheme's investments over the long term.

The Trustee is committed to developing policies on RI, and climate change in particular, that will provide clear direction on the expectations it has of its investment managers and the parties they delegate investment management and Stewardship to. The RI policy sets out the Trustee's framework for identifying, assessing, monitoring, and managing climate-related risks and opportunities. The Trustee expects the Scheme's principal investment manager to consider this policy when appointing and reviewing external managers on the Trustee's behalf.

The Trustee reviews its RI policy every year. The review for the Scheme year to 31 March 2024 took place in June 2023. During this year's review, the Trustee's beliefs (including its climate beliefs) were also reviewed. The only change to the Trustee's beliefs related to the divestment policy, where the Trustee agreed to include revised wording, stating that ESG factors might be a material enough risk to justify divestment from an asset. The policy also states that, generally, the Trustee will expect its principal manager or its external managers to engage on financially significant ESG risks, and only divest where the company fails to engage with the Trustee's long-term goals, making the long-term risk unacceptable.

The RI policy covers the Trustee's specific policies in relation to Climate and Stewardship, and sets out its Stewardship priorities, which are:

- **Environmental** issues, including climate change and biodiversity loss
- **Social** issues, including human rights and diversity and inclusion
- **Governance** issues, including business ethics and corporate transparency

The RI policy reflects the Trustee's commitment to aim for the Scheme's assets to reach Net Zero carbon emissions by no later than 2050. More detail on this commitment is set out on page 37 of this report.

Identifying and assessing climate-related risks and opportunities

The Trustee's processes and framework for identifying and assessing climate-related risks and opportunities are as follows:

Reporting and updates from TPI

TPI provided updates to the Trustee and its various sub-committees (as relevant and at each Trustee and sub-committee meeting). These included updates on ESG activities and climate-related risks and opportunities. Reporting for the Scheme year covered:

- The engagement activity that TPI carried out
- The results of the due diligence questionnaire on private market managers (with recommendations for next steps)
- Updates on the latest developments in climate metric disclosures

TPI also contributed to the Trustee's consideration of key risks within the portfolio and, at RIC meetings, reported back on the Stewardship activity carried out on the Trustee's behalf.

Reviews of the Scheme's climate-related risks and opportunities register

The Trustee's climate-related risks and opportunities register sets out a range of physical and transition risks identified for the Scheme, and assesses them in the context of the Scheme-specific time horizons.

Based on the advice received by its advisors, and the tools it uses to identify and assess the Scheme's climate-related risks and opportunities, the Trustee rates the risks and opportunities according to their potential impact and how likely they are to occur. This allows the Trustee to compare and prioritise which risks could be the most material. For example, the key risks that the Trustee considers as having the most significant potential impact include:

- Market-wide climate-related risks (eg market instability, caused by market mis-pricing or the mis-assessment of climate-related risks)
- Individual risks associated with each of the assets the Trustee invests in
- Regulatory risk (eg changes in Government response and regulatory policy, which affects global markets)

Key controls that are currently in place and next steps that can be taken to mitigate risks and pursue opportunities are included in the register. The RIC reviews and updates the register every year, and shares it with the Trustee for review.

As part of the review of the results of the climate-scenario analysis, the register was updated and reviewed in September 2023. At this review, there were no changes to the high-level risks and opportunities, but detail was added to the sub-risks and opportunities, and the importance of the systemic nature of climate-related risks was discussed.

Following the collection of this year's climate metrics and the assessment of progress towards targets, the register was reviewed again in February 2024. This review resulted in no changes to the high-level risk and opportunities, but further detail was added around the impact of changes to the equity and fixed income holdings on risk and opportunities. The Trustee also considered the planned move away from TPI and how that could impact climate-related risks and opportunities.

The Trustee also uses the register to consider how the identified climate-related risks could impact the Trustee's risk appetite, by incorporating these into the Scheme's wider risk management framework. The Trustee put in place a new risk framework after the Scheme's year-end date, which will help focus even more attention on potential ESG risks. We will report back on this in next year's report.

Monitoring within the Scheme's wider risk management framework

As well as maintaining a climate-related risks and opportunities register, the Trustee has embedded climate-related risks and opportunities within its wider risk management framework including, as part of this, consideration of risks to the Scheme's funding and covenant. Climate-related risk is specified and prioritised within the Trustee's dedicated risk register. Risks are assessed according to impact and likelihood, and an overall risk score is assigned, with mitigating actions and next steps then identified to make sure risks are managed and controlled.

- Climate-related and other risks are considered at any meeting where those risks relate to content on the agenda. At the end of each meeting, a separate discussion also considers whether there have been any material changes to the gross and net ratings of each relevant risk – fully integrating risk into our governance model.
- Significant risks identified for the Scheme include the risk of returns from assets being affected by climate factors, as well as the impact on asset returns of reputational factors associated with failing to consider ESG factors. Examples of management controls in place to mitigate these key risks include:
 - Making sure strong governance processes are in place
 - Making a commitment to aim for the Scheme's assets to reach Net Zero greenhouse gas emissions by 2050 (at the latest) and its resultant actions
 - Engagement with the Scheme's principal investment manager, to make sure ESG factors are integrated into their investment processes

These and other management controls provide the Trustee with comfort that risks are being addressed. The Trustee uses a combination of qualitative risk assessment, qualitative measures (such as the climate-scenario analysis) and climate metrics to assess the potential impact of various climate-related risks.



Monitoring climate-related metrics and Scheme-specific targets

The metrics and targets that the Trustee uses to monitor climate-related risks and opportunities to the Scheme are set out in detail later in this report. The setting and assessment of targets are embedded in the Trustee's governance, strategy, and risk management processes. For example, the Scheme's metrics and targets are reviewed every year, and the RIC and the Trustee consider the measurement of progress against the Scheme's targets every year. The Scheme's climate-related risks and opportunities register includes reference to the Scheme's targets as controls and next steps to mitigate climate-related risks, and to consider climate-related opportunities. The Trustee's other service providers are made aware of the Scheme's targets as necessary.

Review of monitoring framework

The Trustee reviews the processes and governance framework it has in place for identifying, assessing, and monitoring climate-related risks and opportunities on an annual basis to make sure it remains appropriate and useful.

Managing climate-related risks and opportunities

Once the Trustee has identified and assessed the climate-related risks and opportunities for the Scheme, it takes various steps to manage and assess these as follows:

- Through its formal commitment to aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050
- Through the setting of climate targets to enable the Trustee to monitor its progress towards its Net Zero aim
- By embedding the monitoring of those targets into its governance, strategy, and risk management processes
- By expecting the Scheme's principal investment manager and the Scheme's external managers (across the asset classes for new investments) to incorporate climate-related risks and opportunities as part of their investment processes
- By engaging with its investment advisor and its legal advisors, formally each quarter at RIC meetings and informally between RIC meetings
- By engaging with The Pensions Regulator
- By monitoring metrics for measuring and assessing climate-related risks and opportunities including covenant metrics that consider the impact of climate change on the Sponsor, at least once a year
- By exercising Stewardship with the Scheme's principal investment manager, and by actively reviewing Stewardship activity carried out on the Scheme's behalf at RIC meetings, to make sure it meets the Trustee's expectations, or to consider escalation, as required in the case of external managers
- By making sure all data and metrics are sourced from reputable providers
- By receiving updates on the Sponsor at Trustee meetings that are solely focussed on covenant
- By appointing climate-aware funds. For example, within the external equity allocations that took place during the Scheme year
- By maintaining strong governance processes and reviewing them every year. The last review took place in January 2024

The Trustee's Net Zero commitment

The Trustee has committed to aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050.

CASE STUDY:

External Liability-Driven Investments (LDI) manager engagement with UK Government on Green Gilts

What was the issue?

Following a review in early 2023, the Trustee's LDI manager, Insight, downgraded the green gilt from dark green (best-in-class impact bond) to light green (passes minimum requirements but areas for improvement). This was due to the opening of a mine in Cumbria and, more generally, the policy environment in the UK not providing incentives for industry to decarbonise. Insight also wanted more clarity from the government about fiduciary duty in relation to green gilts, particularly where green gilt issuances may be priced at a lower yield than a traditional gilt.

What actions did Insight take?

Insight engaged with the Debt Management Office (DMO) in May and June 2023 to ask some specific questions. This was as a follow-up to previous engagements where it had raised several issues related to green gilt issuance and other sustainability topics.

On the first topic, the manager explained its concerns regarding the UK's ability to meet its Net Zero target given the current policy environment, which is a key assessment consideration of the quality of green gilts (ESG performance). In October 2023, Insight also wrote a letter to Rishi Sunak and the Department for Energy Security and Net Zero, setting out the inconsistencies of the 2023 update to the government's green strategy with long-term Net Zero goals, stressing the need for consistency of policy implementation. The government responded in January 2024, referencing their track record in implementing initiatives to further their Net Zero strategy.

On the second topic, Insight explained that uncertainty over institutional investors' fiduciary duty presented challenges for allocations to green gilts. The DMO said it was aware of this before the issuance of green gilts and, given the success of the issuance, they did not view this uncertainty as a problem. It acknowledged that it is a topic which is being discussed more broadly in the market. Insight explained that it would be helpful if the government could clarify how Trustees' fiduciary duties apply, to increase comfort in allocating to green and other impact bonds.

What was the outcome?

Following conversations with the DMO, Insight has continued to classify green gilts as light green, not currently requiring any further downgrade. To upgrade their rating, however, it would need to see clear developments in government policy to create a favourable environment for investment into green industries, thus increasing the likelihood of their commitments being achieved.

What are the next steps?

Insight will continue its ongoing engagement with the DMO on a range of issues and will keep engaging on relevant ESG topics, to encourage the government to honour the commitments it has made and continue to make progress on environmental issues. It will continue to consider the rating of green gilt issuances. Since the Scheme's year-end date, the RIC has also engaged more broadly with Insight on its policy advocacy activities, and is keen to understand more about the work they are planning in this area.

How TPI managed climate-related risks and opportunities

The Trustee expected TPI, as principal investment manager, to manage climate-related risks and opportunities. Some examples of how this was done in the Scheme year are:

Continuing research and education

TPI's RI team developed a sectoral climate-related risk analysis tool, to be used across the business, and has previously produced research on the fossil fuels value chain, which was used by TPI's investment teams.

Investment appraisal, monitoring, and engagement

Climate-related risks and opportunities, and their impact, are considered when a new investment is reviewed, and on an ongoing basis. Engagement with the investments is crucial in recognising and reducing any risks. This Scheme year, across asset classes, TPI's RI team worked with investment desks and data providers to understand the portfolio's exposure to greenhouse gas emissions, and the extent to which investments are aligned with the Scheme's Net Zero aims. This helped TPI understand where the Scheme has exposures to more emission-intensive entities, how its investments compare with sector peers, and how external investment managers are approaching Net Zero alignment. It also made it possible to recommend targets for alignment and emissions intensity reduction for the Trustee's consideration. We've included some case studies, which provide more detail on the type of work TPI did across asset classes this year, later in this report.

Throughout the Scheme year, TPI reported back to the Trustee at quarterly RIC meetings and provided updates on any progress made or outcomes achieved as part of its reporting on engagement activity.

Considering divestment

If a company or fund manager would not engage on the management of climate-related risks and opportunities and their impact, or did not demonstrate progress, then TPI would have considered divestment, or refusal to repeat investment where assets are illiquid. For private market assets or significant external managers, before divestment took place, there would have been a series of engagements with the Trustee, as part of the regular quarterly monitoring from TPI's RI team. For the directly managed fixed income portfolio, ESG factors may have been considered as part of a wider set of concerns, to reach a decision to sell alongside other financially material factors. TPI would have engaged with the Trustee on the rationale for any decisions as part of the Trustee's regular monitoring at the IRC and RIC meetings.

Climate-related opportunities

The Trustee and TPI are mindful of the opportunities represented by a transition to a low-carbon economy. These include potential for new investment in climate solutions and the potential to protect value or enhance returns through engagement with existing assets.

The Scheme has exposure to climate solutions in both public and private markets, including investments in energy efficiency related technologies and systems, and renewable energy infrastructure. At the September 2023 RIC meeting, the Trustee received additional training on climate solutions from its advisors, and from TPI, to better understand the nature of the opportunity set and whether there is scope to include further investment in climate solutions that's in line with the Scheme's investment strategies and risk appetite.

CASE STUDY:

Private Markets Infrastructure Engagement Case Study on Alignment

What was the issue?

