

BASF UK Group Pension Scheme

Climate Change Report

A report for members by the Trustee of the BASF UK Group Pension Scheme (the “Scheme”)

Scheme year to 31 December 2024

The UK has become the first G20 country to make it mandatory for UK’s largest companies and financial organisations to disclose their climate-related risks and opportunities. This is part of the UK Government’s stated commitment to making the UK financial system the “greenest in the world”.

This report provides members the opportunity to find out more about the work of the Trustee in relation to climate change, following the Taskforce on Climate related Financial Disclosures (TCFD¹) framework. It describes how the Trustee has identified, assessed, and managed climate-related risks and opportunities during the Scheme year, and is published alongside the annual report and accounts.

We hope you find it informative and would welcome any feedback.



1 The Financial Stability Board (FSB) created the Task Force on Climate-related Financial Disclosures (TCFD) in 2015 to improve and increase reporting of climate-related financial information. Following the release of the Task Force’s 2023 Status Report, upon request of the FSB, the TCFD has fulfilled its remit and been disbanded.

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Executive Summary

Climate change continues to be a key focus for the Trustee.

The Trustee has maintained the governance structure and responsibilities for the Committees and advisers, to ensure effective governance of climate risks and opportunities. The Trustee continues to receive training from its advisers to understand how climate risk and opportunities may affect the Scheme, and to implement required activities to identify and protect against such risks.

The Trustee has set climate change as one of its stewardship priorities, and communicated this to the Scheme's asset managers, to be considered when making investment decisions, engagement, and voting.

The Trustee views climate change to be a financially material factor for the Scheme, over the short-, medium- and long-term. For identification and assessment of climate-related risks and opportunities, the Trustee has defined the following time horizons:

Scheme Section	Short-Term	Medium-Term	Long-Term
DB Sections	2 years	7 years	12 years
DC Sections	3 years	8 years	20 years

The Trustee decided that carrying out new climate scenario analysis was not necessary, since there has been no material change in the asset allocation since the last annual report, nor material changes in regulatory requirements or modelling developments that could make a new analysis necessary or worthwhile. The next climate scenario analysis will be done in 2025, according to the regulatory requirements to review it at least every three years.

A review of the sponsor's exposure to climate risks showed that BASF reported its transformation-related spending to average €600 million per year from 2025 to 2028. Additionally, BASF continues to be recognised as a benchmark within the chemical industry according to leading ESG rating agencies.

A review of the asset managers' climate practices showed that the vast majority remain committed to net-zero targets, as evidenced through their adoption of formal targets in this regard, and all have now developed responsible investment policies and committees to consider climate risk in their investment decision process. The Trustee understands this is an evolving topic and encourages them to enhance their approach even further.

The Trustee has collected climate metric data on the Scheme's assets, including total greenhouse gas emissions (absolute emissions metric), carbon footprint (emissions intensity metric), proportion of the portfolio with Science Based Targets (SBT, to reduce emissions) (portfolio alignment metric) and data quality (non-emission metric).

From the climate metrics collected for the DB and DC Sections, the DB Sections' target remains to achieve 50% of the portfolio with SBT alignments by 2026. For the DC Section, the target remains to achieve net zero greenhouse gas emissions by 2050 (covering listed holdings where data is reported) with an interim target of achieving a 50% reduction by 2030 relative to a 2021 baseline. The rationale for these targets is outlined later in this report.

This report is prepared by the Trustee of the BASF UK Group Pension Scheme and published in accordance with its obligations under the Climate Change Governance and Reporting Regulations 2021.

Signed

Catherine Edmondson

Catherine Edmondson
Trustee Chair

Introduction to the Scheme

The Trustee is required to produce a yearly Climate change report to set out how it has implemented requirements towards Governance, Strategy, Risk Management, Climate-related metrics, and targets.

The Trustee is responsible for ensuring effective governance of climate-related risks and opportunities in relation to the Scheme.

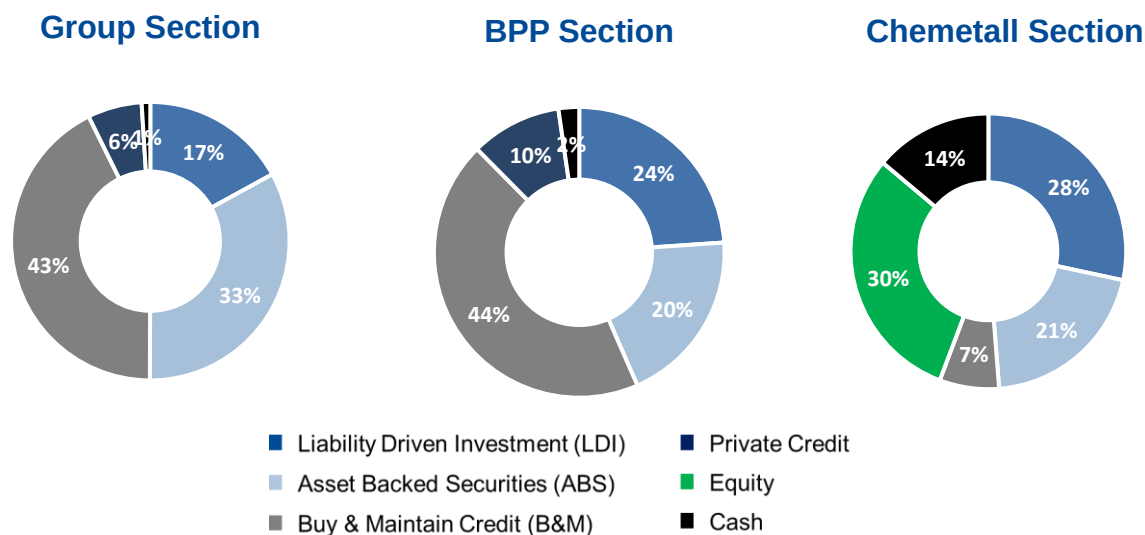
At the start of the Scheme year, the DB and DC Sections had two independent committees (an Investment Committee for the DB Sections, and a DC Committee for the DC Section) that were responsible for implementing climate-related requirements on behalf of the Trustee. Prior to the Scheme year end, the Trustee moved to a governance model where the Trustee directly considers both DB and DC matters, including those relating to climate change, thus removing the requirement for separate committees. The risks and opportunities relating to DB and DC arrangements differ, and the Scheme also retains different specialist advisers for the DB and DC Sections. Accordingly, the Sections have been separated for reporting purposes.

This report considers all sections within the Scheme, which are described in further details below.

DB Sections

- **Group Section:** assets of c.£419m and funding level of 119% on the agreed 2023 technical provisions funding basis as at 31 December 2024.
- **BASF Performance Products (BPP) Section:** assets of c.£668m and funding level of 110% on the agreed 2023 technical provisions funding basis as at 31 December 2024.
- **Chemetall Section:** assets of c.£29m and funding level of 94% on the agreed 2023 technical provisions funding basis as at 31 December 2024.

Asset allocation per DB Section



DC Section

The Scheme offers members of the DC Section “LifePlan” and “FreePlan” investment options.

For members who wish to adopt an automated de-risking path on their approach to retirement, LifePlan is a ready-built investment route that reduces risk automatically as a member approaches their Target Retirement Date. Members can select a growth phase fund from the three risk-profiled funds (Adventurous, Moderate, or Cautious Fund), along with a benefit option to target at retirement, from cash, annuity (guaranteed income) or drawdown (flexible income). The default investment strategy is the Moderate Flexible Income LifePlan.

The FreePlan fund range is a selection of investment funds which aim to meet the varying investment needs and risk tolerances of members on a “self-select” basis. A description of all funds available to members is provided below.

Fund	Asset Allocation	Objective	Value at 31/12/2024 £000s
Moderate	50% Global Equities 50% Diversified Growth Funds	To achieve medium to high capital growth over the long-term with medium to high risk by investing predominantly in shares and other growth assets with some potential allocations to bonds.	93,308
Adventurous	100% Global Equities	Seeks to achieve high capital growth over the long-term with high risk by investing in shares.	77,976
Cautious	33% Global Equities 32% Diversified Growth Funds 35% Bonds (corporate & government)	To achieve medium capital growth over the long-term with medium risk by investing in shares and other growth assets including an allocation to bonds.	20,500
Pre-Retirement Annuity	100% Bonds (corporate & government)	To provide exposure to assets that reflect the investments underlying a typical level annuity.	22,541
Liquidity Environmentally Aware	100% Money Market instruments	To provide capital stability and a return in line with money market rates whilst providing access to liquidity.	16,177
Ethical	100% Global Equities	To track the total return of the FTSE4Good Global Equity Index.	14,273
Islamic	100% Global Equities	To track the DJ Islamic Titans 100 Index and to maintain compliance with Islamic Shariah principles.	17,238

Trustee Governance

Climate change is a financially material factor for the Scheme. It is a systemic risk to society, the economy, and the financial system (although the transition to a low carbon economy also presents opportunities). The Trustee believes that these risks and opportunities have the potential to impact the Scheme’s investments, the sponsoring employer, and the funding position in a financially material way over the short, medium, and long term. In its Statement of Investment Principles (SIP), the Trustee notes that Environmental, Social and Governance (ESG) and ethical factors (including, but not limited to climate change) should be considered in the selection, retention, and realisation of investments, given the time horizon of the Scheme and its members. As a result, the Trustee and its committees have dedicated time at meetings throughout the year to discussing climate change and taking action where necessary.

Following the Department for Work and Pensions (DWP) guidance on stewardship, the Trustee has defined its stewardship priorities, which are the following:

- Climate change
- Diversity, equity, and inclusion
- Business ethics and transparency

These priorities have been communicated to the Scheme’s asset managers, to be considered, among other ESG factors, when making investment decisions, engagement, and voting.

