# Taskforce on Climate-related Financial Disclosures Report

## Johnson Matthey Employees Pension Scheme ("the Scheme")

## Year ending 31 March 2023

# Executive summary

This report sets out the Trustee's response and key actions across the four Task Force on Climate-related Financial Disclosures ("TCFD") pillars below.

## Governance

*Governance around climate-related risks and opportunities*

- ESG Policy – Trustee maintains an ESG Policy which sets out Trustee ESG beliefs & implementation framework.
- Climate Delegation Framework – Established by Trustee. Defines roles and responsibilities in relation to climate-related risk.
- Meetings – Trustee Board meets regularly and receives advisor support.
- Training – Trustee has received training on relevant climate risks and opportunities from its Investment Consultant.

## Strategy

*Actual and potential impacts of climate risks and opportunities*

- Time horizons – Trustee has defined key time horizons for each Section and considered how the Scheme may develop over these periods.
- Risks & opportunities – Trustee has identified relevant climate-related risks and opportunities for each Section over the selected time horizons.
- Scenario analysis – Trustee has conducted scenario analysis to assess the impact of an increase in the global average temperature on assets.
- Covenant impact – Trustee has considered how climate-related risks and opportunities could affect the employer's covenant.

## Risk Management

*Identification, assessment and management of climate-related risks*

- Risk register – Trustee is reviewing its risk register and is considering the inclusion of climate-related risks to better identify and assess risks.
- Manager assessments – Investment Consultants conduct annual review of the Scheme's investment managers to identify areas for improvement.
- Stewardship priorities – Trustee has set stewardship priorities based around its ESG focus areas.
- Dashboard – Trustee, with advice from its Investment Consultants, has developed a climate risk and opportunity dashboard for each Section.

## Metrics & Targets

*Disclosure of key metrics and targets*

- Metrics – Trustee has selected four metrics to report on and collated data against these from the Scheme's investment managers.
- Targets – Trustee has set an appropriate target for each Section with a defined time period for meeting the target.
- Targets – Trustee has set a data quality improvement target for the DB Section.
- Targets – Trustee has set a decarbonisation target for the DC Section, as this Section had better initial data coverage.

# Trustee statement on climate risks and opportunities

## Chair statement on behalf of the Trustee

The Trustee recognises that climate change represents a long-term financial risk to the Scheme, and can also be a dynamic source of opportunities. Climate change is expected to affect our members, financial markets and society at unprecedented levels. As such, the Trustee recognises that managing the associated risks and opportunities form part of its fiduciary duty to members. We have taken steps to ensure climate considerations are fully integrated across our processes, procedures and decision-making, including committing to a "net zero by 2050" target.

The Task Force on Climate-related Financial Disclosures ("TCFD") is a voluntary international institution that has developed a framework to improve and increase reporting of climate-related financial information. This report sets out our response and key actions across the four TCFD pillars: Governance, Strategy, Risk Management, and Metrics and Targets (as shown on the right).

Previously we have set policies and procedures to provide a framework to manage this risk and capture opportunities over time as the Scheme, including both the Defined Benefit ("DB") and Defined Contribution ("DC") Sections, approaches its long-term objectives. Our climate-related priority for the 12 months ending 31 March 2023 was to understand the Scheme's current position and what may be achievable in the future. As part of this, we have analysed all the relevant asset classes invested in by the Scheme. We have also analysed the current DB investment strategies and the "popular" DC arrangements (the default lifestyle and one self-select fund). The remaining self-select funds are not in scope as the assets invested are less than £100m or 10% of total fund value. Given the differences in the membership demographics and investment characteristics between the DB and DC Sections, the Trustee has reviewed the Sections separately for scenario analysis, and metrics and targets.

The TCFD Framework encompasses four key pillars:

Governance: Governance around climate-related risks and opportunities.

Strategy: Actual and potential impacts of climate-related risks and opportunities.

Risk Management: The identification, assessment and management of climate-related risks.

Metrics and Targets: Disclosure of key metrics and targets.

# Trustee statement on climate risks and opportunities

## Chair statement on behalf of the Trustee - continued

Defined Benefit Section

The Trustee has focused on consolidating and strengthening the investment strategies for both the Career Average ("CARE") and Elements Sections. This included implementing a segregated credit mandate across both Sections that targets climate alignment objectives and UN Sustainable Development Goals (SDGs) objectives. In addition, the majority of the equity holdings in the Elements Section were switched from traditional passive equity into a mandate with greater focus on ESG factors, including a 50% carbon reduction target. This, combined with a strong funding position and Covenant, results in a strong financial position for the DB Section overall. Therefore, the climate impact on the Section's financial position from an investment perspective over the short to medium term is expected to be relatively modest.

Due to the nature of the Sponsor's business, climate change and related impacts on the chemicals industry would result in significant change for the business. However, if the Sponsor is able to adapt to changing consumer needs and align their product portfolio with the sustainability agenda it should ultimately be a net beneficiary of climate-related change in the medium to long-term. The impact on the Sponsor Covenant (i.e., the Sponsor's ability to financially support the Scheme should it be required) is regularly monitored by the Scheme's Covenant adviser.

The potential impact of climate change on Scheme demographics, particularly life expectancy, and the resulting financial effects are considered by the Scheme's Actuary.

Defined Contribution Section

Investment time horizons vary significantly among members of the DC Section. The Trustee recognises both shorter-term transition risks alongside physical climate risks which are expected to become more prominent in the long-term. The Trustee has and continues to offer members' funds that directly address these risks both in the default strategy and self-select options.

A strategy review during the year resulted in the Trustee deciding to make changes to the global equity portfolio used within the default lifestyle (and also available as a self-select option) that will encompass ESG and climate considerations, resulting in a material reduction in the portfolio's carbon footprint. The Section's diversified growth portfolio is already on a path to reduce its carbon footprint by 50% by 2030.

In summary – the Trustee is committed to ensuring the best outcomes for Scheme members by addressing the risks and opportunities of climate change and further building the Scheme's plan for climate action.

Roger Buttery, Chair of the Trustee of the Johnson Matthey Employees Pension Scheme

# Climate importance

## Why is climate change important for our members?

The ongoing risks associated with climate change are increasingly present across the global economy and financial markets. As a result, we know that the future will look very different for the Scheme and its members. Climate change therefore needs to be at the forefront of our investment thinking and governing decisions.

This presents both risks and opportunities for the Scheme as global decarbonisation is required to mitigate climate change. The decarbonisation action is expected to incur large transition costs, and physical damages are expected if global temperatures continue to rise. This means that whatever comes next, we will face climate-related risks which we need to appropriately manage across both Sections.