Infrastructure funds were first included in the Trustee's reporting on alignment in 2023. For one of the funds on which data was collated, the fund looked to be "Committed to Align" per the IIGCC Net Zero Investment Framework. This was because the manager had disclosed a 2050 Net Zero target covering the funds in which TPI was invested.

Upon gathering data for the 2024 TCFD report, however, TPI was not satisfied with the robustness of the manager's response on the scope of its Net Zero target and was not comfortable with maintaining its "Committed to Align" classification.

What actions did TPI take?

On the Trustee's behalf, TPI engaged with the manager to gain a better understanding of its Net Zero plans. In particular, it wanted to understand whether ambitions had been reduced, or whether the manager was making progress towards a Net Zero goal, covering the fund in question.

What was the outcome?

The manager stated that a decision on whether to sign up to [The Net Zero Asset Managers Initiative \(NZAMI\)](#) in 2024 was at the board approval stage. This commitment would cover all funds and the manager will take a fund-by-fund approach to achieve Net Zero. It also stated that it would provide TCFD reporting at the fund level from June 2024.

Following written confirmation of this approach, TPI felt it was still appropriate for the Trustee to keep classifying the investment as "Committed to Align". Through this process, TPI developed a better understanding of the manager's plans and encouraged it in its activity.

What are the next steps?

To monitor progress against the plan and the commitment to NZAMI.



Engagement and other Stewardship activities

The Trustee invests responsibly in delivering its objective to pay the right benefit to the right person at the right time and views Stewardship as an important part of this. The Trustee's specific policies on Stewardship are included within its wider RI policy.

During the Scheme year, the Trustee considered its Stewardship processes in detail, included its processes for monitoring significant external investment managers through reporting from TPI, and agreed an escalation process, which is now set out explicitly in its RI policy.

The Trustee aims to be a responsible steward of its assets. As part of this, it considers both the impact of ESG, including climate change, factors on its investments and also, where it is consistent with its legal obligations, the impact of its investment practices on the economy, society, and the environment to achieve the best long-term return on the Scheme's assets while managing investment risks and taking account of financially relevant factors.

The Trustee's approach to Stewardship includes:

- Active ownership, including engaging with the companies we invest in and exercising voting rights and responsibilities
- Decision-making that is consistent with the Trustee's RI policy
- Working collectively with others to advocate for policies that support long-term value creation, where relevant.

More information on the Trustee's Stewardship activities can be found in its Implementation Statement and its Stewardship reporting. We have also added a number of case studies to this report, to provide more detail on the kind of activities that were carried out this year.

Metrics, Targets, and Net Zero Commitment

To help understand the Scheme's exposure to climate-related risks and opportunities, the Trustee continues, where possible, to collect and review climate metrics for the assets that the Scheme invests in. The Trustee reviewed the metrics it collects and the targets that were set at the November 2023 and February 2024 RIC meetings.

As far as it's been possible, the Trustee has collected and reviewed the following metrics:

Category	Metric(s)	Scope 1&2	Scope 3
Absolute emissions:	Total greenhouse gas emissions	✓	✓
Emissions intensity:	Carbon footprint	✓	Some coverage
Emissions intensity:	Weighted Average Carbon Intensity (WACI)	✓	Some coverage
Portfolio alignment:	Alignment with Net Zero by 2050 goals	N/A	N/A
Additional climate metric:	Data quality and coverage	✓	Some coverage

Note: Alignment scoring is based on [Science Based Targets Initiative \(SBTi\)](#) scores and manager commitments/ambition and therefore not directly related to scope 1/2/3.

The Trustee chose these metrics as they provide a good indication of the Scheme's exposure to climate-related risks and opportunities, and are recommended in the statutory guidance. The Trustee chose to include an additional optional emissions metric, the WACI, as it was felt that this was a useful additional metric for the Trustee to monitor and voluntarily report on.

Further details on these metrics, how they are calculated, and why they were chosen is in [Appendix 2](#). The Trustee received training on climate metrics from its advisors, LCP, to support their understanding and to assist with their decision over the choice of metrics. For each of the metrics in the table above, this training covered a summary of how to calculate the metric, and the context in which it should be used.

The Trustee has set targets and monitored progress towards targets as follows:

- The reduction of emissions intensity associated with the corporate bond portfolio by 2030
- The proportion of assets that are aligned to "Net Zero by 2050" goals
- Engagement activity, as part of the Trustee's aim to transition to Net Zero by no later than 2050

A target for the reduction of emissions intensity associated with the equity portfolio by 2030 has been re-introduced, following the build-up of the equity portfolio over the last reporting year.

Scope of assets for climate metrics

Following a review by the RIC, the Trustee decided to expand the assets that were "in-scope" for collecting climate metrics, to include private credit assets held within the Income Generating Assets sub-portfolio. It noted that data coverage is still fairly weak for this asset class but had improved enough to be worth including in this report.

The asset classes in scope of the alignment and engagement targets remain the same. The equities portfolio has been added back in to the emissions reduction target, given the Scheme has increased its allocation (up to 8% as at 31 December 2023, compared with just 1% as at 31 December 2022). The RIC's review also considered the extent to which climate data in Liability-Driven Investments (LDI) or Treasury assets could be more formally included in assessing the targets. It maintained that these assets should remain out of scope for now, due to the difficulty in collecting meaningful metrics, but some limited metrics would be reported on.

As new methodologies emerge, the Trustee will revisit and consider including more asset classes in its assessment and reporting.

Given that this is the third year of climate reporting, the Trustee has presented a year-on-year comparison of its metrics in this report. We note that the strategy has evolved over this period, which makes direct comparison difficult.

Data collected

On the Trustee's behalf, TPI obtained the data required and calculated the metrics. For equity, climate metrics have been sourced from the external equity managers. Fixed Income data came from TPI's data provider [Institutional Shareholder Services \(ISS\)](#). Private markets fund information was sourced by TPI from the external fund managers. Direct property emissions were calculated by applying a conversion factor to energy use data sourced by TPI from tenants and property managers. Where companies do not report, or where actual emissions from properties and property funds were not available, estimates were provided by the data providers or calculated by TPI, where necessary. Estimates were not calculated for Private Credit assets; only emissions reported by external managers have been included.

The Trustee has reported on the latest available data, as it's required to do. Public markets data (ie equities and fixed income) is based on asset allocation valuations as at 31 December 2023, and using 2022 emissions data. Data was collated and assessed during the Scheme year.

Where available (eg for direct Income Generating Assets (IGAs) and the "Project Gold" asset), direct property data is based on holdings as at 31 December 2023 and 2023 emissions.

The Project Gold asset is an investment in a vehicle that holds an equity interest in around 80 Tesco stores, distribution centres and retail parks. The Scheme will own 50% of these properties at the maturity of this vehicle (in 2039).

Where direct property emissions data was not available at the time the data was collected and assessed by the Trustee, the latest full dataset was used. This was the 2022 emissions data. Infrastructure and Private Credit data is based on December 2023 holdings and valuations, but with 2022 emissions data (the latest available).

The direct property emissions data is shown for Scopes 1, 2 and 3 combined in the table on the next page, as the directly-held properties are all single-let, with no landlord-controlled energy use, and based on advice received in previous years from the Scheme's property consultant at the time. Similarly, data for other private market assets (Property Funds, Infrastructure and Private Credit) is shown for scopes 1, 2 and 3 combined as the managers could not supply data disaggregated between scopes 1, 2 and 3. As data continues to improve and methodologies become standardised, the Trustee intends to report on Scopes 1 and 2 separately to Scope 3 for private market funds, noting this will require a change in approach from the underlying manager.

Having received advice from its advisors, in which the Trustee believes it has used the best and most recent data available at a proportionate cost. The extent to which estimated data has been reported is shown in the emissions table on the next page of this report.

The Trustee is comfortable that actual emissions data was used as far as possible, and any use of estimates should not have a significant impact on the overall portfolio emissions metrics within public markets, given that actual data was readily available for equities and corporate bonds. The Trustee acknowledges, however, that it remains challenging to obtain reported Scope 3 data at the current time, and that a relatively high proportion of property asset data has been estimated, which may have impacted the results within this asset class. The Trustee notes that it will be important to improve the reported data within this asset class, through further engagement, in future.

The Trustee has gathered climate data, using best endeavours and as far as it is able. Data availability and consistency in approach between external managers is still evolving and the Trustee has been reliant on what has been provided by third party external managers.

Note: For public markets, TPI sourced data from ISS and the external equity managers. These managers use different data providers, including ISS, [MSCI](#) and [S&P Trucost](#). This, and managers' own policies, may lead to some inconsistencies in approach. Property asset data has been sourced from tenant and fund managers. Private credit data has been included in the 2023 figures for the first time. TPI sourced data for the Infrastructure and Private credit from the underlying managers.

For Sovereign Debt, managed by TPI, and the LDI programme, managed by Insight, emissions intensity figures have been estimated using the [IMF World Economic Outlook](#) database, the European Commission's [Emissions Database for Global Atmospheric Research \(EDGAR\)](#) (Period: 2022) and the [Department for Business, Energy and Industrial Strategy](#) (Period: 2022) (100% data coverage based on a production basis, not consumption, which can be considered as Scopes 1 & 2 only)."

Data coverage

Emissions data coverage over 2021, 2022 and 2023 for the Scheme's asset classes being reported by the Trustee is set out in the table to the right. Where available, the split between reported data and estimated data is also provided.

Data coverage represents 2020, 2021, and 2022 emissions respectively for 31 December 2021, 31 December 2022 and 31 December 2023 Scheme holdings and 2021, 2022 and 2023 emissions data respectively (where available) for direct IGAs, Project Jade and Project Gold assets.

Data coverage: conclusions

For equities and corporate bonds, the coverage of scope 1 and 2 data has remained broadly the same since 2021. In previous years, the external managers were not able to provide the split between reported data and estimated data for equities, so this information being provided this year represents an improvement. For the corporate bond holdings, the proportion of reported scope 1 and 2 data provided has remained fairly consistent and high.

The Trustee began reporting scope 3 data in its 2023 TCFD report, covering the period to 31 December 2022. The Trustee was not able to obtain any scope 3 data for its external equities last year, so this has been improved on significantly this year. Across the corporate bond assets, scope 3 data coverage has remained consistently high, broadly, but the proportion of reported data available has improved.

For the property assets, there has been consistent year-on-year improvement in the amount of reported data available. This was partly due to TPI changing the methodology used to estimate property fund data, and using its relationships to request more data from one of the direct properties. There was also an improvement in the infrastructure asset emission data coverage and data quality.

This is the first year in which the Trustee has included private credit data in its climate report. The data coverage is fairly poor, at 33%, but this is in-line with the wider industry. The Trustee will work with its new principal investment manager, Schroders, to push for improvements from its private credit managers, and hopes to see an increase in data coverage in future.

	2021			2022			2023		
	Reported	Estimated	Data coverage	Reported	Estimated	Data coverage	Reported	Estimated	Data coverage
External equities (Scopes 1 & 2)	-	-	100%	-	-	97% 	82%	17%	99% 
External equities (Scope 3)	-	-	-	-	-	-	24%	75%	99% 
Corporate bonds (Scope 1 & 2)	96%	1%	97%	92% 	2%	94% 	93% 	3%	96% 
Corporate bonds (Scope 3)	-	-	-	44%	50%	94%	71% 	24%	95% 
Property and infrastructure assets (Scopes 1, 2 & 3)	36%	64%	100%	55% 	45%	100%	73% 	27%	100%
Private credit (Scopes 1, 2 & 3)	-	-	-	-	-	-	15%	18%	33%
Overall Scheme (Scopes 1, 2 & 3)									99%

 = improving trend  = worsening trend

Note: LDI and sovereign bonds are not included in this table. Given the nature of these asset classes, it is not applicable to break down the data into estimated and reported categories.



CASE STUDY:

Private Markets Emissions Data

What was the issue?

To ensure good data quality for TCFD reporting, TPI wanted to get as much “actual” data as possible, to limit the use of proxies to estimate data, and to use the best quality of a proxy where required.

What actions did TPI take?

On the Trustee’s behalf, TPI engaged with fund managers to secure emissions data and the information needed for TPI to make good estimates. In some instances, this involved a number of engagements and clarifications, where TPI felt that the quality or the availability of data provided could be improved. For example:

- Half of the managers of property funds were not able to provide emissions data or provided data covering less than 50% of floor area. In order to estimate the emissions from these funds, TPI requested information on the location, building type, and floor area of the assets. TPI could then perform [Carbon Risk Real Estate Monitor \(CRREM\)](#) analysis to estimate the emissions of these funds better than through simple extrapolation from the rest of the portfolio.
- Two fund managers in the IGA portfolio, one an infrastructure fund and the other a property fund, did not initially provide emissions data when asked. TPI engaged with them to explain the requirement and the importance of the information, and to note that peers were providing the data. Through this further engagement TPI was able to secure data from both managers.
- The initial data submissions were interrogated and TPI was able to use its good relationships with third parties to push for more information and to support analysis.