The Trustee has responsibility for ensuring effective governance of climate change risks and opportunities in relation to the Scheme. To ensure the proper governance over climate change, the Trustee has the following responsibilities:

- Ensure Trustee Directors have sufficient knowledge and understanding of climate change
- Implement effective climate governance
- Identify and assess climate-related risks and opportunities and add to the Scheme Risk Register
- Incorporate climate-related considerations into strategic decisions for Scheme funding arrangements
- Include climate-related considerations when assessing and monitoring the strength of the sponsoring employer's covenant
- Ensure that, when applicable, the Scheme's professional advisers have clearly defined responsibilities in respect of climate change and assess their performance accordingly
- Communicate with Scheme members and other stakeholders on climate change where appropriate, including public reporting in accordance with:
 - Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021
 - Occupational and Personal Pension Schemes (Disclosure of Information) Regulations 2013

As climate change considerations for investments involve specific knowledge and focused discussions, the Trustee has delegated the following responsibilities to its relevant investment Committees:

DB Investment Committee

During the year covered by this report, the Trustee had in place a DB committee which was composed of three Trustee Directors, with voting rights, and two Company representatives without voting rights. This committee had the following responsibilities:

- Determine short, medium, and long-term review periods
- Incorporate climate-related considerations into strategic decisions and investment beliefs relating to investments
- Ensure that the Scheme's investment managers are considering climate-related risks and opportunities in relation to investments, and have appropriate processes, expertise, and resources to do this effectively
- Select and regularly review climate metrics, considering advice from its investment consultant
- Review the investment beliefs based on climate change and ESG topics set out by the Trustee

DC Committee

During the year covered by this report, the Trustee had in place a DC committee which was composed of three Trustee Directors, with voting rights, and had the following responsibilities:

- Determine short, medium, and long-term review periods
- Incorporate climate-related considerations into strategic decisions and investment beliefs relating to the DC investments, for both the default investment strategy and the broader self-select fund range
- Ensuring that the DC investment managers are considering climate-related risks and opportunities in relation to the investment funds made available to members, and have appropriate processes, expertise, and resources to do this effectively
- Select and regularly review climate metrics taking into account advice from its investment consultant

These Committees meet at least three times per year and report the relevant decisions to the Trustee either via written form or via investment update, which is a fixed session in every Trustee meeting.

During the year, the Trustee and its relevant committees continued to receive training on topics related to climate risk, climate related metrics, and targets appropriate to the Scheme. The training was carried out by the Trustee advisors, prior to decisions taken to comply with the Climate Change Governance and Reporting regulations. For example, on 6 February 2024, the DC adviser provided training on the Pensions Regulator's (TPRs) review of pension scheme TCFD reports and the updated guidance from TPR on good practice for these reports.

Other parties' and advisors' roles

In-House Pension Team (IHPT)

Consisting of the Pension Manager, Pension Specialist, Pension Officer, and Asset Manager. This team has the following responsibilities:

- Ensure Trustee Directors have sufficient knowledge and understanding of climate change and organise training sessions to cover eventual knowledge gaps.
- Implement effective climate governance as defined by the Trustee.
- Identify and assess climate-related risks and opportunities and add to the Risk Register.
- Monitor and mitigate conflicts of interest, for which the Scheme has a Conflicts of Interest policy in place and a register to document conflicts identified. This register is revised regularly by the Trustee.

Actuarial adviser

- Provide training and updates to the Trustee on relevant climate-related matters.
- Advise how climate-related risks and opportunities may affect Scheme assumptions and the implications for the Scheme's funding strategy and journey plan.

Covenant adviser

- Include climate-related considerations when assessing and monitoring the strength of the sponsoring employer's covenant.

Legal adviser

- Provide training and updates to the Trustee on relevant climate-related matters.
- Ensure the Trustee is aware of its statutory and fiduciary obligations in relation to climate change and working with the Trustee's other advisers to ensure alignment between these obligations and:
 - Any formulation of investment beliefs in relation to climate change; and
 - The identification and monitoring of climate-related metrics and targets in relation to the Scheme's investments.
- Assist (as required) with contractual requirements to be included in arrangements with the investment managers with respect to the governance, management, and reporting of climate-related matters.

Investment Managers

- Identify, assess, and manage climate-related risks and opportunities in relation to Scheme investments, in line with arrangements agreed with the Trustee.
- Manage the assets in line with the Trustee's climate beliefs where possible.
- Exercise rights (including voting rights) attached to Scheme investments, and undertake engagement activities in respect of those investments, in relation to climate-related risks and opportunities that seeks to improve long-term financial outcomes for members.
- Report on stewardship activities and outcomes in relation to Scheme investments (where feasible).
- Provide information to the Investment Consultants on climate-related metrics, as agreed from time to time, and use its influence with investee companies and other parties to improve the quality and availability of these metrics over time.

Investment Consultants (DB and DC)

- Advise how climate-related risks and opportunities might affect different asset classes and the funding position (DB Sections only) of the Scheme over the short, medium, and long-term, including implications for the investment strategy, long-term objectives, and journey plan.
- Advise how climate-related risks and opportunities should be considered as part of the DC default investment strategy review and broader self-select range.
- Assist the Trustee to incorporate climate change into governance arrangements, risk register, contingency planning and monitoring framework and communication with stakeholders (including, but not limited to, its Climate Change reporting) as appropriate.
- Provide training and updates to the Trustee on relevant climate-related matters.
- Help the Trustee to formulate investment beliefs in relation to climate change and reflect these in the Scheme investment policies and strategy.
- Advise on emerging risks and opportunities in relation to climate change. For example, as part of the Trustee's review of the FreePlan fund range in the DC Section, the Trustee considered the growing range of ESG-related funds now available in the market, providing access to different types of ESG opportunities and risk management approaches.
- Advise the Trustee on the appropriateness and effectiveness of the investment managers' processes, expertise, and resources for the management of climate-related risks and opportunities.
- Engage with the investment managers to improve their climate-related integration over time.
- Assist the Trustee to incorporate climate change into their investment monitoring.
- Undertake scenario analysis which illustrates how the Scheme may be affected under different climate pathways, assisting the Trustee with interpretation and use of the results, and advising on when it might be appropriate to update the analysis.
- Assist the Trustee to identify, monitor, and use suitable climate-related metrics and targets in relation to Scheme investments (including liaising with the investment managers regarding the metrics), and assisting with an annual review as to whether these metrics and targets remain appropriate.
- Take into consideration the investment beliefs set by the Trustees when making any new manager recommendations.

The Trustee, with support of the IHPT and investment consultants, monitor the investment managers with respect to climate-related practices. The investment managers are also invited, on a regular basis, to present to the relevant Committees. Climate risk management practices and credentials are considered when selecting new asset managers and advisors.

The Trustee questions and challenges its advisors and investment managers on relevant climate information and views. The Trustee satisfies itself with climate credentials and adequate steps taking to identify/assess climate risks/opportunities of also the IHPT, Actuary, legal and covenant advisers. For example:

- The DB Investment Committee met with one investment manager during the year and questioned its plan to increase the numbers of issuers in the portfolio with SBTs.
- The DC Committee met with three investment managers during the year and questioned them on issues including whether their sustainability-related targets ever compromised fund performance, and on some of their climate metrics that they report to the Trustee.

The Trustee is satisfied with climate credentials and adequate steps taking to identify/assess climate risks/opportunities of also the IHPT, Actuary, legal and covenant advisers.

The Trustee is reliant on its advisers to ensure that it can identify, assess, and manage climate risks and opportunities. The Trustee sets objectives for its investment consultants, which include activities related to climate monitoring and including climate related considerations in their investment advice. These objectives and performance against them are reviewed on a quarterly basis.

Nature and frequency of monitoring

The Trustee considers a range of different information about the climate change risks and opportunities faced by the Scheme to enable the Trustee to fulfil its responsibilities.

Regular reviews

At one or more meetings each year, the Trustee will review and approve (where appropriate):

- The risk register, following review and updates from its advisers.
- An update report on the Scheme's climate metrics, following review by its investment consultants.
- Governance arrangements in relation to climate change and reporting.
- Whether to carry out climate change scenario analysis in years when this is not required because it has been carried out within the previous two years.
- Adviser competence and performance against their climate-related objectives. The Trustee will explicitly consider climate change in the annual review of all advisers and will consider the Investment Consultants Sustainability Working Group's (ICSWG) guide on assessing the climate competency of investment consultants.
- Updates on investments from the investment consultants.
- The agreed SIP, including the aspects relating to climate change.
- Responsible investment reports that reviews the investment managers in relation to ESG factors and climate change.
- Data on ESG metrics for the investments, including the required climate-related metrics under Climate Change Governance and Reporting regulations, and performance against any targets set in relation to these metrics.
- Whether to retain or replace any metrics, or the targets set in relation to the metrics.

Less frequent reviews

The Trustee will consider climate-related risks and opportunities when the following activities are undertaken:

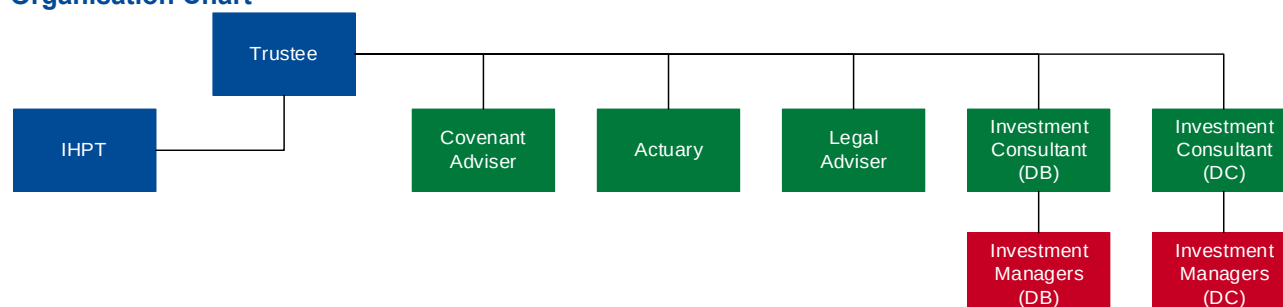
- Actuarial valuation of the Scheme (latest finalised valuation: 31 December 2023).
- Review investment strategy and update the SIP (DB SIP: Q4 2022, DC SIP: October 2024).
- Assessment of the sponsoring employer's covenant (latest assessment: Q4 2024).
- Triennial review of the DC default investment strategy and self-select fund range (last completed review: 2022, the latest review commenced in 2024 and will continue into 2025).