Currently the world continues to grapple with rising emissions and we recognise global changes are required to keep global average temperature rises within safe limits. Surpassing these safe limits could mean unprecedented impacts on our global society and economy. This will have an impact on members, financial markets, and the sponsoring employer.

Global decarbonisation efforts and the potential wider impact of climate change will also result in opportunities for the Scheme, as demand for low carbon alternatives rise, as well as the potential for investments in renewables and natural capital. We will assess the appropriateness of these opportunities in alignment with other financially material considerations when making investment decisions.

### Climate science

Greenhouse gas ("GHG") emissions arise from the burning of fossil fuels for purposes such as transport or power. Emissions released into the atmosphere cause warming due to a blanketing effect, impacting the entire climate system.

### Current policies in place

Governments have agreed to the Paris Agreement to limit global average temperature rises to well below 2$^{o}$C, with ambitions towards 1.5$^{o}$C (versus pre-industrial levels). Further action is required in order to achieve the Paris Agreement goals.

### The transition to a low-carbon economy

To decarbonise the global economy, policies, technologies and market preferences are expected to shift in favour of low-carbon solutions.

### Physical risks from climate change

Physical risks will arise due to the impacts of climate change, including both sudden onset natural disasters and slower shifts in weather patterns. Such risks are expected to scale up in the long term due to rising global average temperatures.

# Overview

# TCFD Overview

## Governance

*Governance around climate-related risks and opportunities*

### Internal

Trustee – We, the Trustee, hold ultimate responsibility for managing the Scheme. This includes setting the Scheme's Climate Delegation Framework, which was last updated in November 2022, to ensure Scheme-level climate-related risks and opportunities are well governed.

The Trustee, working with the Scheme's advisors, provides oversight and manages Environmental, Social and Governance ("ESG")-related risks as they pertain to the Scheme's assets to enhance long-term, sustainable financial stability.

The Trustee is responsible for ensuring that investment matters receive a sufficient degree of attention and to improve decision making. The implementation and monitoring of the strategy is a responsibility of the Trustee, as well as facilitation of efficient governance, including monitoring the performance and implementation for the DC Section.

### External

Investment Consultant - The Scheme's DB and DC Investment Consultants provide climate-related advice to the Trustee throughout the year, covering the inclusion of climate considerations in the governance arrangements, climate risks and opportunities, the analysis of climate metrics, and providing training on the ever-evolving climate science (as well as regulatory updates).

Actuary – The Scheme's Actuary assesses climate-related risks and opportunities in relation to the DB Section and the implications for the Section's funding and long-term objective.

Other Advisors - The Scheme's Covenant Advisor and Legal Advisor provide advice to the Trustee on climate-related regulation, risks and opportunities.

Investment Managers (including DC Provider) - The Trustee has delegated responsibility to the Scheme's investment managers, and DC Provider, for managing the Scheme's assets in line with the agreed mandates. This includes identifying, assessing and managing climate-related risks and opportunities in relation to the Scheme's investments, as well as engaging with portfolio companies in the best interests of the Scheme's members and providing the agreed climate-related metrics for both Sections.

# TCFD Overview

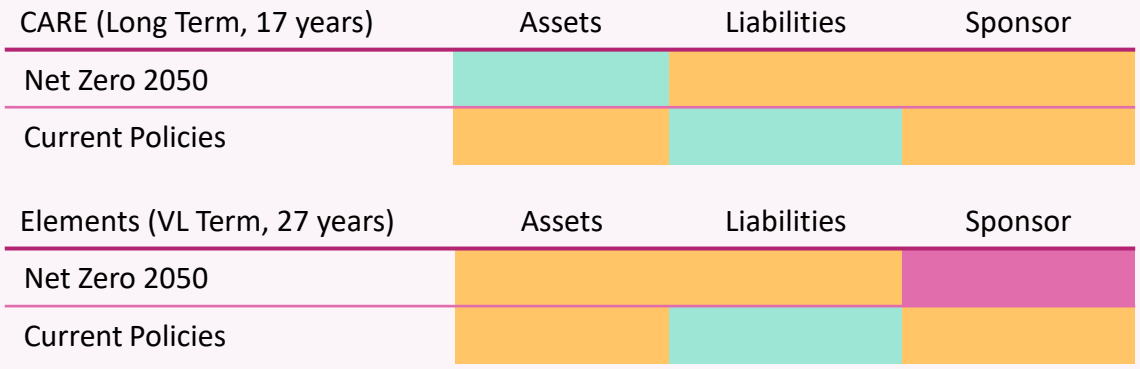
## Strategy

*Actual and potential impacts of climate risks and opportunities*

The Trustee has identified the key time horizons relevant to each Section of the Scheme, which are detailed later in this report. These have been determined by a blended view of the climate outlook and membership demographics.

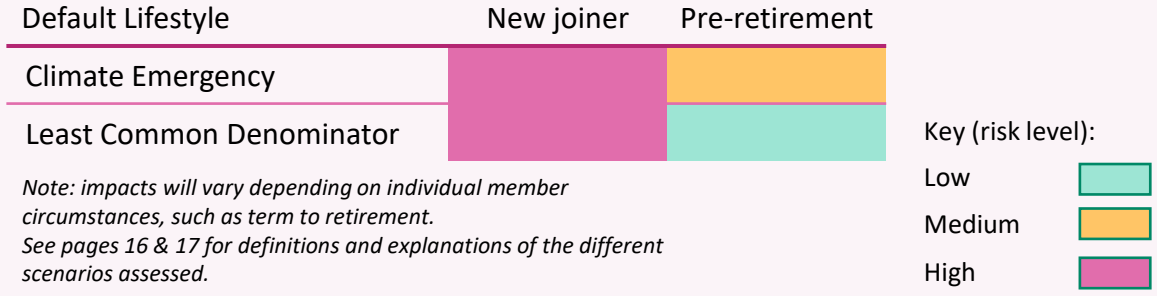
The Trustee has evaluated the potential risks and opportunities over the agreed timeframes, including analysis of the relevant Section's position under multiple climate scenarios, two of which are shown below for the DB and DC Sections, respectively. This follows a Red, Amber, Green rating to illustrate the estimated magnitude of the potential impacts from a climate transition or climate inaction on the Scheme. A more detailed assessment analysed across the different time horizons is included later in the report.