What was the outcome?

TPI was able to improve the amount of reported emissions data. For example, data quality improved from 55% to 73% in private markets assets in scope, excluding private credit, and TPI was able to secure refrigerant gas actual data for direct property assets. For Property funds it was able to make estimates for missing data, based on the information about the actual assets in that fund.

What are the next steps?

To engage with managers to further improve reported data availability. The Trustee is keen to increase the amount and quality of reported data from existing “in-scope” asset classes, when the quality of the data makes this possible, and extending data collection to additional sectors.

Emissions metrics

In this section, we've included emissions metrics over the three years to 31 December 2023. Note that the total Scheme data is only available for the last two years.

Scheme assets being reported for emissions metrics include externally managed equities, corporate bonds, property assets, infrastructure, and private credit. Due to differences in methodology, LDI and sovereign bond emissions metrics are shown separately.

It's difficult to make year-on-year comparisons of climate data to track progress over periods of time. Changes in asset allocation, changes to the assets that are included in-scope for climate metric reporting, and improvements in the data quality and coverage across the assets all have an impact on the emissions metrics that are reported each year. For example, we were able to gather significantly more scope 3 data for this year's report, so we're reporting significantly higher levels of scope 3 emissions for the Scheme this year.

Due to changes in the investment strategy, the Scheme's allocation to in-scope asset classes changed materially over 2022 and 2023, with increases in the allocation to equity and credit being particularly significant. As a result, we're reporting significant increases to the Scheme's absolute emissions data this year.

When asset allocation changes materially, emissions intensity metrics (ie carbon footprint and WACI) are generally more useful measures to consider. These are relative measures, meaning the emissions of a fund or particular investment is adjusted, to reflect the amount invested.

The Trustee expects comparability to improve over time, as climate metric reporting becomes more developed and disclosures are improved. The improved availability of scope 3 data this year is an example of this. As well as industry developments, data will be easier to compare at a scheme-specific level in periods where there are less significant changes to the underlying asset allocation, year-on-year.

With Schroders having replaced TPI during the Scheme year ending 31 March 2025, the Trustee is aware that there will be some challenges in comparing year-on-year climate data in next year's report, as there will be further changes to the investment strategy. The Trustee is already working with Schroders and its advisors to minimise this impact.

In the three years of the Scheme's emissions data, for 2021, 2022 and 2023, the allocation to each type of asset has changed quite significantly, which makes it difficult to identify the progress that's been made.

The Trustee is committed to making progress towards its aim of achieving Net Zero carbon emissions by 2050 or sooner. The coverage of metrics data has increased, with more assets being brought in scope of the data collection (ie private credit) and better data being available for the asset classes already in scope, for Scope 1, Scope 2 and Scope 3 emissions.

Using the metrics to assess climate-related risks and opportunities

The metrics we've set out have been used by the Trustee to identify, assess, monitor, and manage climate-related risks and opportunities. The RIC considered the risk and opportunities associated with these metrics within the Scheme's climate-related risks and opportunities register, and used the metrics to help its members understand the climate-related risks and opportunities that the Scheme faces. It's expected that these metrics will continue to be used on an ongoing basis, to help identify, assess, monitor, and manage climate-related risks and opportunities.

Total Scheme emissions metrics

Where it was meaningful to do so, we've included aggregated data across asset classes, as recommended in [The Pensions Regulator \(TPR\)](#)'s review of pension scheme TCFD reports. Aggregated data is only available for the last two years.

Due to an increase in "in-scope" assets, and improvements in the quality and quantity of data between the two data collection points, it's difficult to make direct year-on-year comparisons.

		2022	2023
Absolute emissions: Total greenhouse gas emissions			
Public markets	Scopes 1 and 2 (tCO ₂ e)	29,764	77,681
Public markets	Scope 3 (tCO ₂ e)	152,541	963,155
Private markets	Scopes 1, 2 and 3 (tCO ₂ e)	70,252	230,065
Emissions intensity: Carbon footprint			
Public markets	Scopes 1 and 2 (tCO ₂ e/£m invested)	74.2	41.24
Public markets	Scopes 3 (tCO ₂ e/£m invested)		419.37
Private markets (ex private credit)	Scopes 1, 2 and 3 (tCO ₂ e/£m invested)	87.5	135.17
Private credit	Scopes 1, 2 and 3 (tCO ₂ e/£m invested)	-	262.40
Emissions intensity: WACI			
Public markets	Scope 1 and 2 (tCO ₂ e/£m revenue)	-	92.11
Public markets	Scopes 1,2 and 3 (tCO ₂ e/£m revenue)	-	1,011.69

Notes:

In this year's report, we've combined the collated emissions metrics across different asset classes as far as we were able and where methodologies were aligned. Where we were not able to combine metrics, due to differences in calculation methodologies, we've combined like-for-like assets together.

Public market assets include external equities and corporate bonds. The increase in public markets scope 1 and 2 emissions shown in the table on this page is due to the increased allocation to external equities and corporate bonds over the year. In 2022, the disaggregated public markets scope 3 data only included corporate bonds. In 2023, it also included externally managed equities.

For private market assets, scope 3 emissions cannot be disaggregated from scope 1 and 2 emissions. These emissions are therefore grouped together for these asset classes. The 2022 private market assets data includes property assets. For 2023, the scope has been expanded to include infrastructure and private credit assets.

Given that the data coverage for private credit is so low, the carbon footprint has been disaggregated from the other assets, so as not to skew the data.

We did not include an overall Scheme level or an aggregate public markets WACI figure in 2022. Further detail on the changes in WACI for underlying holdings can be found further on in this report.

Emissions metrics split by asset class

Absolute emissions

The absolute emissions figure for public market assets (ie equity and credit) increased over the year to 31 December 2023, but this was driven by factors such as the increase in the total Scheme allocation to both equity and credit, as well as an improvement in data coverage, particularly for scope 3 emissions.

We've provided some additional detail on what drove the changes in scope 1 and 2 emissions for the equity and credit portfolios in the lower of the two tables on this page.

Absolute emissions for the external equity fund were calculated from the fund-level emissions, as provided by the external manager, and represent the Scheme's share of absolute emissions.

Absolute emissions: Total greenhouse gas emissions (tCO₂e)

Portfolio		2021	2022	2023
Public markets				
External equities	Scopes 1 & 2	3,724	2,461 	39,548 
	Scope 3	-	49,215 new	499,627 
Corporate bonds	Scopes 1 & 2	268,473	27,303 	38,133 
	Scope 3	-	103,327 new	463,529 
Private markets				
Property funds	Scopes 1, 2 & 3	19,459	13,189 	73,316 
IGA Property	Scopes 1, 2 & 3	5,982	30,241 	2,405 
Project Gold	Scopes 1, 2 & 3	25,703	26,822 	22,024 
IGA Infrastructure	Scopes 1, 2 & 3	-	-	129,337 new
Other IGA funds	Scopes 1, 2 & 3	-	-	2,982 (previously captured in IGA property)
Private credit	Scopes 1, 2 & 3	-	-	67,860 new

 = improving trend  = worsening trend

Reasons for change to scope 1 and 2 emissions

Asset class	What was the change in Scope 1 and 2 emissions? (tCO ₂ e)	What was change attributable to?		
		Improvements in data coverage (tCO ₂ e)	Change due to allocation to the asset class (tCO ₂ e)	Change in emissions of underlying companies (tCO ₂ e)
Equity	+ c.37,100	Negligible	+ c.28,400	+ c.8,600
Credit	+ c.10,830	+ c.300	+ c.83,100	- c.72,500
Total	+ c.47,900	+ c.300	+ c.111,500	- c.63,900

The table above shows that the majority of the increases in greenhouse gas emissions reported were attributable to the overall increase in allocation to equity and credit, which swamped the impact of any changes to the emissions of underlying companies within the equity and credit portfolios.

Emissions metrics split by asset class

Emissions intensity

The carbon footprint metric for public assets has decreased over the year; partly due to the change in composition of the bonds held within the fund. The corporate bond portfolio became much less concentrated at 31 December 2023 relative to 31 December 2022, and included positions in bonds that were less carbon-intensive than previously. The carbon footprint of the property and infrastructure assets appears to have increased over the year, but the overall property and infrastructure metrics are not directly comparable to those reported last year. Due to reduced energy use, emissions from the Project Gold asset decreased over the year.

We've included the WACI figure for external equities for the first time this year, which is why there is not a "previous year" comparison. Further detail on year-on-year changes for specific asset classes can be found in the following sections.

Notes:

Scope 3 data was not collected in 2021. It was not collected for external equities in 2022.

Carbon intensity metrics for corporate bonds are only being reported for Scopes 1 and 2. This is due to the methodology used by ISS, TPI's data provider.

Emissions intensity by floor area for property funds has been reported for the first time this year, due to a decision to move away from the previous data provider, and an improvement in methodology. Where there's other "new" data, in scope for the first time this year, this is indicated in the table.

Emissions intensity: Carbon footprint (tCO₂e/£m invested)

Portfolio		2021	2022	2023
Public markets				
External equities	Scopes 1 & 2	61.0	22.6 	34.5 
	Scope 3	-	-	419.4 new 
Corporate bonds	Scopes 1 & 2	91.8	93.8 	49.6 
Private markets				
Property funds	Scopes 1, 2 & 3	12.2	43.0	147.4 
IGA Property	Scopes 1, 2 & 3	16.3	91.4	12.2 
Project Gold	Scopes 1, 2 & 3	161.1	162.0	129.1 
IGA Infrastructure	Scopes 1, 2 & 3	-	-	226.2 new
Other IGA funds	Scopes 1, 2 & 3	-	-	11.3 new
Private credit	Scopes 1, 2 & 3	-	-	262.4 new

 = improving trend  = worsening trend

Emissions intensity: WACI (tCO₂e/£m revenue)

Portfolio		2021	2022	2023
Public markets				
External equities	Scopes 1 & 2	129.2	69.9 	87.6 
	Scope 3	-	-	1,011.69 new
Corporate bonds	Scopes 1 & 2	231.2	261.3 	97.7 

 = improving trend  = worsening trend

Emissions intensity: Floor area (kgCO₂/m²)

Portfolio		2021	2022	2023
Private markets				
Property funds	Scopes 1, 2 & 3	-0.7	- 	91.5 
IGA Property	Scopes 1, 2 & 3	16.0	114.5 	31.4 
Project Gold	Scopes 1, 2 & 3	85.6	88.6	77.5 
Other IGA funds	Scopes 1, 2 & 3	-	-	37.6 new

 = improving trend  = worsening trend

LDI and sovereign assets

The LDI portfolio holds UK gilts and UK gilt-based derivatives, so the Trustee has used reported UK economy emissions in this section, in accordance with best practice.

This year, as a result of the UK economy continuing to decarbonise, the Trustee reported lower emissions intensities across all three greenhouse gas metrics in the LDI portfolio. Within the sovereign bond portfolio, managed by TPI, there was an increase in the level of emissions (per GDP) this year. The exposure to US Treasury bonds was the biggest contributor to total emissions in this portfolio, although the inclusion of Poland, Peru and Hungary also had a negative impact.

Other relative measures, such as emissions per capita and emissions per GDP adjusted for currency showed a small improvement since last year.

LDI and sovereign assets

LDI portfolio emissions data

Metric	2019	2020	2021	2022
Emissions by GDP (tCO ₂ e/GDP (£m))	205.0	196.1 	193.1 	178.6 
Emissions per capita (tCO ₂ e/capita)	6.67	6.06 	6.29 	6.27 
Emissions by GDP-PPP adjusted (tCO ₂ e/GDP (Int\$))	138.1	139.5 	127.2 	112.2 

 = improving trend  = worsening trend

Internally-managed sovereign bonds emissions data

Metric	2020	2021	2022
Emissions by GDP (tCO ₂ e/GDP (£m))	330.9	367.0 	404.4 
Emissions per capita (tCO ₂ e/capita)	13.74	14.13 	12.49 
Emissions by GDP-PPP adjusted (tCO ₂ e/GDP (Int\$))	227.5	222.2 	197.7 

 = improving trend  = worsening trend



Emissions metrics: conclusions

The Trustee is committed to making progress towards the aim to achieve Net Zero carbon emissions by 2050 or sooner. The data coverage of metrics data has increased, with more assets being brought in scope of the data collection (ie private credit), and better data being available for the asset classes already in scope, for Scope 1, Scope 2 and Scope 3 emissions.