The Trustee will, at least every three years, and following any major changes in the Scheme's position, review:

- Its choice of short, medium, and long-term time periods to be used when identifying climate-related risks and opportunities.
- The results of scenario analysis that illustrates how Scheme assets and liabilities might be affected under various climate change scenarios, along with commentary on the potential impacts for the sponsoring employers and the implications of Scheme funding and investment strategies.

The Trustee will, at least every three years, review their choice of climate-related metrics to inform the identification, assessment, and management of climate-related risks and opportunities. When reviewing agreements with, or appointing new, advisers, the Trustee will consider and document the extent to which the advisers' climate-related responsibilities are included in the agreements and/or any adviser objectives set.

Organisation Chart



Strategy – Identification & assessment of climate-related risks & opportunities

The Trustee has defined the time horizons below when considering climate related risks and opportunities for the Scheme. Although having three separate DB Sections in the Scheme, the Trustee considers them to be similar in governance and climate reporting, and the same time horizons were considered for all DB Sections.

Horizon	Period	Rationale
Short term	2 years	DB: Period until next actuarial valuation
	3 years	DC: broadly aligned with the strategy review and climate change scenario modelling cycle
Medium term	7 years	DB: Period where all Sections should be fully funded on a gilts+0.25% per annum basis
	8 years	DC: Reflects the pre-retirement period during which members are eligible to take DC benefits
Long term	12 years	DB: Approximate duration of aggregate liabilities as updated by the Actuary
	20 years	DC: Reflecting the younger profile of the DC membership

DB Sections

The Trustee believes that climate-related risks and opportunities arise from physical effects of climate change, and from the effects of transitioning to a lower carbon economy. Many of these climate-related risks could affect the value of the Scheme's assets, deteriorating the funding position for the DB Sections and leading to delays in reaching self-sufficiency or need for additional contributions from the sponsor. Some may affect the liabilities, due to changes in members' life expectancy or the inflationary increases made to pensions. The sponsor's financials could also be affected, impacting its ability to support the Scheme, if needed.

The Trustee decided against repeating the climate scenario analysis for the DB Sections, since there were no material changes in the asset allocation that would significantly increase climate risk.

For context, in comparison with the previous reporting year, allocations to equities decreased, which bear material climate risk and exposure to downside events, with the funds either invested into LDI or used to pay pensions liabilities. The Trustee therefore decided that the risks and opportunities identified that could affect the portfolio in the previous year are still valid for this report, and can be summarised as follows:

1. Investing into ESG tilted funds in certain asset classes may lead to more attractive risk-adjusted returns in the future, since the invested companies are already developing plans to operate in a low-carbon emissions environment, and they might be more resilient in a scenario of climate change.
2. On the credit side, companies with good climate-related practices may be more resilient and have lower default risk. The Scheme does not invest directly in real estate or infrastructure, which could be directly exposed to physical risks.

Horizon	Key risks & opportunities
Short term	Exposure to climate-related investment risks may be highest while there is an allocation to growth assets, but there is exposure within all assets. Investment managers may have insufficient expertise to make climate-informed decisions, which could reduce the funding level. Considering new investments that might benefit from the climate transition and increase stability of potential outcomes.
Medium term	Market volatility, regulatory risks and sector specific climate impacts could cause investment loss and increase time to reach full funding. The low allocation to growth assets and the climate tilting of assets where possible may mitigate climate-related risks.
Long term	Cost of any potential transactions may increase as insurers allow for climate risks in their pricing and reserving. This could cause longer reliance on the covenant. Shocks to life expectancy, gilt yields and inflation could impact the funding level. A full third-party / insurance transaction would be expected to provide greater protection from climate (and other investment, funding, and covenant) risks for members' benefits.

DC Section

The Trustee decided against repeating the climate scenario analysis (outside of the triennial cycle) for the DC Section in the reporting year, because there was no fundamental change in strategy, and therefore the risks and opportunities identified affecting the portfolios in the previous year were still valid. The analysis carried out in 2023 was based on the asset allocation as at 31 December 2022 and led to the following findings and actions being taken forward in respect of the DC Section:

1. Over the long term, a successful transition is imperative: a successful transition leads to enhanced projected returns when compared to scenarios associated with higher temperature outcomes. This is largely driven by lower physical damages.
2. Sustainable allocations can protect against transition risks: this reinforces the steps the Trustee has taken to integrate consideration of climate risk and opportunity management in the DC investment arrangements. The Trustee will continue to seek opportunities to further enhance this, taking into account overall risk and return considerations and suitability for the Scheme's membership profile.
3. Sector exposure is key: differences in return impact are most visible at an industry-sector level, with significant divergence between scenarios. Oil and gas, certain utilities, and renewable energy sectors are most impacted by the transition. This forms a useful discussion point for the DC Committee when meeting with investment managers.
4. Awareness of future shocks: As markets react to new information because of the changing physical environment and government policies, investors will be vulnerable to short, sharp shocks. The analysis has assisted the Trustee in exploring the potential impact that repricing events can have on the DC investments.

Horizon	Key risks & opportunities
Short term	Over this period, transition risk dominates. A Rapid Transition has the biggest impact. In this scenario there is a “shock” to investment returns, driven by the economic cost of having to move faster on a transition to a lower carbon world). The analysis assisted the Trustee in identifying the impact of the ESG-tilted funds the Scheme has implemented. For example, in the Adventurous Fund the shock to returns would have been around one-tenth higher without these tilts. The Failed Transition scenario was assessed as being marginally positive in the short term, due to transition costs not materialising.
Medium term	Transition risks are still significant and therefore a Rapid Transition is most impactful. However, a Failed Transition starts to have a more negative impact, as future physical damage is priced into investment markets. The impact of the Orderly Transition scenario was generally smaller, given that transition costs are smaller and are likely to be already priced into an extent.
Long term	As longer-term physical damages begin to be priced in, a Failed Transition becomes the most impactful scenario. Such a scenario causes the largest estimated reduction in annualised return (c1.8% p.a.) for the Adventurous Fund, driven by the fact that it invests only in global equities and has greater exposure to sectors likely to be negatively impacted by a failed transition.

Note: the various potential scenarios mentioned (e.g. “Failed Transition” are defined and considered further in the Strategy section of this report.

Review of sponsor's exposure to climate risk and opportunities

This review was prepared based on BASF's published reports and discussions between the IHPT with the dedicated team within BASF Corporate Centre.

BASF considers climate change as an important part of its corporate strategy. As a leading chemical company, reiterated its commitment to reduce by 2030 the greenhouse gas emissions from its production sites and energy purchases by 25% compared with 2018, reduce its specific Scope 3 greenhouse gas emissions by 15% compared with 2022 and to achieve net zero emissions by 2050. BASF reported its transformation-related spending to average €600 million per year from 2025 to 2028. The investments focus on the following measures:

- **Renewable energy:** increasingly meeting electricity needs from renewable sources. In 2023, the share of green power was 20% (vs 16% in 2022).
- **CO2 abatement:** taking targeted measures to avoid CO2 emissions, such as lower-emission steam, the development of new technologies and continuous measures in the area of operational excellence (more than 500 measures in 2023).
- **Circularity:** increasingly using renewable and recycled raw materials (one million metric tons in 2023) as well as raw materials based on the use of CO2 in order to move from linear value creation to closed material cycles.

BASF continues to be considered as a benchmark within the chemical industry according to leading ESG rating agencies:

Agency	Rating	Last update
CDP	A- (Leader)	February 2024
ISS ESG	Prime Status	December 2023
MSCI ESG	A	August 2023
Sustainalytics ESG Risk	25.1 points (top 3 in diversified chemicals)	April 2023
Vigeo Eiris	60 points (vs 59 in 2021)	October 2023

BASF has internal initiatives to estimate its transition and physical risks. However this information is not publicly published. Apart from the company's efforts to monitor climate risks and opportunities, the Trustee monitor annually the sponsor's covenant in view of different aspects, including climate related changes. In the event the covenant deteriorates, the Trustee engages with the sponsor to obtain a suitable solution. The Trustee agreed an underpin with BASF of £83m (until 2031), as an additional security layer.

Climate scenario analysis

DB Sections

In 2022, the Trustee carried out a climate scenario analysis using assets and liabilities at 30 September 2021, with the support of the DB investment consultant. To understand the level of financial risk, the Trustee looked at a set of three climate scenarios to calculate the eventual financial impact on its investments. These scenarios consist of various assumptions (details on modelling approach and limitations in Appendix 2):

Transition	Summary of assumptions
Orderly	Average global warming stabilises at around 1.5°C above pre-industrial levels. Paris agreement goals are met, moderate physical impacts and global GDP lower than the climate-uninformed scenario in 2100.
Disorderly	Average global warming stabilises at around 1.5°C above pre-industrial levels. Paris agreement goals are met, moderate physical impacts, but global GDP is slightly worse than in orderly transition due to impacts of financial markets volatility.
Failed	Average global warming is about 2°C by 2050 and 4°C by 2100, compared to pre-industrial levels. Carbon emissions continue at current levels, and this results in severe physical impacts and changes in the global climate that disrupt economic activity.

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

The intricacies of climate systems present considerable difficulties in modelling the impacts on assets and liabilities. This is particularly true in the Failed Transition scenario where over 4°C of warming is observed. Due to the unprecedented nature of such warming, it is challenging to encompass all potential consequences within the modelling process. Simplifications in modelling, such as not allowing for tipping points, mean the actual impact on schemes is likely to be more significant than is currently being modelled. The Trustee has considered the potential impact of such limitations in the modelling and is comfortable that, provided these limitations are understood, the scenarios still provide valuable insights to inform climate risk assessment and management.

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

The long-term journey plan target was achieving full funding on a gilts-flat liability basis, when the climate scenario analysis was completed, the financial impact for each section based on its strategy at the time (or proposed strategy for the Chemetall Section) can be summarised as follows:

Section	Transition	Impact on gilts-flat funding by 2025	Projected date for being fully funded
BPP	Orderly	-£4m	2028
	Disorderly	-£38m	2028
	Failed	£0m	2028
Group	Orderly	-£1m	2023
	Disorderly	-£19m	2023
	Failed	£0m	2023
Chemetall	Orderly	-£1m	2030
	Disorderly	-£3m	2031
	Failed	£0m	2030

The results show that, if the objectives of the Paris Climate Agreement are to be achieved, significant transitions are required in the short and medium term.