DB Section – During the year, the Trustee implemented multiple strategic changes within the DB Section to reduce ESG and climate risks. This included a segregated credit mandate with climate and Sustainable Development Goal ("SDG") alignment objectives and a Paris-aligned equity mandate (within the Elements Section). The Trustee also discussed investing in a climate-focused private markets mandate, which is due to be implemented in the Elements Section later in 2023.




*Note: impact of physical risks on assets would be higher if looking over a longer period or if risks materialise earlier than assumed.*

DC Section – The Trustee also implemented changes within the DC Section to help achieve better outcomes for members. As part of a wider strategy review, the Trustee decided to implement changes to its global equity portfolio, reducing the portfolio's carbon footprint, which makes up 100% of assets in the default lifestyle strategy for members more than 25 years from retirement and is available as a self-select option. The Section's DGF portfolio, used by members within 25 years of retirement, is already on a path to reduce its carbon footprint by 2030. Risks in relation to the default strategy are expected to reduce over time as the member approaches retirement and their strategy de-risks.




*Note: impacts will vary depending on individual member circumstances, such as term to retirement.*
*See pages 16 & 17 for definitions and explanations of the different scenarios assessed.*

# TCFD Overview

## Risk Management

*Identification, assessment and management of climate-related risks*

The Trustee has a framework to ensure risks are managed holistically. This includes analysis of climate risks at the overall Scheme level and ensuring the Scheme's investment managers are considering ESG risks and opportunities in line with the Trustee's expectations.

Scheme level

The Trustee periodically reviews the risk register and has received advice on potential issues and potential mitigating actions relating to:

- Sponsor Covenant
- Investment strategy
- Asset and investment manager allocations
- Funding

In addition to the risk register, the Trustee receives regular advice from its advisors on climate considerations.

Underlying investment mandates

The Trustee regularly reviews the Scheme's investment managers' ESG capabilities.

On an annual basis, the DB and DC Investment Consultants provide an ESG assessment for the Scheme's mandates, analysing the level of ESG integration for each mandate. The assessment of the DB Section's mandates has a strong focus on climate-related risks and results in mandate- and Section-level ESG and climate scores.

The Trustee has set specific improvement targets for these scores, and our Investment Consultants, on behalf of the Trustee, uses the results of these assessments to engage with our investment managers on these areas to improve.

### Case study

An example is the Multi-Asset Credit mandates invested in the DB CARE Section. The Trustee has developed a clear view of best practice expectations for ESG integration within Multi-Asset Credit. Using this knowledge, areas for improvement have been identified and communicated clearly to both managers, specific to their mandates. The managers have been informed that the Trustee is willing to look elsewhere if improvements are not evidenced.

# TCFD Overview

## Metrics & Targets

*Disclosure of key metrics and targets*

The Trustee has selected, gathered and assessed the four climate metrics in the table below. Due to the nature of the Defined Benefit Section's investment strategy, which has a material allocation to illiquid assets, coverage of climate metrics is currently limited. Therefore the Trustee has set an interim data quality target.

For consistency, the Trustee decided to monitor the same set of metrics for the DC Section's default lifestyle strategy and "popular" self-select fund. However given there is high coverage of data quality for this Section, the Trustee has set a decarbonisation target to reduce the carbon footprint by 50% (vs the baseline) by 2030.

Defined Benefit Section

| Metrics | Total GHG emissions (scope 1&2) | | Carbon footprint (scope 1&2) | |
|---|---|---|---|---|
| | Metric $tCO_2e$ | Coverage | Metric $tCO_2e/\$m$ | Coverage |
| CARE | 36,604 | 40% | 49 | 66% |
| Elements | 3,892 | 67% | 40 | 83% |

| Metrics | Implied temperature rise | | Data quality, % of scope 1&2 emissions that are: | | | |
|---|---|---|---|---|---|---|
| | Metric °C | Coverage | Verified | Reported | Estimated | Unavailable |
| CARE | 2.2 | 57% | 1% | 30% | 9% | 60% |
| Elements | 2.4 | 82% | 0% | 0% | 67%* | 33% |

| Data quality target | 2023 interim target |
|---|---|
| DB Section | 50% estimated, reported or verified |

**Investment manager for the Elements Section cannot split out the data coverage quality currently so we have assumed that the total GHG emissions coverage is all estimated.*

Defined Contribution Section

| Metrics | Total GHG emissions (scope 1&2) | | Carbon footprint (scope 1&2) | |
|---|---|---|---|---|
| | Metric $tCO_2e$ | Coverage | Metric $tCO_2e/\$m$ | Coverage |
| Equity portfolio (default) | 4,915 | 99% | 55 | 99% |
| DGF portfolio (default) | - | - | 108 | 82% |
| Cash fund (default) | 3 | 82% | 0 | 82% |
| Overseas Equity fund | 889 | 98% | 35 | 98% |

| Metrics | Implied temperature rise | | Data quality, % of scope 1&2 emissions that are: | | | |
|---|---|---|---|---|---|---|
| | Metric °C | Coverage | Verified | Reported | Estimated | Unavailable |
| Equity portfolio | - | - | 0% | 85% | 14% | 1% |
| DGF portfolio | 2.9 | - | 0% | 0% | 0% | 100% |
| Cash fund | - | - | 0% | 77% | 5% | 18% |
| Overseas Equity | - | - | 0% | 84% | 14% | 2% |

| Carbon footprint reduction target | Baseline 30/09/2021 | 2030 Target |
|---|---|---|
| DC Section | 72 | -50% |

# What's Next?

## Building on the opportunities

Over recent years, the Trustee has reviewed opportunities to better integrate climate considerations into the investment strategies. This has included a climate-tilted credit portfolio and a diversified private markets fund in relation to the DB Section. It also included changes to the global equity portfolio used within the DC Section's default lifestyle. We will continue to consider new suitable opportunities whilst engaging with the Scheme's existing investment managers.

## Focus on improving data

We recognise that high-quality data relating to climate metrics is important for feeding into our decision making. In recognition of the low data quality statistics for the DB Section, we have adopted an interim data quality improvement target. We are engaging with our investment managers, via our investment consultants, to collaborate on improving the quality and availability of climate data.

## Evolving our target

Once data quality has improved, our intention is to adopt a decarbonisation target across the whole Scheme. This has currently been implemented for the DC assets only in the meantime. We seek to have a long-term, forward-looking view on target-setting that can feed into our strategic thinking. As part of this, we will also monitor how best practice evolves across the industry to ensure we adopt a target that is both ambitious as well as practical.

## Understanding Sponsor risk and opportunities

Our Sponsoring Employer is in an industry that will play a role in the transition to a low carbon economy. We are working with our Sponsoring Employer and Advisors to better understand the future direction of the business and the potential opportunities this may bring. We will continue to monitor the possible impact of these on the Covenant and how this could impact the DB Section's investment strategy.