Over the last three years, there have been a number of changes to the asset allocation, to reduce investment risk, increase liquidity, and to benefit from a higher interest rate environment. Key changes during this period include the higher allocation to public market equities and the appointment of two new equity managers; and therefore the corresponding increase in the overall absolute emissions. Driven by metrics from one of the new managers, the carbon footprint and WACI of the equities increased over the period.

With corporate bonds, the overall emissions increased due to the higher allocation to corporate bond assets, but the carbon footprint and WACI decreased, in part due to lower emissions from the underlying bond exposures, but also due to higher revenues that had the effect of driving the WACI down.

Overall emissions of the property funds increased, in part due to higher Assets Under Management (AUM), but also due to improvements in data quality and more accurate emissions estimations. Absolute emissions of the IGA property holdings decreased significantly, however, as did the intensity metrics. For the Project Gold portfolio, absolute emissions are trending down year-on-year, thanks to reduced energy use and lower natural gas emissions.

New data has been collected on emissions for infrastructure and private credit, and the amount of reported data versus estimated data has also improved. We've also extended the scope of the level 3 data being reported this year.

Portfolio alignment metrics

The table below shows the position as at 31 December 2021, 31 December 2022 and 31 December 2023 in terms of portfolio alignment, across the asset classes being reported on.

	2021			2022			2023		
	Not Aligned	Committed to Align	Aligning/ Aligned	Not Aligned	Committed to Align	Aligning/ Aligned	Not Aligned	Committed to Align	Aligning/ Aligned
Public markets									
External equities	100%	0%	0%	43%	58%	0%	40%	17%	44% 
Corporate bonds	31%	39%	29%	32%	28%	40% 	28%	35%	35% 
Private markets									
Property funds	36%	0%	64%	50%	29%	21% 	47%	35%	18% 
IGA Property	52%	0%	48%	100%	0%	0% 	-	-	-
IGA Property (plus Project Gold for 2023)	-	-	-	-	-	-	34%	46%	20% new
IGA infrastructure	-	-	-	24%	76%	0% new	25%	75%	0%
Other IGA funds	-	-	-	-	-	-	36%	26%	38% new
Private credit	-	-	-	-	-	-	68%	32%	0% new
Overall Scheme (ex property funds and private credit)	37%	28%	34%	54%	35%	11% 	33%	37%	30% 

 = improving trend  = worsening trend

Notes:

Alignment scoring is based on SBTi scores and manager commitments/ambition.

Project Gold is now included with IGA property, so the 2021 and 2022 data cannot be compared to 2023.

Due to the data quality being insufficient, property funds and private credit are not included in the overall Scheme numbers, but are included in the table, for completeness.

Totals may not sum due to rounding.

Conclusions

To assess whether investments are aligned with the Trustee's Net Zero target, TPI assessed each company on the Trustee's behalf, based on the alignment criteria set out in [Appendix 3](#).

For internally managed public markets investments, the "Committed to Align" category indicates that companies have either committed to a science-based target or set "ambitious targets" according to ISS. The "Committed to Align" category therefore shows a pipeline of companies that are likely to move towards "aligning" or being "aligned" with Net Zero.

For externally managed equities, TPI asked the managers to provide the alignment status of underlying companies on a percentage basis.

For direct IGA property, alignment is a point-in-time measurement. The Carbon Risk Real Estate Monitor (CRREM) tool was used to assess properties. The CRREM model provides an emissions pathway for each property sector per location that reduces over time to align with 1.5°C. The model will, for example, show the average UK office building's emissions per m² at the baseline (2019) and show the reduction pathway towards 2050. The assessment of each property is whether it is within the pathway at a specific point in time (31 December 2023) – not whether they will stay within the budget.

For externally managed assets in private markets, the level of alignment is assessed from the managers' commitments. If the manager has a Net Zero commitment that explicitly covers the fund that the Scheme invests in, the fund will be categorised as "Committed to Align" or better if it meets additional criteria.

The Project Gold portfolio was assessed in a similar way to externally managed private markets funds, by considering the commitments and visible plans in place from the portfolio managers, to cover these assets.

Although not shown in the table to the left, for the sovereign bond investments and the LDI portfolio, the majority of issuing countries by exposure have made Net Zero by 2050 commitments.

Alignment Target

The Trustee has set the following alignment target for the Scheme’s assets. It’s a forward-looking target, focused on the change that needs to occur in order to achieve Net Zero aims globally.

Target

By 2030, 70% of the relevant assets, measured in value, to have a Net Zero target of at least “aligned to Net Zero by no later than 2050”

This is based on SBTi, CRREM or equivalent, where available.

Asset coverage

Listed equities, corporate fixed income, and property (including direct property, indirect IGA property funds, the Project Gold and Jade property assets and IGA infrastructure funds).

This represented ~23% of assets at 31 December 2023.

Achieving the target is expected to help manage climate-related risks to the Scheme, by reducing exposure to climate transition risks in the short-term, by keeping up with a general market trend, and by reducing longer-term systemic risks from the physical effects of climate change by supporting collective action towards achieving Net Zero aims. This target will be re-visited each year to make sure it remains appropriate. The target was reviewed in February 2024, when the RIC considered its climate metrics and performance. It was agreed that the target would be retained.

Performance against the target

The Trustee believes the Scheme is on track to meet its climate targets.

During the year, the Trustee considered and assessed the Scheme’s current position against the above target, based on the portfolio as of 31 December 2023. TPI has estimated that 30% of the assets within scope for the target are classified as “aligning or better”. In addition to this, a further 37% have taken steps toward this status. This has improved since last year (11% aligning or better and an additional 35% having taken steps towards this status).

Scheme level	Not aligned (AUM%)	Committed to Align (AUM%)	Aligning or better (AUM%)
The baseline (2019)	42	26	32
December 2021	37	28	34
December 2022	54	35	11
December 2023	33	37	30

The current framework used to assess alignment across different asset classes is set out in the [Appendix 3](#). While there are some differences in methodology across assets, a consistent approach is taken where possible. Aggregation has been used to assess progress against the Scheme’s overall target, but alignment data has been reflected on an asset class basis within the [metrics section](#) of this report.

The alignment position significantly improved due to actions taken within a number of the property assets, and due to the equities and corporate bonds also having good alignment.



Steps being taken to achieve the target

TPI carried out various engagement activities with a range of different parties, including investee companies, investment managers, and policy makers, focused on helping the Trustee to meet its alignment targets. Examples include:

- Within property, TPI prioritised engaging on the use of renewable energy and the level of energy efficiency within buildings and has put together a clear set of recommendations on further engagement work to be done.
- With public equities managers, TPI engaged on voting activity and on external managers' own climate-related engagement efforts. TPI also worked with other investors to consider whether manager voting on energy companies was aligned with asset owner objectives. This discussion influenced some of TPI's manager engagement, particularly on the topic of shareholder proposals. On the Trustee's behalf, TPI also selected a new equities manager, which had a climate-tilted target that supported increasing portfolio alignment and reducing emissions.
- In Fixed Income, TPI engaged with the portfolio's top ten emitters, to understand their transition plans. This led to a much better understanding and an opportunity to push companies for progress. Some companies were found to be leaders in their fields. Others were disappointing in their plans or commitment. In two cases this was a factor (along with other financially material factors) in divesting and replacing with different issuers.

The Trustee looks to invest in funds that prioritise aligning with a Net Zero economy. The RIC monitors and reports to the Trustee on progress against the target at least once a year.

CASE STUDY:

Top Ten Emitters

What was the issue?

On the Trustee's behalf, TPI engaged with the Scheme's top ten highest-emitting companies within the corporate fixed income portfolio over 2023, to understand the issuers' Net Zero targets, decarbonisation plans and climate ambition.

What actions did TPI take?

TPI engaged with all of the issuers, including one-to-one meetings with eight of them. TPI tested the credibility of the Net Zero plans of the different issuers by assessing them against the Transition Pathway Initiative, Climate Action 100+, various ESG data feeds and its own proprietary research.

Where issuers were considered to have weaker and less credible plans, TPI raised this to allow the issuer to defend its position and explain any inconsistencies in its approach. Where issuers were considered to have stronger climate action plans, TPI reviewed them in detail with the issuer and collected evidence to use as examples of best practice.

What was the outcome?

TPI was pleased to see most of the issuers had reasonable Net Zero targets and decarbonisation plans in place, with some excelling. Unfortunately, several issuers had weak plans and when they were discussed further with each issuer it became clear that the plans are unlikely to improve over the short to medium term, despite industry pressure and collective engagement.

The findings, combined with broader financial considerations, led to TPI taking the decision to exit two specific positions. It felt that their decarbonisation plans lacked credibility and had too many inconsistencies. The current and projected emissions intensity of both issuers was not aligned with TPI's expectations and the Trustee's long-term Net Zero target. TPI identified an alternative company in the sector as a good replacement for the companies divested from both in terms of transition planning and financial outlook.

What are the next steps?

Continue to monitor the positions that were maintained, particularly where more progress needs to be seen. Check progress against stated short-term Net Zero goals, promote the issuers that are performing well, and use them as case studies for progress. Continue to engage with issuers that are not performing well on climate transition but can feasibly improve their position and approach.

Our Net Zero commitment

The Trustee has committed to aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050.

To support this commitment, the Trustee has:

- Joined the Institutional Investors Group on Climate Change ("IIGCC")
- Signed up to the Paris Aligned Investment Initiative ("PAII") Net Zero Asset Owner Commitment (as quoted)
- Joined the United Nations Framework Convention on Climate Change ("UN FCCC") Race to Zero campaign

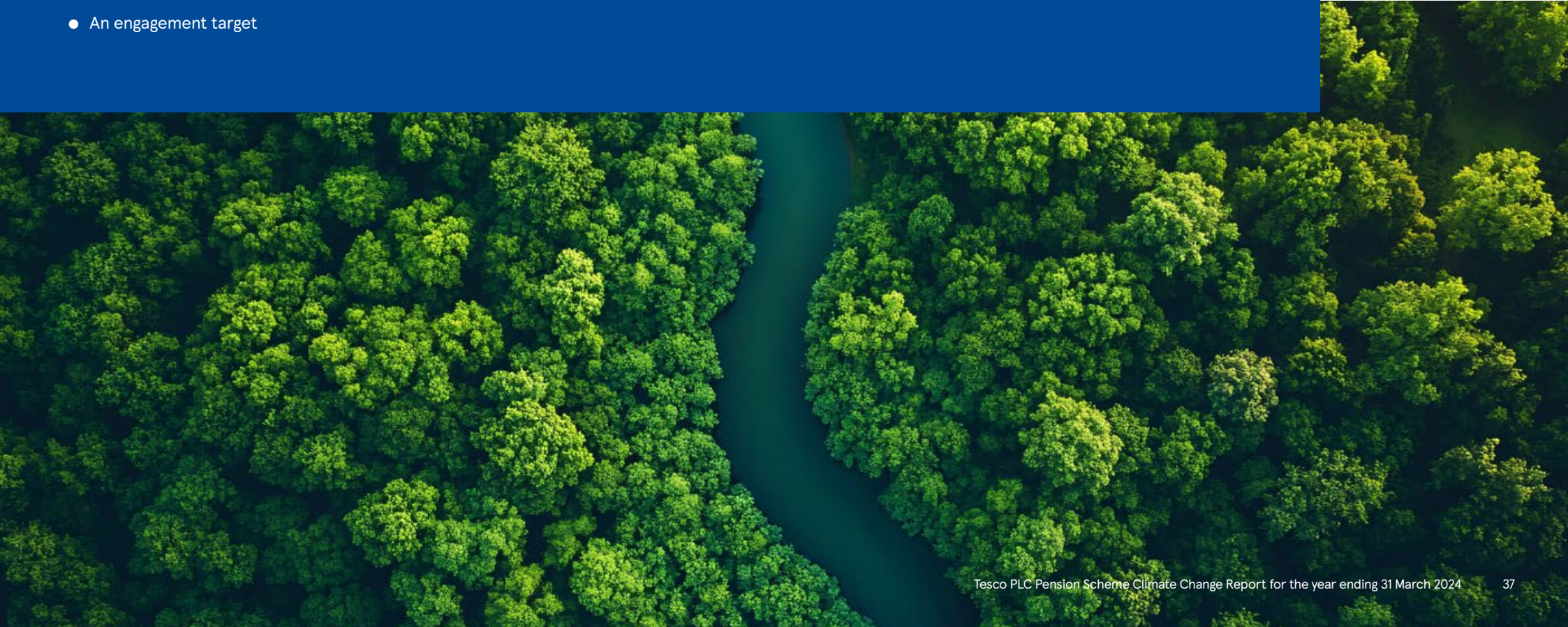
To support our commitment to aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050, the Trustee will use the TCFD alignment target as well as some additional Net Zero targets:

- An emissions reduction target
- An engagement target

As asset owners with millions of beneficiaries around the world, we reiterate our full support for the Paris Agreement and strongly urge governments to implement the actions that are needed to achieve the goals of the accord, with utmost urgency.