Under the failed transition scenario, it is assumed that there are not large-scale transitions to mitigate climate change and as a direct result there are not any large-scale transition risks modelled in this scenario. Therefore, over the short term (in this case the period until 2025) the failed transition scenario and the base case scenario look broadly similar – as neither assumes any significant transition.

Over the longer term, and particularly beyond the time horizon modelled, the failed transition scenario is the most impacted by the physical risks as they have not been mitigated. The impact of such physical risks is not projected over the periods covered by this report because the Sections are aiming to be fully funded/insured before physical risks under a failed transition scenario are modelled to begin to impact assets and liabilities.

Given under all scenarios modelled, each DB Section still achieved full funding within their respective target short/medium-term timeframes, this leads the Trustee to consider the DB Sections' investment and funding strategies are suitably resilient to climate change over the medium term (acknowledging there is always some climate risk exposure).

DC Section

Climate scenario analysis was carried out in 2023, considering the asset allocation from 31 December 2022. For calculation of financial risk, the Trustee considered plausible future scenarios, over periods up to 40 years, though focused on interim short-, medium-, and long-term horizons. Over shorter timeframes, transition risk (for example, arising from policy changes and technology developments) tends to dominate while over longer timeframes physical risk (for example, extreme weather events and chronic damage) is expected to be the key driver of climate impacts. The scenarios considered are summarised below (details on modelling approach and limitations are included in Appendix 2):

Transition	Summary of assumptions
Rapid	Average temperature increase of 1.5°C by 2100, in line with the Paris Agreement. This drives sudden downward re-pricing of multiple securities by 2026. To a degree, the shock is sentiment driven and is therefore followed by a partial market recovery. Physical damages are most limited under this scenario.
Orderly	Average temperature increase of less than 2.0°C by 2100. Transition impacts do still occur but are relatively muted across the broad market.
Failed	Average temperature increases above 4°C by 2100. Physical climate causes large reductions in economic productivity and increasingly negative impacts from extreme weather events.

The Trustee has considered scenario analysis for “popular arrangements”. Such arrangements are funds / strategies in which £100m or more are invested, or which accounts for 10% or more of assets used to provide money purchase benefits (excluding assets which are solely attributable to Additional Voluntary Contributions). The Scheme's popular arrangements are:

- **Moderate Fund:** The “growth” phase of the default investment strategy and is also available as a FreePlan (self-select) option. It invests in global developed and emerging markets equities and in diversified growth funds (DGFs). A portion of the Fund is invested in sustainably themed equities. In January 2023, the Trustee implemented DGFs that integrate greater consideration of ESG issues, including climate change, within the portfolio.
- **Adventurous Fund:** A FreePlan (self-select) fund choice which invests in developed and emerging markets equities across the globe. A portion of the Fund (approximately 27%) is invested in sustainably themed global equities.
- **Cautious Fund:** Used in the de-risking phase of the default strategy and is available as a FreePlan option. It invests in global developed and emerging markets equities, DGFs, and bonds. A portion of the Fund is invested in sustainably themed equities. In January 2023, the Trustee implemented DGFs that integrate greater consideration of ESG issues, including climate change, within the portfolio.
- **Pre-Retirement Annuity Fund:** Historically formed part of the de-risking phase of the default investment strategy before the Scheme moved to a drawdown targeted default in 2018. The Fund is available as a FreePlan option. It invests in sterling corporate bonds and UK Government bonds. Sustainable “tilts” are in place within the corporate bond portion of the fund.
- **Default lifestyle strategy:** The default investment arrangement using a “lifestyle” de-risking approach.

At an investment market level, there is academic evidence to suggest that transition risks are “priced in” to markets, but long-term physical risks are more likely to be mispriced. This uncertainty is considered by looking

at scenarios relative to a “climate aware” baseline. As a consequence, the scenario analysis’ shows the return in terms of how they are different to what is assumed in the analysis to be “priced in”. The table below shows the results as reduction in annualised returns that may arise under each scenario, relative to a baseline. Note that the time horizons stated were those in place when the Trustee carried out the analysis:

Fund	Transition	Short-term (4 years)	Medium-term (9 years)	Long-term (20 years)
Moderate	Rapid	-2.5% p.a.	-0.8% p.a.	-0.3% p.a.
	Orderly	-0.5% p.a.	-0.2% p.a.	-0.1% p.a.
	Failed	0.8% p.a.	-0.3% p.a.	-1.2% p.a.
Adventurous	Rapid	-3.0% p.a.	-0.9% p.a.	-0.3% p.a.
	Orderly	-0.7% p.a.	-0.2% p.a.	-0.1% p.a.
	Failed	1.0% p.a.	-0.5% p.a.	-1.8% p.a.
Cautious	Rapid	-1.9% p.a.	-0.6% p.a.	-0.2% p.a.
	Orderly	-0.4% p.a.	-0.1% p.a.	0.0% p.a.
	Failed	0.6% p.a.	-0.2% p.a.	-0.8% p.a.
Pre-retirement	Rapid	-0.9% p.a.	-0.2% p.a.	-0.1% p.a.
	Orderly	-0.1% p.a.	0.0% p.a.	0.0% p.a.
	Failed	0.2% p.a.	0.0% p.a.	-0.1% p.a.
Default Lifestyle strategy	Rapid	-2.5% p.a.	-0.8% p.a.	-0.3% p.a.
	Orderly	-0.5% p.a.	-0.2% p.a.	-0.1% p.a.
	Failed	0.8% p.a.	-0.3% p.a.	-1.2% p.a.

Risk Management

Processes for identifying and assessing climate-related risks

The Trustee has identified, assessed, and managed climate-related risks and opportunities to the Scheme through discussions with its advisers, and by performing the following tasks:

- Attending climate change training to understand how climate-related risks might affect pension schemes and their investments.
- New and emerging risks are raised either by the Trustee or its advisers and IHPT. They are discussed by the appropriate committee, who also decides on the appropriate mitigation measure. This is then reported to the Trustee and recorded into the Scheme's risk register.
- Commissioning, if necessary, scenario analysis to understand how assets and liabilities might be affected and getting advice on the implications for the investment strategy and journey plan.
- Analysing how the sponsor might be affected by climate-related factors, and the implications for its ability to provide financial support for the Scheme.
- Reviewing its investment managers' climate practices, including how they incorporate climate-related factors into their investment process and how effectively they manage climate-related risks.
- Monitoring a range of climate-related metrics in relation to the Scheme's assets.
- In addition, the Trustee expects its investment managers to identify, assess and manage climate-related risks to the Scheme's assets on a day-to-day basis. It discusses climate change when it meets managers, to increase its understanding of the Scheme's climate-related risks and test the adequacy of the steps being taken to manage them.
- The SIP sets out how investment climate-related risks are managed and monitored.
- Communicating the Trustee's stewardship priorities to the investment managers and assessing their stewardship actions related to these priorities (including climate change).
- Integrating climate change into the risk management processes, such as risk register, covenant monitoring, investment performance reporting, and Integrated Risk Management (IRM) dashboard. These documents are revised for each Trustee meeting, which ensures that climate risk is regularly considered by the Trustee and their advisers.
- Annual review of DC value for members includes consideration of how effective the investment managers are in their integration of ESG factors, including climate change. This assists the Trustee in identifying any risks in this area.
- Considering climate when selecting new investment managers and encouraging the current managers to manage climate risks to the assets.

In addition, the advisors will take climate-related risks and opportunities into account as part of the wider strategic investment advice provided to the Trustee. This includes highlighting the expected change in climate-risk exposure through proposed asset allocation changes, both from the top-down level (via climate scenario analysis) and bottom-up (via climate-related metrics).

Tools used to identify, assess, and manage climate risks and opportunities

The Trustee assessed the risks and opportunities it had identified using the following tools:

- Climate scenario analysis
- Investment manager reports and meetings with their Responsible Investment teams
- Climate-related metrics
- Training sessions provided by the Trustee's advisers
- Risk register
- Stewardship, including reviewing the voting and engagement practices of the investment managers and reporting on these activities through the Implementation Statement.

Review of investment managers' climate practice

The process for selection of investment managers differs between the DB and DC Sections. Within the DB Sections, the Trustee appoints investment managers directly. Within the DC Sections, the Trustee does not contract with investment managers but instead uses an investment platform to access pooled funds.

The Trustee, supported by the IHPT, has reviewed its appointed asset managers' climate practices for investment decisions and engagement with investees. This review was done via calls with each manager's Responsible Investment team and by researching their publicly available climate-related policies and reports. To consolidate the results of these interactions and to be able to comprehensively compare the approach, the following aspects were considered:

- If the manager has a commitment to net-zero targets and if it is a signatory to ESG related initiatives
- The manager's rating on Investment & Stewardship under the United Nations Principles for Responsible Investment (UNPRI)
- If the manager has Responsible Investment (RI) committees and climate policies in place
- If the manager utilises ESG scoring and/or ESG as criteria for investment decisions
- If the manager monitors emission metrics in the portfolios invested by the Scheme

At the time the climate practices were reviewed for the DB and DC Sections, the main conclusions were:

- All managers have good RI governance and integrate ESG considerations in the investment process. In the case of index-tracking (passive) funds this is typically via voting and engagement activity.
- Carbon data is mainly available for publicly owned companies. Therefore, funds that invest in credit and alternative assets may obtain data via the asset manager's proprietary research or third-party estimations (CDP).
- ESG scoring mainly uses proprietary methodologies as there is no standard approach in the market.
- Carbon metrics adopted mainly consist of Weighted Average Carbon Intensity (WACI), Carbon footprint and Absolute GHG emissions.
- All managers use voting and engagement as a tool to improve ESG practices in invested companies.

In addition, the Trustee receives a voting and engagement activity summary on an annual basis as part of the preparation of the Scheme's Implementation Statement. The statement summarises how the investment managers vote and engage on climate-related issues (among the other key engagement priorities as detailed within the Governance Section of this report). The statement is available on the [Pension Website](#).

As part of any future manager appointments or as a factor when considering the termination of a manager's appointment, the Trustee, with advice from its Investment Consultant, will consider an investment manager's approach to managing climate-related risks and opportunities.