# TCFD Recommendations – Governance

# Governance

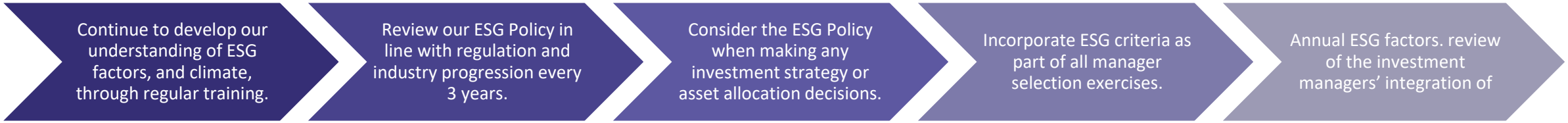
## Describe the Trustee Board's oversight of climate-related risks and opportunities

Climate-related beliefs

The Trustee maintains an ESG Policy that sets out the Trustee's ESG beliefs and how these are implemented. As part of this, the Trustee has identified two main ESG focus areas, including climate change risk and the transition to a low carbon economy. The aim is to align the investment strategy with being net zero by 2050, or earlier if possible, whilst maintaining sufficient diversification. The Trustee will measure the performance of the Scheme's mandates against this target with quantifiable metrics. Over the year, we agreed an additional climate-specific belief: "*The Trustee recognises that climate change risk poses significant investment risk that could become incrementally more severe over time.*"

Adopting this belief ensures that climate considerations will be at the heart of our investment-related decision making.

As part of our ESG Policy we have considered how our ESG beliefs are implemented. Our ESG Implementation considerations include those set out below:




Details on the review of the investment managers can be found on page 34. The Trustee also agreed a Climate Delegation framework, further detail provided overleaf.

Oversight responsibilities of the Trustee Board

Overall responsibility for ESG considerations (including climate-related) lies with the Trustee. The Trustee Board meets regularly (at least quarterly) and receives updates and support from its Scheme Actuary, Investment Consultants, Legal and Covenant Advisors on ESG and climate change topics. The Trustee ensures sufficient time is spent on ESG and climate change topics to best manage climate-related risks and opportunities, with ESG integration considered in some form at every Trustee Board meeting. This is because the Trustee has strong sustainable investment principles and the Sponsor has ambitious Net Zero commitments, therefore the Trustee believes climate-related risks and opportunities are central to future returns for the Pension scheme, to the beliefs of the Company and to many of the stakeholders in the Scheme. The Trustee will consider the quality of advice the advisors are able to provide from a climate perspective when reviewing their appointments. Where appropriate, the Trustee will challenge the advice provided, however this was not relevant over the reporting year.

Climate-related training

The Scheme's DB Investment Consultant provided TCFD training to the Trustee in 2022 to prepare for the new upcoming regulations. The first training session was held in June, setting out the four pillars of TCFD: Governance, Strategy, Risk Management, and Metrics and Targets. Further training in October provided greater detail on these topics, focusing on the impacts of climate risks, key climate-related metrics and climate scenario modelling. The Trustee, and the in-house pension team, will receive further training from their DB Investment Consultant where appropriate to understand the potential and developing impacts of climate-related risks.

# Governance

## Describe the Trustee Board's role in assessing and managing climate-related risks and opportunities

Climate Delegation Framework

Over 2022, the Trustee agreed a Climate Delegation Framework which sets out the roles and responsibilities of various stakeholders for managing climate-related risks and opportunities. The Trustee has the ultimate responsibility for ensuring Scheme-level climate-related risks and opportunities are governed well. Our Climate Delegation Framework sets out the governance process we have agreed to ensure we have oversight of these risks and opportunities that are relevant to the Scheme. This framework is reviewed, alongside the ESG Policy, on at least a triennial basis. The key points from the Climate Delegation Framework are laid out below.

Roles and Responsibilities

| | |
|---|---|
| Trustee | – Incorporate climate-related considerations into the governance frameworks, ongoing risk management, strategic decisions and monitoring.<br>– Identify, via its Investment Consultants, climate-related risks and opportunities, and set and monitor metrics to manage them.<br>– Receive regular training to maintain sufficient knowledge and understanding.<br>– Factor in climate-related risk management capabilities into the selection, review and monitoring of investment managers and the DC Provider. |
| Scheme Actuary | – Assess climate-related risks and opportunities in relation to the DB funding position over the short, medium and long term and the implications for the DB Scheme's funding and long-term objective. |
| Legal Advisors | – Provide training on climate-related legal matters, including ensuring the Trustee is aware of its statutory and fiduciary obligations.<br>– Assist in the documentation of the arrangements with the Scheme's third parties with respect to climate-related matters.<br>– Assist with the preparation of the Trustee's annual TCFD report. |
| DB and DC Investment Consultant | – Advise on the inclusion of climate considerations in the Scheme's governance arrangements, investment strategy, risk management and monitoring.<br>– Advise how climate-related risks and opportunities might affect the Scheme's exposure to different asset classes over the short, medium and long term, and the implications for the Scheme's strategy.<br>– Assist the Trustee in the selection and monitoring of climate-related metrics and targets in relation to the Scheme's investments, including engaging with the Scheme's investment managers regarding the provision of the agreed metrics.<br>– Provide training and relevant updates to the Trustee on climate-related matters.<br>– Assist with the preparation of the Trustee's TCFD report, including climate metrics and target, and climate scenario analysis. |
| Investment Managers | – Identify, assess and manage climate-related risks and opportunities.<br>– Exercise voting rights and engage with portfolio companies in the best interests of the Scheme's members.<br>– Provide the agreed climate-related metrics to the Investment Consultants, focusing on increasing their quality and availability. |

# TCFD Recommendations – Strategy

# Strategy

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Agree climate scenarios

Climate scenarios are hypothetical futures, which can apply different levels of climate action and produce a unique combination of physical and transition risk. The Trustee, in conjunction with its Investment Consultants, chose the below scenarios to provide a balanced set of hypothetical constructs with which to analyse the potential risks and opportunities across the Scheme's portfolios. Forward-looking analysis always involves uncertainty, however these scenarios help to examine different possible outcomes in terms of emissions, global average temperatures, and associated transition and physical risks, for example.

DB Section - The Trustee, via the DB Investment Consultant, has assessed the potential impacts on the Section's assets and liabilities under three different climate scenarios defined by the Network for Greening the Financial System ("NGFS"), and interpreted and modelled by Moody's Analytics.