Recognising the need to address the risks that investors and their beneficiaries face from climate change, investors are taking action, but we acknowledge that there is an urgent need to accelerate the transition towards global Net Zero greenhouse gas emissions and do our part in helping deliver the goals of the Paris Agreement.

Our commitment is based on the expectation that governments and policy makers will deliver on their commitments to achieve the 1.5°C temperature goal of the Paris Agreement, and in the context of fulfilling our fiduciary obligations.



Net Zero: Emissions reduction target

In the Scheme year to 31 March 2022, the Trustee set a target to reduce 50% of the WACI annual “carbon budget*” by 2030, with sub-targets for internally managed equities and internally managed fixed income. The internally managed equities were subsequently sold, so the Trustee moved to having only a fixed income portfolio emissions reduction target last year. The Trustee has since invested in three external equity mandates and has therefore decided to re-instate an emissions reduction target for equities this year.

The RIC and the Trustee reviewed the emissions reduction target again this year, and the Trustee decided to keep it. The Trustee is not including other asset classes in scope for this target at present, due to planned changes to private market assets, including property. Emissions reduction targets for new investments will be considered as and when they are appointed.

**A carbon budget represents an estimate of emissions left to “spend” to limit global warming to below 1.5°C by 2050. A budget approach has been chosen to model portfolio carbon intensity against a “benchmark” emissions pathway towards Net Zero. The carbon budget is based on WACI rather than absolute emissions to allow for changing allocations to the portfolios over time.*

Performance against this target

It's important to note that the emissions data lags one year behind the valuation data for public market assets, including fixed income and equities. We are therefore referring to 2022 WACI data, based on the Scheme's 2023 portfolio composition, when we talk about current year.

For the fixed income portfolio, the portfolio WACI increased from 2020 to 2021. This was largely due to Q4 2022 sales concentrating positions, in particular, creating an overweight in utilities. Since Q4 2022 the portfolio has returned to a much more normal composition and the WACI has significantly decreased, highlighting the relatively low carbon intensity of the corporate fixed income portfolio.

The WACI of the fixed income portfolio has decreased against the reference baseline by 54%. This is based on 31 December 2023 asset values, but 31 December 2022 emissions data. This means that the WACI emissions reduction has met the target levels of reduction by 50%.

For the equities portfolio, the WACI is currently 46% lower than the reference target benchmark budget, meaning the portfolio is close to meeting its reduction target.





Net Zero: Engagement target

The Trustee also uses engagement as a key tool to achieve its Net Zero target, which is set out in the Trustee's RI policy. The Trustee expects its investment managers to consider Stewardship as an integral part of their investment process. TPI, on the Trustee's behalf, carried out a range of activities to support this Net Zero target.

As part of its responsible approach to investment, TPI engaged with the companies and other entities in which the Scheme invests on various matters. There are several ways to engage with companies to reflect the aim to transition to Net Zero, including discussions with senior management and voting on key resolutions when shares are held by the Scheme. The engagement activities are a collaborative effort between the RI team and the relevant investment teams and cover the full range of asset classes in scope for target setting (ie not just equities).

This year, TPI engaged with investee entities, both on an individual level and by working with other entities, considering issuer and sector allocations, as well as working with its property holdings to improve their energy efficiency and use of renewable energy sources.

The Trustee has set a target to engage with investments covering at least 70% of financed emissions in asset classes "in-scope" to encourage alignment with a Net Zero by 2050 pathway, with this increasing to 90% by 2030, in specific asset classes.

With support from its advisors (and previously TPI), the Trustee periodically considers the asset manager mandates it has set, or intends to set, in the context of climate-related risks and opportunities, and it will consider this target specifically.

External manager assessments include reviews of their climate practices and policies, how they incorporate climate-related factors into their investment process,

and how effectively they manage climate-related risks and opportunities and make sure that these are carried out in a way that is proportional to the scale and impact of the investment. The Trustee also considers the processes of its principal manager and the extent to which it integrates climate-related risks and opportunities into its processes.

In the previous section of this report, we note the Trustee's policy on disinvestment and exclusion, as part of its broader strategy on engagement. During the Scheme year, following engagement with the issues, TPI did divest from two fixed income positions, where climate concerns were one factor among other financial and risk factors that were used to assess the portfolio positions.

Full details of the Trustee's approach to voting and engagement, including a summary of voting and engagement for the Scheme year, can be found in its RI policy and its Implementation Statement. Both can be found [here](#).

Performance against this target

During the Scheme year, the Trustee's target to engage with at least 70% of financed emissions was achieved, with TPI engaging with 95% of financed emissions (plus LDI) in 2023. TPI engaged across relevant asset classes, covering equities, LDI, IGA infrastructure, indirect property, direct property, Project Gold, other IGA and corporate fixed income.

The Trustee agreed to retain the target for the Scheme.

Examples of engagement activity have been provided in the case studies throughout this report.

CASE STUDY:

Net Zero Approach for a portfolio of retail property assets

What was the issue?

There were two. Firstly, making sure that the Energy Performance Certificate (EPC) rating of assets in the portfolio remained compliant with regulatory standards, which are due to rise over the next seven years. Secondly, working with the asset manager and the tenant to make sure there is a plan for aligning the portfolio with Net Zero targets.

What actions did TPI take?

On the Trustee's behalf, TPI engaged with the asset manager and the sole tenant, to understand the EPC status of and EPC improvement plan for each asset, to collect emissions data from each asset, and to discuss plans for achieving Net Zero emissions over time.

What was the outcome?

Through reviewing asset-by-asset emissions data, as opposed to portfolio level data, TPI was able to identify the properties which are progressing well, and those which will require priority action, eg refrigerant gas replacement. TPI was able to discuss these with the asset manager and the tenant and was presented with plans for improvements. On the Trustee's behalf, TPI was able to get comfort that appropriate plans were in place for both EPC status and Net Zero ambitions. This activity allowed the Trustee to be confident to classify the portfolio as "Committed to Align" against the Institutional Investors Group on Climate Change's (IIGCC) Net Zero Investment Framework.

TPI was also able to consider how actions planned for Net Zero alignment will affect the EPC status – for example, removing gas boilers versus solar PV installation versus new roof insulation, and to be confident that both objectives are being planned for.

What are the next steps?

Monitor the implementation of actions to improve the EPC ratings and energy intensity of the stores. Make sure that the Net Zero plan is ratified and supported by the portfolio's management board.

Climate-related activities and action planning

The Trustee is using the IIGCC Net Zero Investment Framework to support its work associated with Responsible Investment, our Net Zero commitment, and action planning.

Net Zero action planning steps taken

The Trustee has completed the following actions to help achieve our Net Zero commitment. These are all key stages of the Trustee's climate action plan.

- **Put a suitable governance framework in place:** The Trustee uses a committee structure to make sure the right level of time and expertise is being spent on key RI matters, including Net Zero. The Trustee RIC supports the Trustee in its research and decision-making in this area. Clear roles and responsibilities have been set for the RIC, Trustee, our advisors and TPI, with training received on the key topics.
- **Reviewed our formal Responsible Investment policy:** As part of this annual review of the RI policy, the Trustee revisits its investment beliefs around Responsible Investment, and this year extended its RI policy to include specific considerations on climate-related risks and opportunities and Stewardship, as well as an escalation policy and an amendment to its disinvestment policy. The Trustee includes climate change as one of its Stewardship priorities for the Scheme.
- **Collated climate metrics to inform and make an assessment on climate-related risks and opportunities.** We have provided significant detail on the climate metrics that were gathered and assessed in this report. The asset classes in scope for metrics collection for the Scheme (listed equities, corporate fixed income, property assets, sovereigns, LDI and private credit and infrastructure funds) form 82% of the Scheme's portfolio as at 31 December 2023, which is a significant improvement on last year's figure of 61%.
- **Set targets and objectives and a Net Zero monitoring framework:** The Trustee has agreed to a set of metrics that it will use to assess its Net Zero progress with a clear target to allow for ongoing assessment. Monitoring of this forms part of the Trustee's regular monitoring with the aim of making sure that alignment to Net Zero is incorporated into all future investments, as well as current investments.
- **Continued to monitor our climate-related risks and opportunities register and climate within our wider Scheme risk register.** We have continued to review and refine our climate-related risks and opportunities register and considered the risks over the time horizons relevant to the Scheme, to monitor risks and make sure mitigating actions are being taken to address them.
- **Strengthened our Stewardship, engagement, and escalation plan:** The Trustee continuously monitors its principal investment manager on its Stewardship and engagement activities, and has had training sessions on Stewardship to develop its knowledge. The Trustee has further updated its RI policy in relation to voting, on equities, and broader engagement for other asset classes. The Trustee has discussed its escalation plan for engagement with TPI. As part of its engagement activity reporting, and as part of the Trustee's ongoing standard monitoring, TPI reported on its voting activity, including specific Net Zero-related provisions.
- **Advocacy and participation in industry groups:** The Trustee is an asset owner supporter of Climate Action 100+, the largest collaborative group of investors in the world, to engage with companies on climate change. The Trustee is also a signatory to Make My Money Matter's Green Pensions Charter and Nature Action 100. Advocacy and participation in industry groups is an important engagement tool and the Trustee sees this as a key way to influence and engage on climate and other ESG factors. The Trustee is also a member of the IIGCC network and participates in climate-related discussions and roundtables as a member of the Asset Owner Council.
- **Training on climate change and related factors:** The Trustee has received a number of training sessions during the Scheme year, to help make sure they have the necessary knowledge to address climate-related risks and opportunities. As referred to earlier in the report, training topics were climate solutions, nature and biodiversity, the DWP Taskforce on Social Factors, and climate metrics and targets.

Actions we plan to take

The Trustee has stated its intention to manage climate-related risks and opportunities to the Scheme, and to achieving its Net Zero commitment. The Trustee will review and develop its approach, to make sure it remains suitable and effective over time, and appropriate in the context of the investment strategy.

The Trustee and the RIC have plans for future work on climate change, as well as wider action on other RI factors, such as nature loss. This includes the following actions towards our Net Zero commitment:

- **Continue to develop knowledge with regular training on climate change, risk, and opportunities.** To make sure they remain updated on the latest developments and have the right knowledge, the Trustee and the RIC will continue to have regular training on climate change and on other RI factors, such as nature and biodiversity. The RIC will also consider climate change and Net Zero considerations, as well as other ESG factors.
- **Review the Trustee's RI policy and RI beliefs every year (this year, at the June Trustee meeting)** and make sure they remain appropriate, including further consideration of sub-themes that fall within each of the Trustee's Stewardship beliefs.
- **Review the Scheme's targets every year** and adapt them (where required) to reflect changes in the Scheme's investment strategy and wider developments.
- **Monitor progress towards the Scheme's alignment, carbon reduction, and engagement targets** and take action to support progress in achieving them (more detail on targets is set out in Section 5.2 and below).
- **Integrate the Net Zero commitment and the metrics and targets that the Trustee has selected as part of the overall strategy for the Scheme.**
- **Conduct further research into climate solutions.** As the strategy develops, we will consider the nature of the opportunity set and whether there is scope to include further investment in climate solutions that are in line with the Scheme's investment strategies and risk appetite.
- **Ongoing engagement:** The Trustee will identify the investments it intends to engage with on Net Zero and carry out its engagement actions in line with agreed policies. This includes engagement with 70% of financed emissions to encourage alignment with a Net Zero by 2050 pathway.