DB Sections

The investment strategy and mandates were set whilst considering climate-related risks and opportunities. For example, the Trustee instructed the managers of the BPP and Group Sections segregated buy & maintain credit mandates to target lower emissions by limiting investment into unconventional fossil fuel extraction or thermal coal companies and introducing investment terms that would expect the portfolio to reduce the average carbon footprint over time. The Chemetall Section invests in a climate-tilted equity fund, which seeks to underweight exposure to companies that have relatively higher carbon emissions, and the Trustee monitors the fund's emissions quarterly vs. a standard equity index. Further, the Trustee regularly questions the investment managers on their climate credentials and investment integration to ensure that climate risks and opportunities are being considered appropriately. For instance, the Trustee continued to engage with Insight in 2024 to understand the manager's plan to further develop climate metrics for the ABS portfolio. Insight replied that it did not include new asset types, apart from Mortgage-Backed Securities, within the ABS fund to collect data in 2024. As a result, the data coverage for the ABS portfolio was 26% in 2024 (vs 24% in 2023).

The table below summarises the main aspects that were discussed with the asset managers:

	Barings	ICG	RLAM	Insight	LGIM
100% net-zero targets	2050	2040	2040	2050	2050
Signatory of ESG initiatives	UNPRI UNGC	UNPRI ICI UK	UNPRI	UNPRI UNGC	UNPRI UNGC
PRI rating on Investment & Stewardship	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★★
Climate Policies	Yes	Yes	Yes	Yes	Yes
ESG scoring	No	No	Yes	Yes	Yes
RI committee	Yes	Yes	Yes	Yes	Yes
Monitors climate metrics required by the Scheme	No	Only for one out of two funds	Yes	Yes	Yes
ESG as criteria	Yes	Yes	Yes	Yes	Yes

The Trustee will regularly review its asset managers' climate practices to ensure they are considering climate-related risks and the Trustee's stewardship priorities in their investment decision process and when engaging with investees. Additionally, the Trustee monitor regularly, with support from the research team of its investment consultants, the RI practices of its managers. The Trustee will engage with investment managers to improve practices where necessary and would be prepared to disinvest if the manager did not improve sufficiently.

Based on the review of the climate practices, The Trustee is comfortable with the investment managers' credentials and approaches and does not intend to make any changes as a result of its review.

DC Section

The Scheme's DC investment funds are accessed via an investment platform arrangement held via a policy of assurance issued to the Trustee by Scottish Widows Limited. The Trustee therefore does not contract directly with the asset managers to the DC Section but instead selects which funds to make available via the Scottish Widows Limited platform. As at 31 December 2024, the selected managers were:

- Allspring Global Investments (**Allspring**)
- Baillie Gifford & Co (**Baillie Gifford**)
- BlackRock Asset Management (**BlackRock**)
- Legal & General Investment Management (**LGIM**)
- HSBC Global Asset Management (**HSBC**)
- Mercer Global Investment Management Ltd (**MGI**)

The table below summarises the main findings:

	Allspring	Baillie Gifford	BlackRock	HSBC	LGIM	MGI
Operational net-zero targets	Not currently	2040	Not currently	2050	2030 (50%)	2050
100% net-zero targets	Not currently	2050	Not currently	2050	2050	2050
Signatory of ESG initiatives	UNPRI UK Stewardship Code	UNPRI UNGC UK Stewardship Code	UNPRI UNGC UK Stewardship Code	UNPRI UNGC UK Stewardship Code	UNPRI UNGC UK Stewardship Code	UNPRI UNGC UK Stewardship Code
UN PRI rating for asset class	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★☆
Climate Policies	Yes	Yes	Yes	Yes	Yes	Yes
ESG scoring	Yes	No	Yes	Yes	Yes	Yes
RI committee	Yes	Yes	Yes	Yes	Yes	Yes
Monitors climate metrics required by the scheme	Yes	Yes	Yes	Yes	Yes	Yes
ESG as selection criteria	Yes	Yes	Yes for active funds, no for passive funds	No (passive fund)	Yes for active fund, no for passive funds	Yes

Based on the review of the climate practices, the Trustee is comfortable with the investment managers' credentials and approaches and does not intend to make any changes as a result of its review. The Trustee engages with its managers on the topic of net zero and at the next meetings with BlackRock and Baillie Gifford intend to discuss the news that these managers have stepped back from the Net Zero Asset Managers Initiative, although Baillie Gifford have retained a target. In relation to Allspring, the Trustee challenged the manager on its net zero position in July 2023, when Allspring representatives noted that their preference was to first set a clear plan to reach net zero before signing up to a formal commitment but noted that the portfolio was considered to be well-aligned to the goals of the Paris Agreement. Allspring also participate in a number of collaborative groups including Climate Action 100.

Additionally, during the year, the DC Committee that was in place carried out the following actions relating to climate change risk and opportunity management:

- The Trustee replaced the Sterling Liquidity Fund with the Liquidity Environmentally Aware Fund managed by BlackRock in March 2024. The new Liquidity Environmentally Aware Fund has the same broad risk and return characteristics as the Sterling Liquidity Fund (including the same benchmark) but also has an enhanced approach to managing ESG risks and opportunities. For example, the new fund excludes investments issued by companies or governments with high exposure to ESG risks, such as those that are involved in the production of controversial weapons, and those where a high proportion of revenues come from fossil fuel mining, exploration and/or refinement.
- As part of the triennial review of the default investment strategy, the Trustee used ESG characteristics as one of the factors used when comparing different potential default investment products, to ensure that any changes to the strategy contribute effectively to the management of ESG risks and opportunities.

This activity was completed alongside the regular climate governance processes, such as discussions with the investment managers when they presented to the DC Committee, and quarterly monitoring of the investment managers' ESG ratings, provided by the DC investment consultant.

Metrics

In 2024, the Trustee choose to maintain the four climate-related metrics from previous years, to help it monitor climate-related risks and opportunities to the Scheme. These are listed below and reported for the DB and DC sections (as far as the Trustee was able to obtain the data).

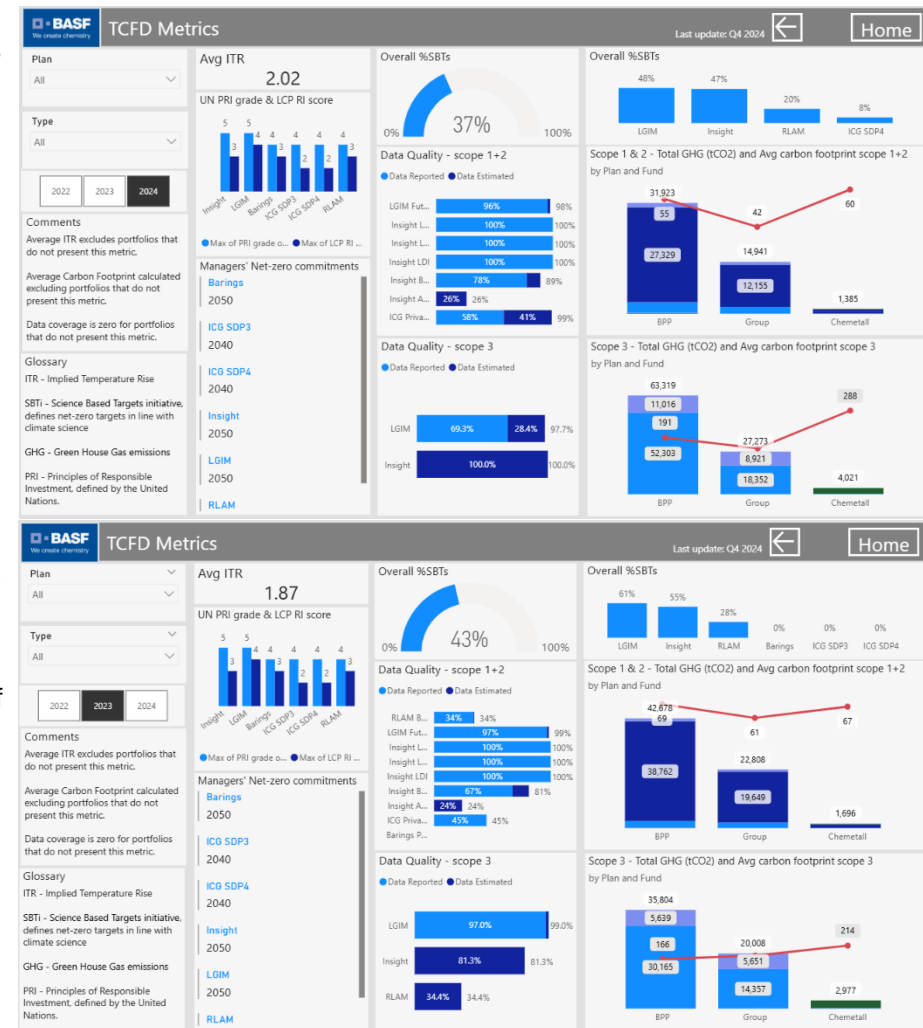
Metrics	High-level methodology
Absolute emissions: Total greenhouse gas emissions	The sum of each company's most recent reported or estimated greenhouse gas emissions attributable to the Scheme's investment in the company, where data is available. Emissions are attributed across equity and debt investors in proportion to the value of their investment in the company. Reported in tonnes of CO2 equivalent. This methodology was chosen because it is in line with the statutory guidance.
Emissions intensity: Carbon footprint	The total greenhouse gas emissions described above, divided by the value of the invested portfolio in £m. Reported in tonnes of CO2 equivalent per £1m invested. This methodology was chosen because it is in line with the statutory guidance.
Portfolio alignment: Science-based targets (SBT)	The proportion of the portfolio by weight of holdings with science-based targets to reduce their greenhouse gas emissions, demonstrated by a target validated by the Science Based Targets initiative (SBTi) or equivalent. This measures the extent to which the Scheme's investments are aligned to the Paris Agreement goal of limiting global average temperature rises to 1.5°C. Reported in percentage terms. The Trustee chose this "binary target" measure because it is the simplest and most robust of the various portfolio alignment metrics available.
Additional climate change metric: Data Quality	Represents the proportions of the portfolio for which there is high quality data. In the prior year, the Trustee selected data coverage (representing the proportion of a portfolio for which data is provided) due to mixed availability of the data quality metric. As reporting has evolved, the Trustee is now using data quality to give a fuller picture of the extent to which there is high quality information available.