### Net Zero 2050

- Temperatures kept to a 1.5°C rise this century (Paris-aligned).
- $CO_2$ emissions reach net zero in 2050 globally but only some regions achieve global GHG net zero.
- Relatively high transition costs incurred in near term but physical damages are minimised.

### Divergent Net Zero

- Temperatures kept to a 1.5°C rise this century (Paris-aligned).
- Divergence in policies across sectors results in higher transition costs e.g. the transport sector instils more stringent policies than the energy sector.
- Physical damages are minimised.

### Current Policies

- World largely fails to meet the Paris Agreement, resulting in 3.8°C of warming this century.
- Whilst there are lower transition costs, higher physical risks arise due to rising global temperatures, with shifts in weather patterns and an increased incidence of natural disaster.

DC Section – The Trustee, via the DC Investment Consultant, has assessed the potential impacts on the Section's assets under four different climate scenarios spanning the range of uncertainties outlined by the NGFS and the Climate Action Tracker.

### Climate Emergency

- Aggressive policy and extensive technological shifts mean temperatures are kept to a 1.5°C rise (Paris-aligned).
- Minimal physical damages but high transition costs in near term.

### Global Coordinated Action

- Policies to reduce emissions are agreed immediately and implemented globally to limit warming to 2.0°C (Paris-aligned).
- Relatively low transition costs and physical damages.

### Inevitable Policy Response

- Rapid policy shift in mid/late 2020s implemented in a disorderly manner but warming is kept to 2.0°C (Paris-aligned).
- Physical damages are minimised but transition costs are high.

### Lowest Common Denominator

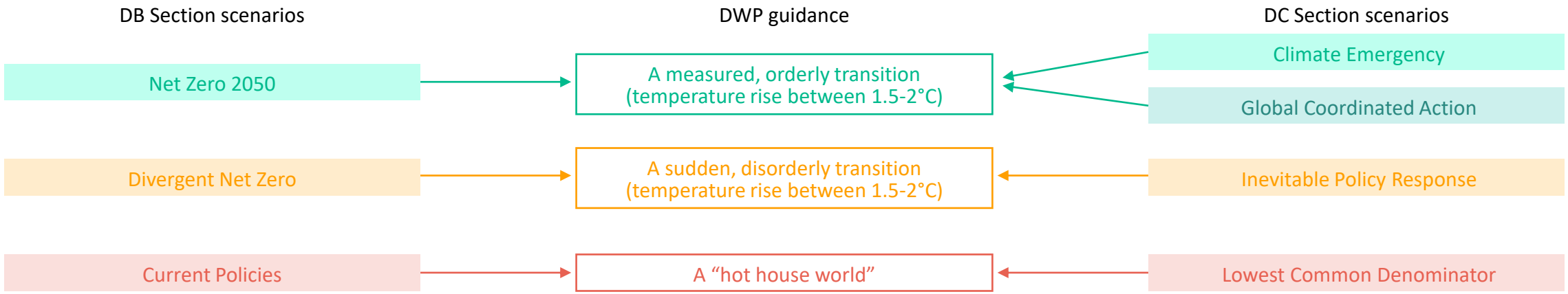
- Only current policies continue, resulting in 3.5°C of warming this century.
- Lower transition costs but higher physical risks due to the rising temperatures.

# Strategy

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Agree climate scenarios – continued

As the Scheme has different Investment Consultants for the Defined Benefit and Defined Contribution Sections, and two sets of scenarios, the Trustee has mapped the previous slide's scenarios across to each other using the Department for Work and Pension's ("DWP's") guidance to allow for comparison. However, we are aware that whilst they broadly reflect the same scenario, the underlying assumptions are different and may result in different outcomes.




Limitations

The Trustee recognises that there are limitations involved within investment strategy and climate scenario modelling given the inherent uncertainty around the future impact of climate change and the need to use assumptions which are subjective. The Trustee therefore uses the scenario analysis for comparative purposes rather than analysing the absolute magnitude of the results, to help understand some of the possible impacts of climate-related risks. Further detail can be found in the appendix.

# Strategy

## Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term

Agreed timeframes

Climate considerations differ depending on the timeframe in question; we have identified timeframes that are relevant to the Scheme and considered material climate-related risks and opportunities under each of these. We have identified the following timeframes via a blended view of the climate outlook, membership demographics, the funding position, the long-term objective ("LTO"), and the ability to pay benefits. In the shorter term, we expect transition risks to be greatest. However, in the longer-term, we expect physical risks to increasingly manifest and become more important.

DB Section

| Timeframe | Investment Horizon | Climate Horizon | Risks to Asset Strategies | Risks to Liabilities | Risks to Sponsor |
|---|---|---|---|---|---|
| Short term *3 years* | Actuarial review cycle, review of LTO and strategy | Company target setting, improvement in data quality, government responses to COP27 | Transitional risks such as the costs associated with global decarbonisation anticipated, carbon pricing and regulation | Changes to yields (as for assets), inflation and longevity expectations due to expected transition costs or rising physical risks | The need to adapt to a changing chemical industry and the wider global transition |
| Medium term *7 years* | LTO target & consider insurance (CARE) | Companies hitting interim 2030 targets, alignment with Sustainable Development Goals (SDGs*) | | | |
| Long term *17 years* | Duration of Scheme's liabilities (CARE) | Johnson Matthey Net Zero by 2040 target | Physical risks such as damage to assets caused by extreme weather events anticipated | | |
| Very long term *27 years* | Potential for Elements Section to still be open | Physical damages incurred, Net Zero by 2050 target | | | |

DC Section – Strawman members

| Timeframe | Investment Horizon | Climate Horizon | Risks to Asset Strategy |
|---|---|---|---|
| Short term *1-5 years* | Members at/approaching retirement | Company target setting, improvement in data quality, government responses to COP27, alignment with SDGs | Transitional risks arising from economic and societal changes to combat or adapt to climate change |
| Medium term *20 years* | Mid career members | Johnson Matthey Net Zero by 2040 target | Physical risks such as damage caused by extreme weather events |
| Long term *40 years* | New joiner members | Physical damages incurred, Net Zero by 2050 target | |

*SDGs: 15 goals agreed by the UN in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 people enjoy peace and prosperity.

# Strategy

## Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term

Risks and opportunities summary

Members will be invested over varying time horizons (depending on their time to, and in, retirement) and over this time, there will be long-term climate-related risks, particularly likely if net zero targets are not met. Climate-related risks can be broadly categorised into two groups that must be effectively managed for the benefit of members. Opportunities can be identified in both the CARE and Elements DB Sections as well as in the DC Section. These are detailed later in this report.