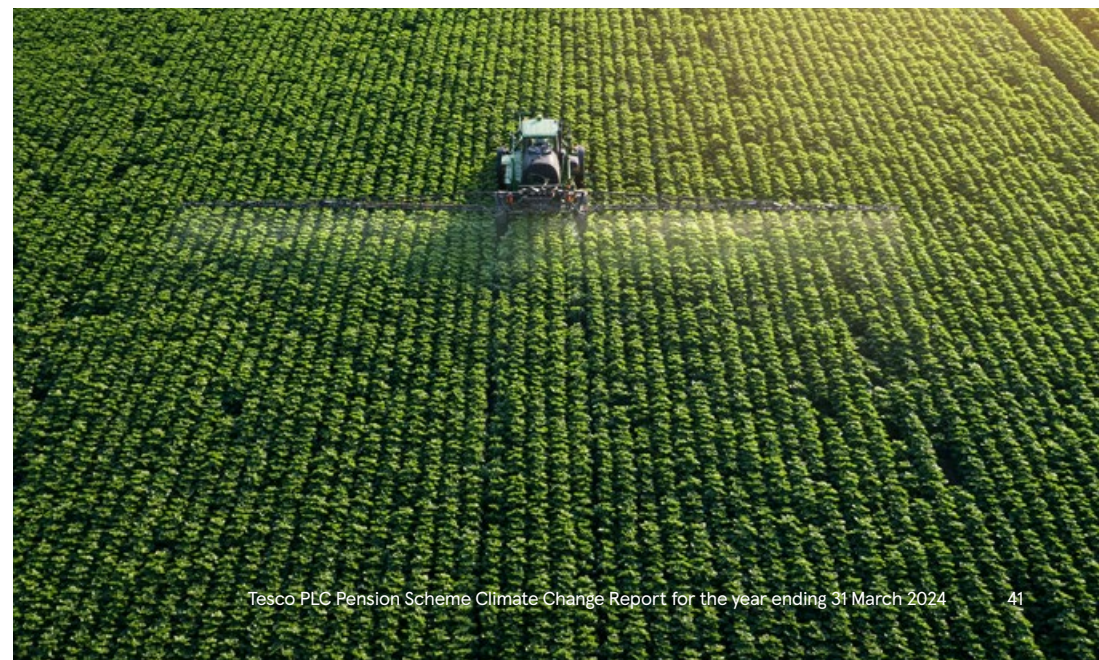
In the Trustee's view, these actions make sure the Trustee has made its best possible effort, taking account of its fiduciary duties and the practical constraints (such as those relating to the property portfolio) to reduce emissions and increase allocations to climate solutions. The Trustee will keep these actions under review and as an evolving area and expects to take additional actions in future years. We will report on these actions annually in this Climate Report.

What does this all mean?

This report sets out how the Trustee is identifying, assessing, monitoring, and managing climate-related risks and opportunities for the Scheme and the progress we have made this year. An important part of this is the Trustee's commitment to aim for the Scheme's assets to have Net Zero carbon emissions by no later than 2050, as is exercising effective Stewardship.

The Trustee will continue to work closely with the Scheme's principal investment manager and its advisors, to continue to develop its approach as climate change data quality improves, and as the Scheme's assets change over time.

A climate change report for the Scheme will be issued every year. The Trustee looks forward to sharing its progress with you.



Appendices

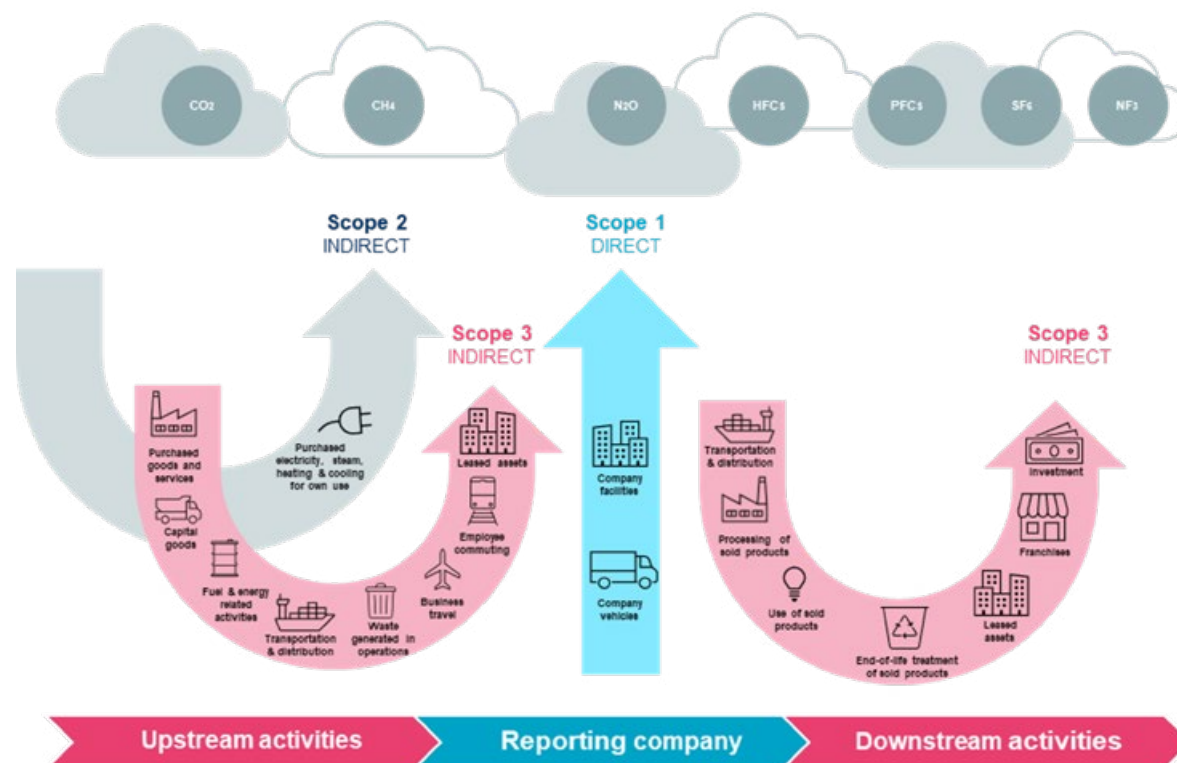
Appendix 1 – Greenhouse gas emissions explained

In this report, the emissions metrics discussed relate to seven greenhouse gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

The figures are shown as “CO₂ equivalent” (CO₂e), which is the amount of carbon dioxide that would be equivalent to the excess energy being stored by (and therefore heating) the earth, due to the presence of these seven greenhouse gases in the atmosphere.

The metrics related to greenhouse gas emissions are split into the following three categories: Scope 1, 2 and 3. These categories describe how directly the emissions are related to an entity’s operations, with Scope 1 emissions being most directly related to an entity’s everyday activities and Scope 3 referring to indirect emissions in an entity’s value chain. Scope 3 emissions often form the largest share of an entity’s total emissions, but they are also the ones that the entity has least control over.

- **Scope 1** greenhouse gas emissions are all direct emissions from the activities of an entity or activities under its control.
- **Scope 2** greenhouse gas emissions are indirect emissions from electricity bought and used by an entity, which are created during the production of energy that the entity uses.
- **Scope 3** greenhouse gas emissions are all indirect emissions from activities of the entity, other than scope 2 emissions, which occur from sources that the entity does not directly control.



Appendix 2 – Further details on climate-related metrics

Metric	What's included and why
Absolute emissions: Total greenhouse gas emissions	The total of each company's most recent reported or estimated greenhouse gas emissions attributable to the Scheme's investment in the company, where data is available. Emissions are attributed evenly across equity and debt investors. Reported in tonnes of CO ₂ equivalent.
Emissions intensity: Carbon footprint	The total greenhouse gas emissions described above, divided by the value of the invested portfolio in £m, adjusted for data availability. Emissions are attributed evenly across equity and debt investors, except in the case of property where it is all attributed to equity holdings. Reported in tonnes of CO ₂ equivalent per £1m invested.
Emissions intensity: Weighted Average Carbon intensity (WACI) / emissions intensity per floor area / emissions intensity per capita	The greenhouse gas emissions of each company divided by the company's revenue in £m and aggregated across the portfolio based on the portfolio weights of the investee companies. Reported in tonnes of CO₂ equivalent per £1m of revenue. For property: The greenhouse gas emissions of each holding divided by the holdings' floor space in metres squared and aggregated across the portfolio based on the portfolio weights of the property holdings. Reported in kg of CO₂ equivalent per metres squared. For sovereign bonds and Liability-Driven Investment (LDI): The greenhouse gas emissions of each holding divided by either GDP or capita of the issuing country. Reported in tonnes of CO₂ equivalent per £1m of GDP or in tonnes of CO₂ equivalent per capita.
Portfolio alignment: Alignment with Net Zero by 2050 goals	For equity and fixed income, the proportion of the portfolio by weight of companies that are aligned with Net Zero by 2050 goals, demonstrated by a target approved by the Science Based Targets initiative (SBTi) or equivalent. Reported in percentage terms. More detail on the method for assessing alignment for each asset class is included in Appendix 3 on the next page of this report. Level of alignment has been defined as: Achieved Net Zero – an entity has achieved Net Zero Aligned – an entity has an overall Net Zero by 2050 target, robust interim targets, discloses emissions and has shown demonstrable progress Aligning – an entity has an overall Net Zero by 2050 target, robust interim targets and discloses emissions Committed to Align – an entity has set a Net Zero by 2050 target, but no robust interim targets or strategy has been determined yet Not aligned – an entity has either no target or is working towards emissions reduction / alignment which is not sufficient
Emissions data coverage: Data quality	The proportion of the portfolio for which greenhouse gas emissions data is verified, reported, estimated or unavailable. Verified emissions refers to data reported by the emitting company and verified by a third party. Reported emissions are reported by the emitting company but not verified.

Appendix 3 – Defining alignment across asset classes

We have used the IIGC Net Zero Investment Framework to come up with a definition of what “alignment” means across the Scheme’s asset classes.

	Definition	Public markets, external	Property, direct	Property, direct
Not Aligned	The entity has either no target or is working towards emission reductions/alignment which is not sufficient.	No target or target that is not aligned with Net Zero (eg 10% reduction by 2040).	The property is above the sector-specific CRREM line and is not going to be improved.	The manager does not have a target or the target is vague.
Committed to Align	An entity which has a Net Zero by 2050 or earlier target, but which has not demonstrated interim targets or other support for achieving their target yet.	A commitment to Net Zero (a committed science-based target and an “ambitious target” by ISS can be used as proxies).	N/A	The manager has committed to Net Zero and the fund TPI invested in is within scope.
Aligning	Have set short or medium-term targets, disclose scope 1-3 emissions, disclose a plan of achieving the targets. In short - there is a plan and good disclosure but no progress has been demonstrated yet.	An approved science-based target meets the requirements. For companies with other ambitious targets, they can be scrutinised on a bottom-up level.	TPI had a plan for improving the individual property’s energy performance to move below the CRREM decarbonisation line.	The manager has set interim targets, discloses fund emissions and has a plan for how to meet the targets.
Aligned	Have a Net Zero target, interim targets, a clear plan, disclose progress against the targets (higher requirements for high-impact-entities), demonstrate capex towards decarbonisation and the ability to demonstrate progress towards the targets.	An approved science-based target (or similar) plus the ability to demonstrate capex towards decarbonisation and progress towards target. This includes scope 1, 2 and material scope 3.	A property is below the sector-specific CRREM pathway line at a specific point in time. For example, aligned by 2030 means that the property is below the sector-specific CRREM line at 2030.	The manager meets the “aligning” criteria and all properties in the fund are defined as “aligned” as the direct property.
Achieved Net Zero	Entities that have current emissions intensity performance at, or close to, Net Zero emissions with an investment plan or business model expected to continue to achieve that goal over time.	The company has decarbonised as much as technologically possible for scope 1-3 emissions, and has a plan to keep emissions at this level and offset the rest.	A property has reduced its energy use as much as possible, decarbonised the energy it uses, decarbonised the embedded carbon as much as possible and the rest is offset.	The fund holdings are Net Zero through emissions reductions as far as possible and offsets for the remaining.

Appendix 4 – Data gaps and data quality

Data is not yet available for all the Scheme’s assets. There is currently no data available for alternative and treasury assets, which made up 18% of the Scheme’s asset base as at 31 December 2023.

Treasury assets are primarily invested in cash and other liquid short-term instruments and there is currently no standard methodology for collecting or aggregating metrics.

We would not highlight any specific asset classes for which we’d consider the data quality to be uncertain, although we would note that improvements in climate data are rapidly taking place across various asset classes. It’s expected that gaps in data will become much smaller over the short-to-medium term, and that data quality will improve as methodologies become more consistent, and disclosures become standardised and easier to interpret.