DB Sections

In 2024, the Trustee used a dashboard, developed by the IHPT, to monitor the climate-related metrics provided by the asset managers. The dashboards, containing all metrics calculated based on portfolio holdings at 31 December 2024 and 31 December 2023, can be seen below. The detailed tables with the metrics per section can be seen in Appendix 3.

The dashboard approach enabled the Trustee to have a more comprehensive view of the consolidated metrics for the Scheme, and to compare the Carbon Footprint and Data Quality between different funds. Based on the metrics monitored, the Trustee engaged with all managers to ask how they plan to improve data coverage and reducing carbon intensity for the funds, and how the managers are using ESG as an investment criteria. The Trustee engaged with Insight in 2024 to ask about the plan to increase data coverage for the High-Grade ABS fund. As a result, Insight replied it has plans to increase coverage to other sectors within the ABS fund in 2025.

It is possible to see that the average Carbon Footprint has reduced in comparison with previous year across all sections. The percentage of holdings with SBT alignment across all portfolios has decreased, leading to a consolidated reduction from 43% to 37% year-over-year. This is attributed to a reduction of the percentage of the portfolio allocated to LDI, which has a % SBTs of 100%, and increase of the allocation into ABS which has a % SBTs of zero.



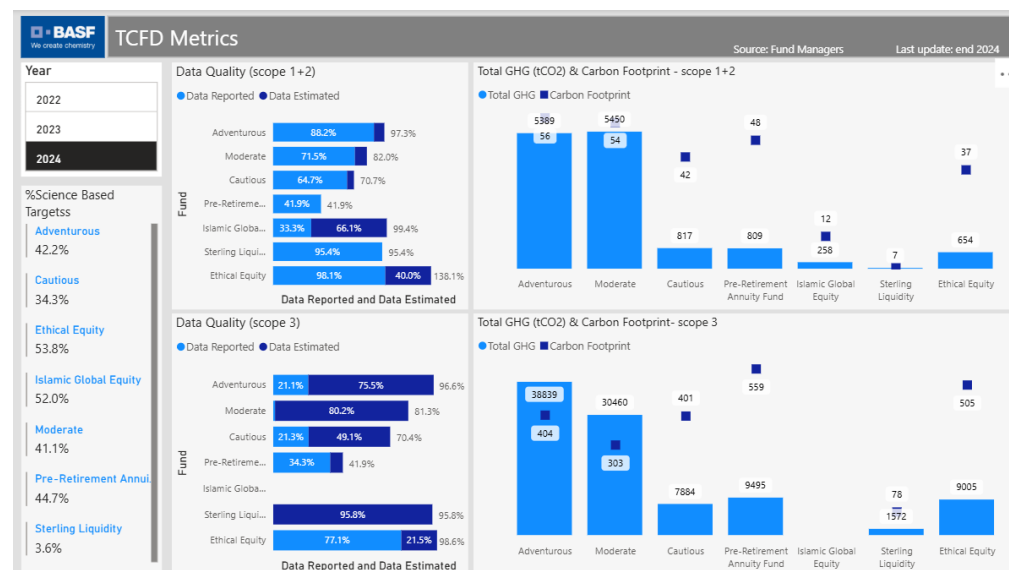
DC Section

Climate-related metrics provided by the DC investment consultant, Mercer, have been sourced from the investment managers and aggregated through modelling and calculations completed by Mercer. This year, Scope 1, 2 and 3 emissions data has been included where possible.

The climate-related metrics have been calculated using portfolio holdings and metrics on 31 December 2023 and 31 December 2024 for the Scheme's popular arrangements, and the longer-term development is shown where this is available. The metrics are presented in a dashboard view, similar to the DB section, for better comprehension and comparison with the previous year. The detailed tables with the metrics per section can be seen in Appendix 3.

The Trustee has observed the following:

- Changes in total greenhouse gas (GHG) emissions with scope 1 and 2 are driven by asset values, which is reflected by the mixture of decreasing and increasing figures. It is the first year where a comparison of scope 3 absolute emissions figures is available. These have largely increased as a result of rising assets under management (noting HSBC still does not report on this metric yet for the Islamic fund).
- The carbon footprint figures have generally decreased. This is driven both by sector/regional allocation but more impactfully, companies are generally on a decarbonisation pathway and hence emissions intensity is expected to fall over time. Some company valuations have also increased, contributing to a reduction in carbon footprint. There is a substantial increase for the Pre-Retirement Annuity fund, driven by the individual bonds held (e.g.: utilities) and better data quality and coverage coming through.
- Portfolio alignment metrics (SBTi proportions) have increased – and the Islamic fund and Ethical fund are both above the 50% target.
- Data quality has generally improved, with exception of HSBC Islamic Fund. This fund invests in very mainstream, large cap stocks, where data quality should be good. The Trustee, supported by its DC investment advisor, will follow up with HSBC.



Targets

DB Sections

In 2024, the Trustee decided to maintain the target to increase the percentage of the total portfolio with SBT alignment to 50% by 2026, considering all DB Sections. This target allows the Trustee to contribute to risk reduction by reducing allocations to companies not aligned with SBT and to capture opportunities by increasing allocations to companies aligned with SBT.

Despite the active engagement from the Trustee with the asset managers, the percentage of portfolio with SBT alignment reduced from 43% by the end of 2023 to 37% at the end of 2024. This reduction is driven by a reduction of the portfolio allocated to LDI, assumed to have 100% alignment with SBT, and an increase of the portfolio allocated to ABS, with 0% alignment with SBT. Additionally, for the other portfolios, mainly constituted of corporate bonds, discussions with the asset managers revealed that their view is that the burden for companies to join the SBT initiative is too high. As a consequence, the percentage of portfolio with SBT alignment in the B&M Credit funds did not increase significantly year-over-year. This is something the Trustee will continue to engage with the managers on.

As result of all explained above, the Trustee will reassess this target in 2025.

DC Section

The Trustee has set a net zero greenhouse gas emissions by 2050 target for the DC Section (covering listed holdings where data is reported). The rationale is that this target is required to reduce GHG emissions and keep global warming to 1.5°C, meeting the goals of the Paris Climate Agreement. Additionally, the majority of the DC investment managers are committed to net zero by 2050 and have signed up to this initiative. Therefore, the funds invested for the DC section are expected to get to net zero and the Trustee can objectively follow up against this objective with their managers.

In order to monitor progress towards this longer-term target, the Trustee will work towards an interim target of having, by 2030, at least 50% of relevant assets aligned to a net zero by 2050 target – i.e., credible plans in place to reach the 2050 target. The baseline is 31 December 2021 and progress will be assessed on this basis. In practice, this means having at least 50% of portfolio companies with SBTi approved targets by 2030, for listed credit and equity assets where data is reported. The progress against this target is summarised in the metrics section of this report.

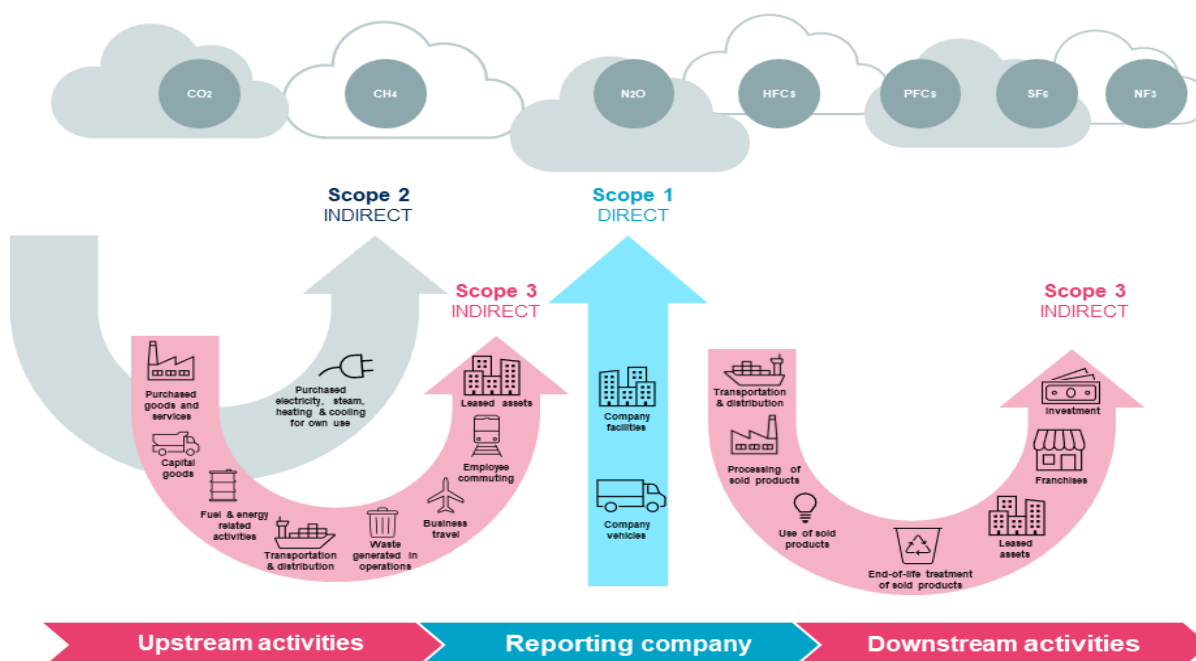
The Trustee has reviewed the target set for the DC Sections during the year and consider that it remains appropriate.

Appendix 1 – Greenhouse gas emissions explained

Within the 'metrics and targets' section of the report, the emissions metrics 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 heating, the earth due to the presence in the atmosphere of these seven greenhouse gases.

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 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 purchased and used by an entity which are created during the production of energy which 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.