Risks

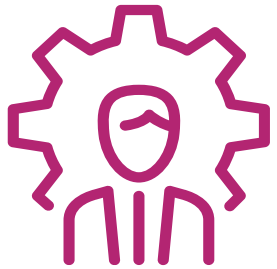
- Transition risks arising from efforts made to transition towards a net zero economy (both domestically and globally) to limit climate change. These are generally expected to occur in the medium and short term.

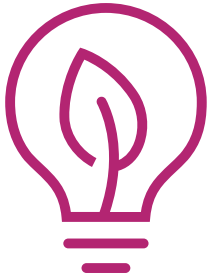
- Physical risks relate to the direct effects of climate change on the Section and its members. These risks are expected to be longer-term in nature and either acute (including increased severity of extreme weather events, such as cyclones, hurricanes, or floods) or chronic (e.g. sustained higher temperatures caused by longer-term shifts in climate patterns that could impact the mortality of Fund members). Physical effects could have varying impacts on the Section - the direction and size of which is unlikely to be clear for sometime.

Opportunities

Opportunities will arise to support sustainable growth, development and investment across industries as part of a move towards net-zero economies.

For example, companies that proactively adapt to the above risks or develop solutions that work to address these risks are likely to outperform in the long-term relative to companies who are less able to adapt to these risks.





# DB Section

# DB Section

## Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term

The Trustee is in the process of implementing revised investment strategies for both the CARE and Elements Sections, reflecting their different investment time horizons and risk profiles.

Investment strategy – CARE

During the 12 months to 31 March 2023, the Trustee further integrated ESG considerations through its strategic decisions and engagements. A Corporate Bond mandate, invested in by both DB Sections, was structured to embed climate and SDG alignment objectives within the investment guidelines. This included a 50% reduction in GHG emissions in comparison to the previous portfolio and achieving a temperature alignment of 1.5°C by 2030. The Trustee also engaged with its investment managers to encourage improvements in relation to ESG risk management (including climate change).

Target investment strategy:


Investment strategy – Elements

The Trustee also reviewed the target investment strategy for the Elements Section during the year. As detailed in the CARE Section, the Trustee implemented a Corporate Bond mandate with climate and SDG alignment objectives. In addition, the Trustee transferred the majority of its passive equity allocation to a Paris-aligned equity fund, which has a net zero by 2050 target. The Trustee has also considered investing in a climate-focused Diversified Private Markets mandate to benefit from climate-related opportunities. The Trustee is considering implementing this in mid 2023.

Target investment strategy:


Impact on liabilities

In addition to the risks to the Scheme's investments, the Trustee recognises that the changes in how long members are expected to live and draw their pensions from the Scheme ("longevity risk") is a potentially material source of risk to the funding strategy for both the CARE and Elements Section. The Scheme Actuary assesses this risk and the potential impacts different climate scenarios could result in over the different time periods. Due to the time it may take to see the material impacts of climate change, younger members are potentially much more affected by climate risks than older members, at or nearer to retirement.

The Scheme Actuary's modelling indicates the following scenario outcomes:

- A temperature rise of 1.5-2°C might increase Scheme liabilities by 5.5% and increase life expectancy by 22 months for older generations
- A temperature rise of 3.5-4°C might decrease Scheme liabilities by 2.5% and decrease life expectancy by 5 years for younger generations

Based on this analysis, mortality changes arising from the direct and indirect impact of climate change may be material to the funding strategy longer term. The Trustee will review this via its Scheme Actuary every three years, or when material changes are made to the investment strategy.

# DB Section

## Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term

Impact on the Sponsor

We have engaged with our Covenant Advisor to assess and monitor the potential impact of climate risks and opportunities on Covenant strength over the short, medium and long term. The Scheme currently has limited Covenant exposure due to having a strong funding position, but it does continue to run some investment risk.

Based on analysis conducted by Johnson Matthey Plc ("JM"), the sectors in which JM operates should, on balance, be the net beneficiary of climate-related risk / legislation over the medium / long term. Therefore, as long as JM is able to adapt to changing consumer needs, climate-related risks should not materially impact the longevity of JM's employer covenant. To address changing demands, JM has budgeted capex of up to c.£300m for net zero transition.

The Sponsor has identified the physical and transition risks (shown on the right) and opportunities, disclosing them in its TCFD report. JM groups its physical risks into two categories:

- Acute – considered to be extreme events such as tropical cyclones, severe flooding events, heatwaves, and fires; and
- Chronic – considered to be more gradual events such as rising sea levels, increased temperature, and rainfall.

The key physical risks that have been identified relate to damages to sites, assets and production, as well as potential supply chain disruption. There is a greater risk of these key physical risks materialising under the Current Policies scenario. JM's operations are well diversified and cover multiple geographies and as a result JM considers that acute risks are unlikely to materially impact its key sites. Chronic risks however are likely to have a more material impact on the business with trading and supply chains likely to be directly impacted.

JM is already invested in developing sustainable solutions and is therefore well placed to benefit from climate opportunities. Therefore, JM's main risk appears to be in relation to strategy execution, ensuring new products meet customer needs and allowing JM to maintain a competitive advantage.

| Physical risks |
| --- |
| Disruption to operations resulting in damage to or loss of assets, increased costs and harm to employees |
| Disruption to supply chain (upstream and downstream) hampering access to strategic raw materials (including metals) and products, and increasing costs |
| **Transition risks** |
| Changing customer and consumer demand for products |
| Increasing demand for low-carbon manufacturing and recycling of key materials |
| Increasing carbon taxation |
| Increasing stakeholder expectations of corporate climate policy and performance |

# DB Section

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Climate scenario analysis: total portfolio – impact on funding position relative to baseline scenario