It should be noted that, for the private market assets, Scope 1, 2 and 3 emissions data has not been disaggregated, due to the private market managers being unable to provide the data within our timescales. Further detail can be found in the footnotes to the relevant tables. In some cases, this data is being reported for the first time, so the Trustee has chosen to disclose the data that it was able to collect.

The Trustee continues to engage with the managers on data disclosure.

During the Scheme year, TPI engaged with investee entities directly, as well as through collaborative efforts, to improve the availability and quality of climate data. An example of collaborative engagement during the Scheme year was TPI’s support for [CDP](#)’s annual non-disclosure campaign, where CDP (formerly the Carbon Disclosure Project) arranges for investors to write to companies that do not yet submit climate reports to CDP. TPI also engaged with external managers across all asset classes, to encourage them to report on climate data, when investing with new managers and as part of their ongoing engagement.

Included for metrics and alignment target - Equities - Corporate fixed income - IGA infrastructure funds - IGA direct property - IGA Other - Project Gold	23%
Included for metrics, not alignment target: - Sovereigns - LDI - Property funds - IGA Private credit	59%
Not included - Alternatives and other residual assets - Treasury	18%

Asset allocation above for 2023 is based on audited NAV numbers.

Appendix 5 – Climate-scenario analysis: further detail on the modelling approach

Modelling approach

- The climate-scenario analysis is based on a model developed by Cambridge Econometrics and Ortec Finance. Ortec Finance are expert providers of investment decision technology and solutions. Cambridge Econometrics specialise in modelling global economies and advise clients such as the European Commission.
- The three climate scenarios were projected year by year, over the next 40 years.
- The results are intended to help the Trustee to consider how resilient the DB funding and investment strategy are to climate-related risks.
- Cambridge Econometrics and Ortec Finance have modelled the effects of three possible paths the world could follow. These are just three illustrative scenarios and they are not intended to be “worst case”. They are only three scenarios out of countless others which could have been considered. Other scenarios could give better or worse outcomes for the Scheme.
- The version of the model used for the Scheme’s analysis was based on macroeconomic data on 31 December 2022, calibrated to market conditions on 31 March 2023, and using the Scheme’s Safe Harbour funding basis.

Description of the scenarios and why the Trustee chose them

Transition	Description	Why the Trustee chose it
High Warming	Global Net Zero carbon emissions not reached by 2050; only existing climate policies are implemented and temperatures rise significantly.	To explore what could happen to the Scheme’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.
Limited Action	Intended as a potential middle ground scenario between the other two scenarios. Some new policies are implemented but ultimately Net Zero is not achieved by 2050.	To see how the Scheme’s finances could play out if the economy makes a material shift towards low carbon by 2030 but global Net Zero carbon emissions are achieved by 2050.
Net Zero Financial Crisis	Global Net Zero carbon emissions is achieved by 2050; rapid and effective climate action (including using carbon capture and storage). Financial markets are initially slow to react and then react abruptly.	To look at the risk and opportunities for the Scheme if global Net Zero carbon emissions is achieved by 2050, but financial markets are volatile as they adjust to a low carbon economy.



Key features of the climate scenarios considered

Scenarios:	High warming	Limited action	Net zero financial crisis
Low carbon policies	Continuation of current policies and technology trends (eg significant renewable energy prices).	Moderate steps taken by policymakers to increase climate action including working towards to 2030 targets and Net Zero commitments. Carbon Capture and Storage also used.	Ambitious low carbon policies, high investment in low carbon technologies and substitution away from fossil fuels to cleaner energy sources and biofuel. Carbon Capture and Storage also used to achieve global net zero by 2050.
Paris Agreement outcome	Paris Agreement goals not met.	Paris Agreement goals not met.	Global Net Zero CO ₂ achieved by 2050; Paris Agreement goals met.
Global warming	Average global warming is about 2°C by 2050 and 4.2°C by 2100, compared to pre-industrial levels.	Average global warming is about 1.8°C by 2050 and 2.8°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	High 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 almost 50% lower 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 almost 30% lower 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 almost 5% lower in the climate-uninformed scenario.
Financial market impacts	Physical risks priced in over the period 2026-2030. A second repricing occurs in the period 2036-2040 as investors factor in the severe physical risks.	Physical risks priced in over the period 2026-2030. A second repricing occurs in the period 2036-2040 as investors factor in the high physical risks.	Abrupt repricing of assets and a sentiment shock to the financial system in 2025.

Source: Ortec Finance, Cambridge Econometrics, LCP.

Further detail on how the model works

- The scenario analysis is based on the ClimateMAPS model developed by Ortec Finance and Cambridge Econometrics, which LCP applied to the Scheme's assets and liabilities.
- ClimateMAPS uses a top-down approach, which models climate impacts on both assets and liabilities, allowing the resilience of the Scheme's funding and investment strategies 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, impacts on country 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 Scheme to illustrate how the different scenarios could affect its funding level.
- No allowance was made for unplanned changes to the investment strategy or contributions in response to the climate impacts modelled

Limitations of the modelling

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 Scheme's investments are affected by climate-related risk in line with the market-average portfolio for the asset class.

This contrasts with a "bottom up" approach, which would model the impact on each individual investment held in the Scheme'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 Scheme's assets.

In practice, the Scheme's investment portfolio may not experience climate impacts in line with the market average. The Trustee uses climate-related metrics and investment assessments to understand how the Scheme's investment portfolio differs from a typical, market average, portfolio.

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 the Scheme's funding projection 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 out of an infinite number of scenarios have been considered. Other scenarios could give better or worse outcomes for the Scheme.

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 High Warming 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.

The Trustee has considered the potential impact of such limitations in the modelling and, by applying a qualitative overview to their review of the data, it has taken these limitations into account in any decision-making processes.

Notes on the modelling of potential impacts on the Scheme's Sponsor:

Interpath worked with Tesco to understand its initial climate modelling and adapt it to align with the climate scenarios prepared by LCP.

Tesco, in partnership with Risilience – part of the Centre for Risk Studies at the University of Cambridge – has developed a "digital twin" of the Tesco business, which can be used to stress test the business under various warming scenarios:

- Interpath has worked with Tesco to understand the basis of its initial modelling, and to set out the potential profit and cashflow impacts across several categories – policy implications, changes to demand, input cost impacts, litigation, and market / third-party sentiment.
- Using Tesco's modelling, Interpath prepared an overview of the mitigated and unmitigated potential profit and cashflow impacts that might occur under the three climate scenarios considered by the Trustee.

Appendix 6 – Assessment of potential investments by the Trustee’s principal investment manager

In this section, we set out more specific detail on the analysis that TPI carried out on the Trustee’s behalf, in relation to their assessment of different Scheme asset classes:

Public markets – internally managed

TPI managed Fixed Income assets on the Trustee’s behalf. Details on the approach in Fixed Income are as follows:

- Fixed income issue selection was primarily driven by assessing valuation. The consideration of carbon intensity and climate-related risks and opportunities was, however, an important part of the investment process (as it is considered that this can have a significant impact on future value).
- TPI’s Fixed Income team, working with TPI’s RI team, carried out ESG analysis on all new investments, making use of tools including the SASB (Sustainability Accounting Standards Board) materiality map, Moody’s ESGView, Bloomberg, Sustainalytics™, a Morningstar company, ISS climate data, and CDP disclosures.
- These tools helped the TPI team to determine the risk of negative climate impact from the potential investment, as well as material financial risks to the investment posed either by physical climate change or climate-transition.
- The TPI team considered how company management addressed the various risk and opportunities, as well as whether a company had a Science Based Target (or equivalent) or is working towards one.
- Consideration of companies was done in the context of sector peers (including comparison of emissions data) and the extent to which companies support a transition towards reduced climate-related risk and impact in that area.
- Prior to purchase, a company’s potential contribution to portfolio-level carbon emissions on an intensity basis (measured by WACI) was assessed by TPI’s fixed income and RI team. As part of its due diligence and analysis, the team assessed company WACI against its peer group. Where the valuation was also considered positive, the team considered buying companies with low weighted average carbon intensities.

Public Markets – externally managed funds

During the Scheme year, the Trustee made an investment with two new external managers. As part of the appointment process, TPI looked at the following for these new managers:

- Reviewing the overall approach to Stewardship including engagement and voting
- Understanding their due diligence processes and their approach to assessing climate targets, risks, and opportunities, as part of their wider ESG approach
- Understanding the philosophy about engagement for change, versus avoidance of emissions
- Considering their voting policies and record
- Making sure that they are able to provide the climate-related reporting that the Trustee needs to understand its risks and to meet regulatory requirements

For external passive equities mandates, which track an index or benchmark, the ability of the manager to pivot or focus its exposure is limited by their reference benchmark. TPI expected managers to understand climate-related risks and opportunities, however, and to engage with companies to encourage them to set and meet transition plans. TPI also expected managers to use their interaction with company management and their votes to support these aims. Regular engagement between external fund managers and TPI teams was a key part of investing with external managers, monitoring the delivery against mandated climate and performance targets.

With the new exposure to equities increasing, due to the inclusion of the two new external managers, the Trustee decided to re-introduce an emissions reduction target for equities during the Scheme year. We’ve reported on this emissions reduction target on [pages 38–39](#) of this report.



CASE STUDY:

New external manager: engagement with underlying company

What was the issue?

With the addition of two new equity managers this Scheme year, TPI worked with the managers on the Trustee's behalf, to understand their engagement activities, and reported back to the Trustee.

One of the Scheme's new equities managers uses a third-party proxy provider for its voting and engagement activity. Investors are able to choose which voting policy is most relevant or most closely aligned with their beliefs and, in this case, TPI chose the provider's climate tilted voting policy.

The external equity manager shared an engagement case study about a Japanese multinational corporation to show how this works in practice.

At the company's 2021 AGM, a shareholder proposal, which requested the company disclose a plan outlining its business strategy, including climate metrics and short, medium, and long-term climate targets, to align its financing and investments with the goals of the Paris Agreement, was filed by several NGOs.

The company had been receiving criticism, particularly for providing financing to companies in the coal industry and funding fracking, tar sands, and fossil fuels.

What actions did the manager take?

The Scheme's external manager uses the proxy provider's Active Ownership Engagement Solution, which coordinates engagement on behalf of investors. On the managers' behalf, the provider challenged the Japanese company (since its 2021 AGM) to discuss how it planned to address the shareholder proposal.

What was the outcome?

Following dialogue with the provider, the company announced the following developments to its strategy at an AGM in June 2023:

1. Targets for Net Zero financed emissions by 2050 and Net Zero GHG emissions in its own operations by 2030.
2. Set interim 2030 plans for high emitting sectors from its investment and loan portfolios, in line with GFANZ and NZBA guidelines.
3. Strengthened policy on coal financing; not only will it not finance new coal-fired power generation projects, but now also the expansion of existing facilities.
4. Said it will disclose its transition plan for decarbonisation by the end of fiscal 2023.
5. Planned to set interim targets for the automotive, aircraft, and coal sectors by June 2024.

What are the next steps?

On the Trustee's behalf, the manager will continue to work with the provider to make sure it continues to target issues and companies relevant to the fund and its objectives.



Private markets funds

The Scheme's private markets investments span a wide range of sectors, from private equity to infrastructure, private credit, and property. Some of these sectors are not yet "in-scope" for the Scheme's emissions reporting or targets, due to challenges presented by data coverage and the need for the industry to better develop methods for alignment and monitoring.

This is something the Trustee discussed and challenged TPI on at the November and February RIC meetings. The Trustee will continue to challenge Schroders, its new principal investment manager, and monitor developments in this area.

The Trustee is focused on making sure the climate data it collates and reviews evolves and improves over time. TPI aimed to increase the availability of meaningful climate-related information in the private markets area and, during the Scheme year, it gathered climate-related metrics and alignment data from private credit managers for the first time, further broadening the scope of collected data.

Although there were no new investments in private market funds during this Scheme year, the TPI team would have applied the following steps to align any new portfolio investments with the Scheme's RI policy as far as possible:

- Consider the overall strategy of any potential investment and whether it's likely to include exposure that could be inconsistent with a Net Zero goal. For example, if there was the possibility of exposure to a high-emitting sector, or fossil fuel infrastructure, TPI would have considered the nature and extent of any possible exposure, and what action they could take. They would have considered any risk controls that were in place around internal management, whether it was contributing to a just transition, climate-related risks to residual investment value, and any concerns about assets stranding.
- Once engaged with a prospective investment, the TPI team would have reviewed and discussed the manager's ESG policies, and asked the manager to complete an ESG Due Diligence Questionnaire, which covered climate-related governance, strategy, risks and opportunities, metrics, and targets.
- TPI asked all new external managers to meet its reporting requirements on ESG reporting and on TCFD and emissions reporting. It also asked them to make a commitment to align with a Net Zero target. It encouraged this from existing managers too.
- Some asset classes within the Private Markets sector are more advanced than others in tackling emissions reporting and putting together Net Zero pathway analysis. The TPI team took this into consideration in its analysis and negotiations, but it pushed all new managers for a progressive stance.