Source: GHG Protocol

Appendix 2 – Climate scenario analysis: modelling approach and limitations

DB Sections

Modelling approach

The scenario analysis is based on the ClimateMAPS model developed by Ortec Finance and Cambridge Econometrics and was then applied to the Scheme's assets and liabilities by LCP. The three climate scenarios were projected year by year, over the next 40 years. A summary of main assumption can be seen in the table below:

Scenarios	Failed Transition	Orderly Net Zero by 2050	Disorderly Net Zero by 2050
Low carbon policies	Continuation of current low carbon policies and technology trends	Ambitious low carbon policies, high investment in low-carbon technologies and substitution away from fossil fuels to cleaner energy sources and biofuel	
Paris Agreement outcome	Paris Agreement goals not met	Global net zero achieved by 2050; Paris Agreement goals met.	
Global warming	Average global warming is about 2°C by 2050 and 4°C by 2100, compared to pre-industrial levels	Average global warming stabilises at around 1.5°C above pre-industrial levels	
Physical impacts	Severe physical impacts	Moderate physical impacts	
Impact on GDP	Global GDP is significantly lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be 50% lower than in the climate uninformed scenario.	Global GDP is lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be about 5% lower than in the climate-uninformed scenario.	In the long term, global GDP is slightly worse than in the Orderly Net Zero scenario due to the impacts of financial markets volatility.
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	Transition and physical risks priced in smoothly over the period of 2022-2025	Abrupt repricing of assets causes financial market volatility in 2025

Source: Ortec Finance

ClimateMAPS uses a top-down approach that consistently models climate impacts on both assets and liabilities, enabling the resilience of the DB Section's funding strategy to be considered. The model output is supported by in-depth narratives that bring the scenarios to life to help the Trustee understanding of climate-related risks and opportunities.

ClimateMAPS uses Cambridge Econometrics' macroeconomic model which integrates a range of social and environmental processes, including carbon emissions and the energy transition. It is one of the most comprehensive models of the global economy and is widely used for policy assessment, forecasting and research purposes. The outputs from this macroeconomic modelling – primarily the impacts on country/regional GDP – are then translated into impacts on financial markets by Ortec Finance using assumed relationships between the macroeconomic and financial parameters.

Ortec Finance runs the projections many times using stochastic modelling to illustrate the wide range of climate impacts that may be possible, under each scenario's climate pathway. LCP takes the median (i.e., 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. The modelling summarised in this report used scenarios based on the latest scientific and macro-economic data at 30 June 2021, calibrated to market conditions at 30 September 2021.

The modelling included contributions assumed to be paid in line with the current Schedule of Contributions, and the Trustee discussed how future planned changes to the investment strategies would change the analysis. No allowance was made for changes to the investment strategy or contributions in response to the climate impacts modelled.

In practice, the Scheme's investment portfolio may not experience climate impacts in line with the market average. The Trustee considers, on an ongoing basis, how the Scheme's climate risk exposure differs from the market average using climate metrics (which are compared with an appropriate market benchmark) and its annual responsible investment review which considers the investment managers' climate approaches (see pages 18-21).

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.

Modelling limitations

As this is a "top-down" approach, investment market impacts were modelled as the average projected impacts for each asset class. This contrasts with a "bottom up" approach that would model the impact on each individual investment held by the Scheme's DB investment portfolio. As such, the modelling 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 DB assets.

In practice, the Scheme's investments may not experience climate impacts in line with the market average.

The asset and liability projections shown reflect the Scheme's strategic journey plan as at 30 September 2021. No allowance is made for changes that might be made to the funding or investment strategy as the climate pathways unfold, nor for action to be taken in response to the Scheme achieving its long-term funding target.

ClimateMAPS, like most modelling of this type, the modelling does not allow for all potential climate-related impacts and therefore is quite likely to underestimate some climate-related risks, especially for the Failed Transition scenario. For example, tipping points (which could cause runaway physical climate impacts) are not modelled and no allowance is made for knock-on effects, such as climate-related migration and conflicts. In addition, the model presumes that the UK government and bank counterparties will remain solvent, thereby making no allowance for credit risk on government bonds and derivative exposures. However, in a scenario where global warming exceeds 4°C, this assumption may no longer be valid.

Medians from Ortec Finance's model outputs are used to project forward assets and liabilities, which means the results reflect the model's "middle outcomes" for investment markets under the three scenarios. Allowing for market volatility would result in better or worse model outputs than shown. Investment markets may be more volatile in future as a result of physical and transition risks from climate change, and this is not illustrated in the modelling shown.

DC Section

Modelling approach

The return impacts of the climate scenarios represented in this report are relative to the 'baseline'. The baseline represents what is assumed that the market is already pricing in. The baseline includes a 10% weight to Failed Transition, 40% weight to Orderly Transition, 10% to Rapid Transition and 40% to a range of low impact scenarios.

	Rapid Transition	Orderly Transition	Failed Transition
Summary	Sudden divestments in 2025 to align portfolios to the Paris Agreement goals have disruptive effects on financial markets with sudden repricing followed by stranded assets and a sentiment shock.	Political and social organisations act quickly and predictably to implement the recommendations of the Paris Agreement to limit global warming to below 2°C above pre-industrial levels by 2100.	The world fails to meet the Paris Agreement goals; global warming reaches 4.3°C above pre-industrial levels by 2100. Physical impacts cause large reductions in economic productivity and impacts from extreme weather events.
Cumulative emissions to 2100	416 GtCO ₂ e	810 GtCO ₂ e	5,127 GtCO ₂ e
Key policy and technology assumptions	An ambitious policy regime is pursued to encourage greater decarbonisation of the electricity sector and to reduce emissions across all sectors of the economy. Higher carbon prices, larger investment in energy efficiency and faster phase out of coal-fired power generation under a 'Rapid' transition.		Existing policy regimes are continued with the same level of ambition.
Financial climate modelling	Pricing in of transition and physical risks of the coming 40 years occurs within one year by 2025. As a result of this aggressive correction, a confidence shock to the financial system takes place.	Pricing in of transition and physical risks until 2050 takes place over the first 4 years.	Physical risks are priced in two different periods: 2026-2030 (risks of first 40 years) and 2036-2040 (risks of 40-80 years).
Physical risk impact on GDP	Physical risks are regionally differentiated, consider variation in expected temperature increase per region and increase dramatically with rising global temperature. Physical risks are built up from: - Gradual physical impacts associated with rising temperature (agricultural, labour, and industrial productivity losses) - Economic impacts from climate-related extreme weather events - Current modelling does not capture environmental tipping points or knock-on effects (e.g., migration and conflict).		
Physical risk impact on inflation	Gradual physical impact (supply shocks) on inflation included via damages to agriculture and change in food prices. Total impact on a Global CPI Index is +2% in 2100.	No explicit modelling of physical risk impact on inflation (supply-side shocks). Impact on inflation follows historical relationship between GDP and CPI.	Severe gradual physical impact (supply shocks) on inflation included through damages to agriculture and change in food prices. Total impact on a Global CPI Index is +15% in 2100.

Source: Mercer and Ortec. Climate scenarios as at 31 December 2022

Modelling limitations

Climate scenario modelling is a complex process. The Trustee is aware of its limitations. In particular:

- The further into the future you go, the less reliable any quantitative modelling will be.
- There is a reasonable likelihood that physical impacts are grossly underestimated. Feedback loops or 'tipping points', like permafrost melting, are challenging to model particularly around the timing of such an event and the speed at which it could accelerate.
- Financial stability and insurance 'breakdown' is not modelled. A systemic failure may be caused by either an 'uninsurable' 4°C physical environment, or due to the scale of mitigation and adaption required to avoid material warming of the planet.
- Most adaptation costs and social factors are not priced into the models. These include population health and climate-related migration.
- New and emerging risks, such as the impact of climate change on biodiversity loss, and vice versa, is expected to be integrated into climate scenario modelling over time once the supporting science and impact on econometrics and finance is better understood.

Appendix 3 – Detailed climate-related metrics

The year-on-year percentage change of the climate metrics is detailed in the following tables and have been colour-coded as follows:

	The change in the climate metric is positive. This would apply to a decrease in total emissions, carbon footprint, sovereign carbon intensity, or implied temperature rise. It would also apply to an increase in coverage or share of companies with approved SBTi targets.
	The change in the climate metric is negative. This would apply to an increase in total emissions, carbon footprint, sovereign carbon intensity, or implied temperature rise. It would also apply to a decrease in coverage or share of companies with approved SBTi targets.
	The climate metric is unchanged.
	Climate metrics are unavailable. This includes metrics which are not applicable due to the type of the mandate (e.g., sovereign carbon intensity is only available with sovereign bond exposures), or because the manager is unable to provide the metric although it theoretically applies to the mandate.

DB Sections

The climate-related metrics were provided by the respective asset managers, using the following methodologies:

- **LDI:** annual UK GHG emissions of 384.2m tCO₂e for 2024 (published as a provisional figure by the UK government), total UK government debt taken as the market value of gilts in issuance of £2,246,525m (at 31 December 2024), UK PPP-adjusted GDP estimate of GK\$4,137,448m for 2024 (published by the IMF), gilts posted out as collateral are included in gilt valuations; gilts received as collateral are excluded, derivatives, cash and short gilt positions have also been excluded.
- **Insight ABS fund:** There are no reliable external data providers, emissions calculated based on issuer “data tapes” and public data sources. No market-wide comparison is available, Insight is working towards improving coverage by asset classes (CLO, CMBS, auto etc) and will aim to follow PCAF methodology. Data quality for mortgages is category 5 under PCAF definition.
- **Insight B&M credit:** Enterprise value (EVIC) is enterprise value including cash, book value based notional values, any calculation for non-base currency denominated data use current FX rates. Carbon emissions data obtained from MSCI or for a small number of issuers it is manually sourced from the issuer reporting.
- **RLAM B&M credit:** Emissions are attributed to a fund based on the portion of the company's value the fund holds, using enterprise value including cash for publicly listed corporates. Emissions associated with private issuers of corporate bonds were excluded, because market values (EVIC) tend to be systematically higher than account values (equity + debt) and this therefore can make private issuers emissions look artificially higher. Carbon emissions data obtained from MSCI.
- **LGIM equity fund:** ESG data provided by HSBC and ISS, and no used directly but instead forms the basis for an internal calculation. Total carbon emissions are a way of attributing the absolute emissions to a fund position based on the proportion of its market value compared to the issuer's EVIC.

The Total GHG emissions is calculated based on the data coverage for each fund and not on renormalised figures. The trustee understands this approach underestimates the value of emissions for the whole fund, but they prefer to report the actual value together with the data quality to encourage managers to improved data coverage for the invested funds.