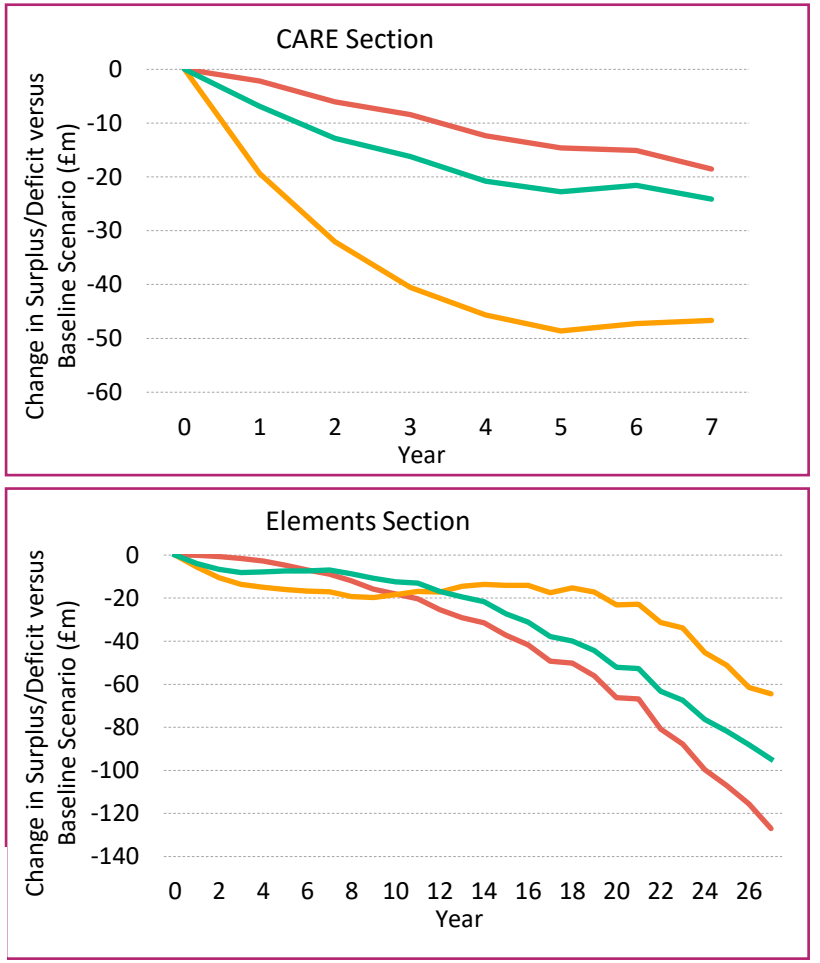
Under all climate scenarios, the Section's funding position is expected to deteriorate compared to the baseline – where there are no expected physical or transitional costs from climate change.

Over the short term, the expected impact on the Section's funding position is expected to be relatively modest, with the exception of the Divergent Net Zero scenario for CARE, relative to wider investment risks. Due to the complexity of the model, the Section's asset allocations were assumed to remain static; however, the Trustee analysed asset class specific impacts overleaf to understand how the portfolio's climate risk might evolve.

Over the shorter and medium term, the costs associated with the transition to a lower carbon economy are clear within the Net Zero 2050 and Divergent Net Zero scenarios. This reinforces the focus on investing in companies that are prepared for the transition, where transition risks are minimised.

Whilst impacts under the Current Policies scenario are minimal over the shorter term/potential life of the CARE Section, consideration should be given to the wider implications of this scenario. Over the longer term, from c.2040 onwards, the costs relating to physical damages are significant within the Current Policies scenario, with temperatures reaching a c. 2.4°C rise above pre-industrial levels by the end of 2050. The Trustee recognises this modelling is based on assumptions and more detail is provided in the appendix.

The Trustee, Sponsoring Company and Actuary are in regular communication regarding Scheme funding. Current funding levels are such that the Scheme currently requires minimal contributions, undertakes regular journey planning and expects there will be low reliance on the Sponsoring Company in the future. As such, climate risks to the funding strategy are expected to be largely mitigated.




The Baseline scenario assumes no transition or physical impacts of climate change i.e. a climate neutral scenario.
Source: DB Investment Consultant, Moody's. This is based on stochastic modelling, with the median outcome shown. CARE liabilities are modelled on a Gilts +0.5% basis (self-sufficiency). Elements liabilities are modelled on the Technical Provisions basis (Gilts+1.5%). Whilst we have modelled the potential physical and abatement costs over the next 27 years, in theory, markets may price these in sooner. The model's projections are sensitive to the underlying methodology and assumptions. No guarantee can be offered that actual outcomes will fall within the range of simulated results. Due to the long projection period, the model's outcomes are particularly reliant upon the underlying assumptions. Therefore, more attention should be paid to the relative comparisons between different projections than to the absolute magnitude of the results.

# DB Section

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Climate scenario analysis: asset classes

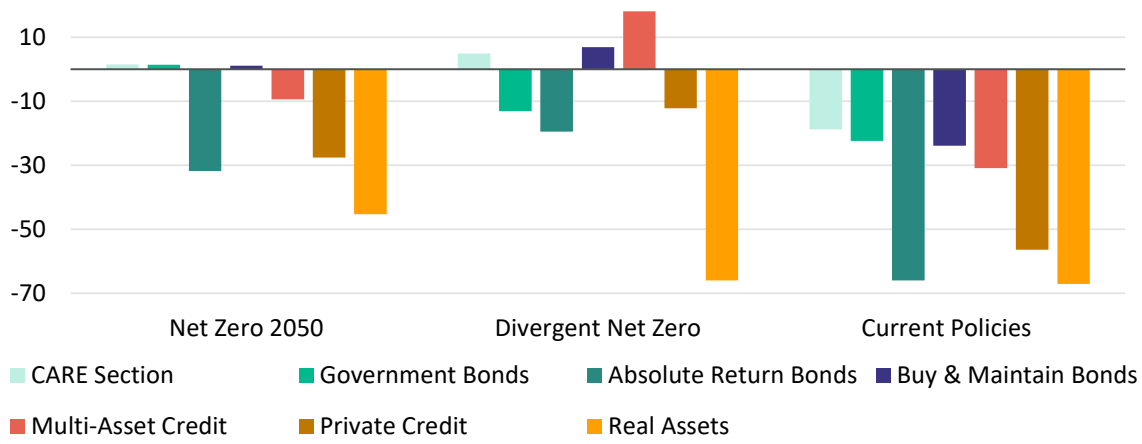
The Trustee considers the isolated impact on different assets to understand which allocations might contribute to the Section's climate risk and how this might evolve over time. This analysis covered all of the asset classes in the target investment strategies for each Section.

On a relative basis, equities are expected to experience first-wave impacts from climate change. In the near term this will be dominated by the risk of a transition to a low carbon economy creating a drag on markets. As part of the recent investment strategy review, the CARE Section removed its allocation to listed equities, materially de-risking the asset allocation. The Elements Section still has a signification allocation to equities, however the assets have been transitioned to a Paris-aligned fund which the Trustee expects to reduce risk, relative to a normal World Equity fund.

In addition from the CARE Section's perspective, real assets face the highest risk on an absolute basis across all scenarios. The allocation to real assets is expected to reduce over time as the Section further de-risks.