Other assessment activity in relation to private markets carried out by TPI this year include:

- Issuing a comprehensive due diligence questionnaire to the private markets managers. Managers' responses were analysed and follow up actions were identified. The findings from this study will be used to drive the ongoing assessment of engagement activities in private markets for the next Scheme year, and we'll report back on the outcome of this in our next climate report.
- TPI co-led a private markets working group for the Asset Owner Council (AOC), which considered the approach to climate-related issues across different private markets sectors. This was a knowledge and experience sharing group, which provided TPI with some useful insights, including:
 - There was a range of approaches to the extent to which private markets are being included in metric collection. Where private metrics were in scope, there was significant use of estimates across participants.
 - Property was the most covered asset class, with infrastructure the second most covered.
 - Net Zero commitments may not be applicable for every invested fund, but funds should be open to discussing Net Zero ambitions at a minimum.

Direct Property

- Although there have been no new direct property investments this year, the team would have considered the ESG characteristics of any new buildings, its plant and machinery, how the tenant uses it, and its exposure to physical climate risks (such as flooding), when considering whether to make a property investment.
- TPI had a flood policy, and flood risk assessments for each directly-held asset. An assessment was carried out for any new acquisition, including consideration of a “worst case” climate scenario. The property’s Energy Performance Certificate status was reviewed, along with the requirements and costs associated with improving this, and making sure it continues to be in line with increasing regulatory standards.
- TPI used the CRREM pathway tool to consider emissions reduction “budgets” for assets.
- TPI would have applied this assessment methodology to any new direct property investment, and to investments that were identified as long-term hold assets. This would have included a cost appraisal to determine whether an asset had the potential to become “aligned” on a cost-effective basis.
- For any new development, TPI would have used the sustainability assessment method established by BREEAM (Building Research Establishment Environmental Assessment Method), setting a minimum rating of “Excellent”.

Industry collaboration

As principal investment manager and on the Trustee’s behalf, TPI looked for opportunities to engage with other investors to support a collaborative industry-wide approach to the decarbonisation of portfolios. For example, TPI attended and contributed to the asset owners and managers “aligning expectations” roundtable during the Scheme year, in October 2023. The objective was to consider how well the long-term interests of asset owners have been represented by their managers when exercising their Stewardship processes, particularly proxy voting.

The group reviewed the research and voting patterns of Oil and Gas companies. TPI subsequently attended a follow-up asset owner Stewardship alignment workshop, in March 2024, to discuss how asset owners can help to ensure alignment between owners and managers on voting. There have also been conversations with peers about the pros and cons of divestment versus engagement.

Tools used to make assessments

In public markets, the team made use of tools such as the Sustainability Accounting Standards Board (SASB) materiality map, climate-related data from ISS, information and commentary from research providers (eg Sustainalytics™ a Morning Star company, Moody’s ESGView, Bloomberg and the CDP (formerly the Carbon Disclosure Project)), to understand a company’s position and how it compares with its peers. The managers of the externally managed equities use third party service providers as well as their own models.

In private market fund investing, TPI engaged with managers on the Trustee’s behalf, through a regular schedule of performance reviews and fund monitoring, Limited Partner Advisory Committees, and direct, targeted communication. An ESG Due Diligence Questionnaire was issued to key existing managers during the Scheme year. The responses have helped demonstrate which managers are able to report emissions, and which managers (and funds that they manage and control) have Net Zero aligned targets. The results of the questionnaire will be used to inform future engagements.

Directly-held property investments can present an opportunity for the Scheme to make a direct impact on emissions reduction, and to manage physical risks, while protecting investment returns. Data has been sourced from managers and tenants for some property assets, and proxy methods for calculating property emissions have seen further improvements over the year.

It is expected that data and energy performance certificate (EPC) reports will be used to determine where work could be done to improve energy efficiency, aiming to reduce impact and preserve value.

Appendix 7 – Simple Guide to the terms used

Actuarial valuation	An accounting exercise, typically carried out every three years, to help the Trustee and the Scheme's Sponsor (in this case, Tesco) work out how much money the Scheme needs to pay everyone's pension benefits, now and in the future.
Alignment	In a climate change context the process of bringing greenhouse gas emissions in line with 1.5°C temperature rise targets. It can be applied to individual companies, investment portfolios, and the global economy.
Alternative assets	Alternative assets used by the Scheme include private equity, hedge funds, and reinsurance assets. Many alternative asset classes target absolute returns, as opposed to returns relative to a specific benchmark. Note that these are commonly used by many pension schemes.
Asset class	A way of grouping securities that exhibit broadly similar characteristics to each other. Examples of asset classes include equities, bonds, property.
Bond	A security, issued to investors by companies, governments, and other organisations. In exchange for an upfront payment, an investor normally expects to receive a series of regular interest payments, plus a final lump sum payment, typically equal to the amount invested originally.
Carbon emissions	The release of carbon dioxide, or more generally greenhouse gases, into the atmosphere. For example, from burning fossil fuels.
Carbon footprint	In an investment context, the total carbon dioxide or greenhouse gas emissions generated per amount invested (eg in £m) by an investment fund
Carbon risk real estate monitor (CRREM)	A tool that provides the real estate industry with science-based de-carbonisation pathways, which are aligned with the goals of the Paris Agreement (see below).
Climate-related risks and opportunities	The TCFD (see below) requires scheme-specific consideration of the risks and opportunities caused by the effects of climate change, and any steps which might be taken (for example, by governments) as a result of climate change.

Covenant	The ability and willingness of the Scheme's Sponsor to make up any shortfall between a DB scheme's assets and the agreed funding target.
Credit	Long-term debt issued by a company, also known as corporate bonds. Corporate bonds carry different levels of credit risk which is indicated by their rating and credit spread.
Credit opportunities	Wider credit assets invested in by the Scheme, including debt in emerging markets, high yield debt (ie bonds with a credit rating below BBB) and other credit-like assets (where appropriate)..
Defined Benefit (DB)	A pension scheme in which the primary pension benefits payable to members is based on a defined formula, often linked to the member's salary. The Sponsor bears the risk that the value of the investments held under the scheme fall short of the amount needed to pay the pension benefits.
Debt	Money borrowed by a company or government which normally must be repaid at some specified point in the future.
Environmental, Social and Governance (ESG)	Factors that can impact the value of an investment. Environmental factors include physical resource management, pollution prevention, and greenhouse gas emissions. Social factors include workplace diversity, health and safety, and a company's impact on its local community. Governance matters include executive compensation, board accountability, and shareholder rights.
Equity	Equity holders have part-ownership in a company, and therefore a share of its profits, typically received through dividends. Equity holders can vote at shareholder meetings.
Fiduciary obligations	A legal obligation of one party (a fiduciary) to act in the best interest of others. Fiduciaries are people or legal entities that are entrusted with the care of money or property on behalf of others. They include pension scheme trustees.
Fossil fuels	Fuels made from decomposing plants and animals, which are found in the Earth's crust. They contain carbon and hydrogen, which can be burned for energy. Examples include coal, oil, and natural gas.

Appendix 7 – Simple Guide to the terms used

Funding position	A comparison of the value of assets with the value of liabilities (see below) for a DB pension scheme.
GDP (Gross Domestic Product)	A monetary measure of the market value of all the goods and services produced by a country, over a specific period.
Gilts	Bonds issued by the UK government. They are called gilts as the bond certificates originally had a gilt edge to indicate their high quality (as the UK government has a low probability of defaulting on its bond obligations).
Greenhouse gas (GHG) emissions (scopes 1, 2 and 3)	Gases that have been and continue to be released into the Earth's atmosphere. Greenhouse gases trap radiation from the sun which subsequently heats the planet's surface (giving rise to the "greenhouse effect"). Carbon dioxide and methane are two of the most important greenhouse gases.
Income generating assets (IGAs)	Long-term assets, which largely offer contractual cash-flows. IGAs cover a range of asset classes, including real estate, infrastructure and debt.
Integrated risk management	An approach used by DB pension scheme trustees to identify, manage, and monitor the wide range of risks (associated with investment, funding, and covenant), which might have an impact on the chances of them meeting their scheme's overall objectives.
Just Transition	A Just Transition means moving to a more sustainable economy in a way that's fair and inclusive to people, workers, and communities.
Liabilities	Obligations to make a payment (or payments) in the future. An example of a liability is the pension benefit "promise" made to DB pension scheme members, such as their regular pension payments after they retire. It is often more difficult to predict how much a payment will be, and therefore what assets need to be held, the further into the future the payment is due.
LDI (Liability-Driven Investment)	An investment approach that focuses on matching the sensitivities of a DB pension scheme's assets to those of its underlying liabilities in response to changes in certain factors, most notably interest rate and inflation expectations. The purpose of this is to reduce the volatility of the funding position.

Net Zero	The situation in which total greenhouse gas emissions released into the atmosphere are equal to those removed. This can be considered at different levels, eg company, investor, country or global.
Offsetting	The process of paying someone else to avoid emitting, or to remove from the atmosphere, a specified quantity of greenhouse gases. For example through planting trees or installing wind turbines. It is sometimes used to meet Net Zero and other emission reduction targets.
Paris Agreement	The Paris Agreement is an international treaty on climate change, adopted in 2015. It covers climate change mitigation, adaptation, and finance. Its primary goal is to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels.
Passive management	A passive investment manager constructs a portfolio with the aim of replicating, rather than outperforming, the performance of an appropriate benchmark.
Physical risk	Climate-related risks that arise from changes in the climate itself. They include risks from more extreme storms and flooding, as well as rising temperatures and changing rainfall patterns.
"Project Gold" asset	The Scheme's Project Gold asset is an investment in a vehicle that holds an equity interest in around 80 Tesco Stores, Distribution Centres, and retail parks. The Scheme will own 50% of these properties when this investment reaches maturity date (in 2039).
Responsible Investment (RI)	The process by which environmental, social and governance (ESG) issues are incorporated into the investment analysis and decision-making process, and into the oversight of investment companies through Stewardship activities. It is motivated by financial considerations aiming to improve risk-adjusted returns.
Safe Harbour	The Scheme's additional funding objective to be 100% funded on a low-risk investment strategy designed to meet the future cashflow requirements. This equates to being in a position to be able to meet all future liabilities with returns of just 0.5% a year above gilts.
Science-based targets	Targets to reduce greenhouse gas emissions that are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement.

Appendix 7 – Simple Guide to the terms used

Science-Based Targets initiative (SBTi)	An organisation that sets standards and provides accreditation for science-based targets set by companies and investors.
Scenario analysis	A tool for examining and evaluating different ways in which the future may unfold. Typically a number of scenarios will be chosen to be evaluated.
Scope 1, 2 and 3	A classification system used to define what is included in greenhouse gas emissions metrics. This is explained further in Appendix 1 .
Stakeholder	An individual or group that has an interest in any decision or activity of an organisation. The stakeholders of a company include its employees, customers, suppliers, and shareholders.
Statutory obligations	Obligations that do not arise out of a contract but are imposed by law.
Stewardship	The responsible allocation, management, and oversight of capital, to create long-term value for clients and beneficiaries, leading to sustainable benefits for the economy, the environment, and society. It is often implemented through engagement with companies, and through exercising voting rights.
Stranded assets	Assets that have suffered an unanticipated loss of value before the end of their expected useful economic life. The term is most often applied to fossil fuel investments in the context of climate policy, where legislative and market developments may result in assets being worth less than the value recorded on company balance sheets.
Taskforce on Climate-related Financial Disclosures (TCFD)	A group of senior preparers and users of financial disclosures from G20 countries, established by the international Financial Stability Board in 2015. The TCFD has developed a set of recommendations for climate-related financial risk disclosures for use by companies, financial institutions, and other organisations to inform investors and other parties about the climate-related risks they face.
Transition risk	Climate-related risks that arise from the transition to a low-carbon economy and can include changes in regulation, technology, and consumer demand.
VaR (Value at Risk)	A 1 year 1-in-20 VaR of £1.5bn means there is a 1 in 20 likelihood that the Scheme's deficit will increase in value by £1.5bn or more, compared to the expected position, over the next year.