Group Section

Fund	Year	NAV (£m)	Scope 1 and 2 emissions		Scope 3 emissions		Portfolio alignment
			Total GHG emissions (tCO2e)	Carbon footprint (tCO2e/£m) Data Quality (Reported / Estimated)	Total GHG emissions (tCO2e)	Carbon footprint (tCO2e/£m) Data Quality (Reported / Estimated)	Proportion with SBTi approved targets
Insight LDI	2023	110	19,649	178.6 (100%/0%)			100.0%
	2024	71	12,155	171.0 (100%/0%)			100.0%
	Change	-39	-38.1%	-4.3%			-
Insight ABS	2023	115	102	3.7 (0%/24%)			
	2024	138	133	3.7 (0%/26%)			
	Change	+23	+30.4%	-			
Insight B&M credit	2023	84	2,165	30.5 (71%/13%)	14,357	200.2 (0%/85%)	42.9%
	2024	78	1,851	26.5 (77%/12%)	14,117	180.0 (0%/85%)	43.2%
	Change	-6	-14.5%	-13.1%	-1.6%	-10.1%	+0.7%
RLAM B&M credit	2023	103	717	20.3 (33%/1%)	5,651	160.3 (0%/34%)	25.7%
	2024	100	802	15.3 (52%/0%)	6,863	131.6 (0%/52%)	11.2%
	Change	-3	+11.9%	-24.6%	+21.4%	-17.9%	-56.4%
Barings Private Credit	2023	38					
	2024	27					
	Change	-11					

Source: Investment Managers as at 31 December 2023 and 31 December 2024.

BPP Section

Fund	Year	NAV (£m)	Scope 1 and 2 emissions		Scope 3 emissions		Portfolio alignment
			Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m) Data Quality (Reported / Estimated)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m) Data Quality (Reported / Estimated)	Proportion with SBTi approved targets
Insight LDI	2023	217	38,762	178.6 (100%/0%)			100.0%
	2024	160	27,329	171.0 (100%/0%)			100.0%
	Change	-57	-29.5%	-4.3%			-
Insight ABS	2023	119	105	3.7 (0%/24%)			
	2024	131	126	3.7 (0%/26%)			
	Change	+12	+20.0%	-			
Insight B&M credit	2023	152	3,667	19.3 (74%/12%)	30,165	225.1 (0%/88%)	48.6%
	2024	148	2,980	20.8 (87%/10%)	30,948	209.2 (0%/100%)	50.6%
	Change	-4	-18.7%	+7.8%	+2.6%	-7.1%	+4.1%
RLAM B&M credit	2023	152	918	17.5 (34%/0%)	5,639	107.5 (0%/35%)	29.3%
	2024	147	1,287	16.8 (52%/0%)	8,474	110.5 (0%/52%)	25.2%
	Change	-5	+40.2%	-4.0%	+50.3%	+2.8%	-14.0%
Barings Private Credit	2023	43					
	2024	30					
	Change	-13					
ICG SDP 3C Private Credit	2023	32					
	2024	18					
	Change	-14					
ICG SDP 4C Private Credit	2023	24	142	13.0 (45%/0%)			
	2024	20	200	10.0 (58%/41%)			7.7%
	Change	-4	+40.9%	-23.1%			-

Source: Investment Managers as at 31 December 2023 and 31 December 2024.

Chemetall Section

Fund	Year	NAV (£m)	Scope 1 and 2 emissions		Scope 3 emissions		Portfolio alignment
			Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m) Data Quality (Reported / Estimated)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/£m) Data Quality (Reported / Estimated)	Proportion with SBTi approved targets
LGIM Future World Fund	2023	12.5	236	19.1 (97%/2%)	2,787	225.6 (97%/2%)	61.4%
	2024	8.8	142	16.3 (96%/2%)	2,910	333.2 (69%/28%)	48.4%
	Change	-3.7	-39.8%	-14.7%	+4.4%	+47.7%	-21.2%
Insight LDI Nominal	2023	3.9	702	178.6 (100%/0%)			100.0%
	2024	3.4	589	171.0 (100%/0%)			100.0%
	Change	-0.5	-16.1%	-4.3%			-
Insight LDI Real	2023	3.9	692	178.6 (100%/0%)			100.0%
	2024	3.4	584	171.0 (100%/0%)			100.0%
	Change	-0.5	-15.6%	-4.3%			-
Insight ABS	2023	3.4	3	3.7 (0%/24%)			
	2024	5.9	6	3.7 (0%/26%)			
	Change	+2.5	+100%	-			
Insight B&M Credit	2023	1.9	63	44.2 (57%/17%)	189	138.3 (0%/71%)	35.2%
	2024	2.0	64	38.5 (69%/13%)	183	90.0 (0%/71%)	37.4%
	Change	+0.1	+1.6%	-12.9%	-3.2%	-34.9%	+6.3%

Source: Investment Managers as at 31 December 2023 and 31 December 2024.

DC Section

Popular Arrangement	Year	NAV (£m)	Scope 1 and 2 emissions		Scope 3 emissions		Portfolio alignment
			Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/\$m) Data Quality (Reported / Estimated)	Total GHG emissions (tCO ₂ e)	Carbon footprint (tCO ₂ e/\$m) Data Quality (Reported / Estimated)	Proportion with SBTi approved targets
Moderate	2023	94.0	6,321	58.4 (65.4%/13.8%)	31,582	291.7 (17.9%/61.8%)	31.8%
	2024	93.3	5,450	54.3 (71.5%/10.5%)	30,460	303.2 (1.1%/80.2%)	41.1%
	Change	-0.7	-13.8%	-7.0%	-3.6%	+3.9%	+29.2%
Adventurous	2023	71.8	5,932	65.1 (77.9%/20.9%)	27,453	301.1 (26.0%/72.9%)	36.9%
	2024	78.0	5,389	56.0 (88.2%/9.1%)	38,839	403.8 (21.1%/75.5%)	42.2%
	Change	+6.2	-9.2%	-14.0%	+41.5%	+34.1%	+14.4%
Cautious	2023	16.0	776	48.0 (58.5%/10.2%)	4,976	307.6 (19.1%/56.2%)	26.6%
	2024	20.5	817	41.5 (64.7%/6.0%)	7,884	400.7 (21.3%/49.1%)	34.3%
	Change	+4.5	+5.3%	-13.5%	+58.4%	+30.3%	+28.9%
Pre-Retirement Annuity	2023	26.5	768	35.8 (41.1%/0.0%)	7,380	344.2 (32.3%/15.0%)	24.6%
	2024	22.5	809	47.7 (41.9%/0.0%)	9,495	559.4 (34.3%/7.6%)	44.7%
	Change	-4.0	+5.3%	+33.2%	+28.7%	+62.5%	+81.7%
Sterling Liquidity	2023	17.2	4	0.3 (52.7%/0.0%)	1,128	73.0 (16.4%/42.3%)	0.0%
	2024	16.2	7	0.4 (95.4%/0.4%)	1,572	77.6 (0.0%/95.8%)	3.6%
	Change	-1.0	+75.0%	+33.3%	+39.4%	+6.7%	
Ethical	2023	10.3	540	41.3 (97.7%/0.6%)	4,866	371.9 (73.5%/25.1%)	53.3%
	2024	14.3	654	36.7 (98.1%/0.4%)	9,005	505.3 (77.1%/21.5%)	53.8%
	Change	+4.0	+21.1%	-11.1%	+85.1%	+35.9%	+0.9%
HSBC Islamic	2023	12.3	319	20.3 (99.0%/1.0%)	Unavailable		46.5%
	2024	17.2	258	12.0 (33.3%/66.1%)			52.0%
	Change	+4.9	-19.1%	-40.9%			+11.8%

Source: Investment Managers as at 31 December 2023 and 31 December 2024. Asset values (NAV) are for the total Scheme assets invested in the relevant fund.

Carbon Footprint (scope 1 and 2) for popular arrangements with fixed income excludes sovereigns.

The Trustee, via the DC Committee and the DC adviser, will be discussing with each investment manager the rationale for movements in the metrics. In particular, those where there was a negative movement in the SBTi metrics, given that this is a good forward-looking indicator of progress.

Note: The coverage figures indicate the share of the eligible popular arrangement for which the relevant metric is available. Absolute carbon emissions have been calculated as the product of the specific carbon footprint of the underlying fund(s), their investment value. For mixed asset mandates absolute emissions have been adjusted for the eligibility ratio of the underlying fund(s). For any funds with underlying mandates managed by Legal & General, total carbon emissions and carbon footprint figures include sovereign bond exposures. The table below shows the Carbon Footprint (scope 1 and 2) including sovereigns as well as excluding sovereigns for the comparison, for the popular arrangements that contain these assets.

At the time of writing the report, different managers take different approaches in relation to how they report on sovereign carbon emissions. For example, Baillie Gifford partially follow the guidance of the Partnership for Carbon Accounting Financials (PCAF) for sovereigns but only use production emissions excluding land-use change, and forestry from MSCI. Legal & General's approach, on the other hand, fully aligns with the PCAF guidance. Emissions are thereby defined as those that relate to production (scope 1) and consumption (scope 1, 2 and 3 minus exported emissions). The different approaches make it difficult to aggregate sovereign metrics across portfolios. The Trustee expects that managers' reporting capabilities will mature making sovereign carbon metrics more comparable in the future so that they can be reported for all popular arrangements in an aggregated format.

Fund	2024 Carbon Footprint (incl. sovereigns)	2024 Carbon Footprint (excl. sovereigns)	2024 Carbon Footprint (only sovereigns)
Pre-Retirement Annuity	54.3	47.7	128.0
Corporate Bonds All Stocks (23% of Cautious Fund)	24.8	14.5	191.7
Diversified Fund (17% of Moderated Fund and 11% of Cautious Fund)	84.3	75.5	260.6

Note: The sovereign emissions metrics provided are for production emissions only, expressed in tons CO₂e for absolute emissions, and tCO₂e / \$M PPP-Adjusted GDP for production sovereign carbon intensity. Where managers have not specified the unit of measurement used, the Trustee has assumed alignment with the definition of production emissions as defined in the Partnership for Carbon Accounting Financials (PCAF) guidance. Sovereign emissions metrics for consumption emissions were not readily available at time of writing. The Trustee is continuing to work with the managers to show sovereign metrics for consumption emissions as data becomes more available in future reporting periods.