The delayed impact of a disorderly transition can be seen over the very long-term (27 years) as the two net zero scenarios are expected to have delivered the same outcome by 2050, however the Divergent Net Zero will have incurred higher transition costs.

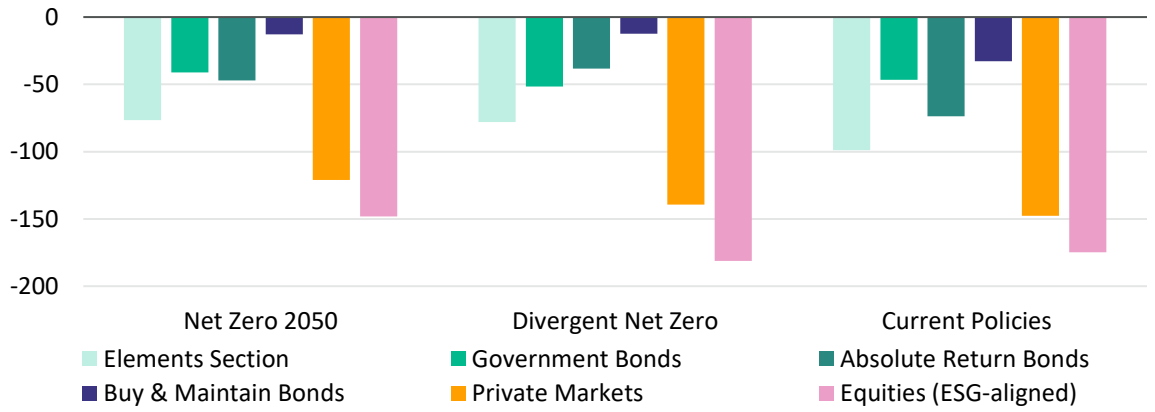
CARE Section: Return drag relative to Baseline scenario (ann. bps) - 17 years




Better

Worse

Elements Section: Return drag relative to Baseline scenario (ann. bps) - 27 years








Source: DB Investment Consultant, Moody's. This is based on stochastic modelling, with the median outcome shown. Section return includes LDI allocation.
Note that annualised return drags are shown but costs and impacts in reality won't be uniform. Whilst we have modelled the potential physical and abatement costs over the next 27 years, in theory, markets may price these in sooner.
The model's projections are sensitive to the underlying methodology and assumptions. No guarantee can be offered that actual outcomes will fall within the range of simulated results.

# DB Strategy - CARE

Low
Average
High

## Describe the impact of climate-related risks and opportunities on the Scheme's assets, liabilities, and Sponsor

Materiality of climate-related risks and opportunities

The Trustee, in conjunction with its Investment Consultant, has used a Red, Amber, Green rating scale to illustrate the likely magnitude of the potential impacts of climate-related risks and opportunities across the different time horizons agreed. Please find the matrix for the Elements Section in the appendix.

Assets – The CARE Section's current assets are well diversified and are expected to react differently to various climate scenarios. The impact is expected to change over the longer term in line with the Section's de-risking strategy.

Liabilities – The liabilities are well hedged and protected from movements in yields and inflation. Potential changes in longevity assumptions are a material risk.

Covenant – Due to the nature of the Sponsor's business area, it is expected to be exposed to climate risks and opportunities over the longer term.

| | Timeframe (years) | Government Bonds | Absolute Return Bonds | B&M Credit | MAC | Private Credit | Real Assets | Liabilities | Sponsor |
|---|---|---|---|---|---|---|---|---|---|
| Transitional (net zero scenario*) | Short term (3) | | | | | | | | |
| | Medium term (7) | | | | | | | | |
| | Long term (17) | | | | | | | | |
| Physical (current policies scenario) | Short term (3) | | | | | | | | |
| | Medium term (7) | | | | | | | | |
| | Long term (17) | | | | | | | | |
| Opportunities | | Mandate permits the use of green gilts | Opportunity to be replaced with a sustainable liquid credit mandate | Investment guidelines include climate and UN SDG alignment objectives | Opportunity to replace the allocation with sustainable MAC | Limited scope for climate-related opportunities | Limited scope for climate-related opportunities | | |





* The directional impacts under a Disorderly Transition scenario are likely to be similar to an Orderly scenario, albeit the magnitude and timing is expected to be delayed and uncertain.

# DC Section

# DC Section

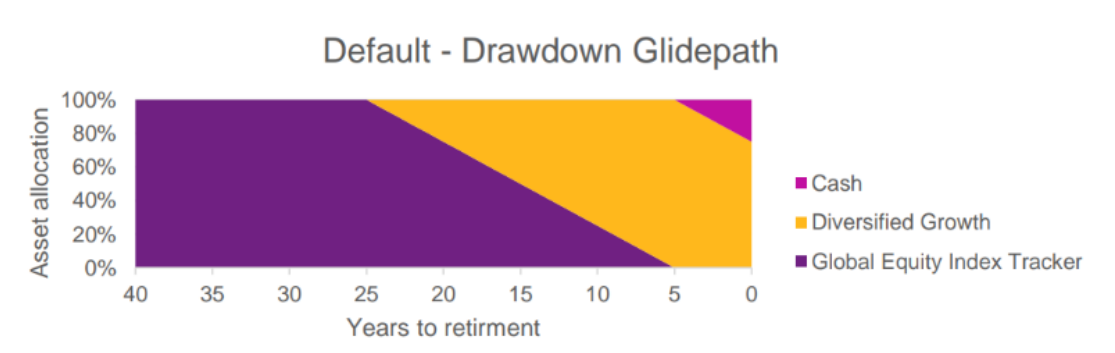
## Describe the climate-related risks and opportunities the Trustee has identified over the short, medium and long term

The Trustee has identified risks associated with the transition to a low-carbon economy (transition risk) over the medium-term and increases in global temperatures impacting physical assets and causing disruption (physical risk) over the longer term. This is likely to lead to winners and losers, creating both opportunities and risks.

Investment strategy

The Trustee recently conducted a review of the investment strategy for the Drawdown Glidepath ("the default lifestyle") and assessed the resilience of the Section's investment strategy to various climate change outcomes.

Given its size (>10% total asset value), the Trustee also assessed the resilience of the Overseas Equity (ex-UK) fund.




Global Equity

Equities make up a significant amount of the investments of members with longer investment horizons (generally younger members) and they're likely to be at greater risk from a climate perspective. The Trustee believes incorporating environmental, social and governance (ESG) factors into portfolio construction and reducing exposure to fossil fuel companies can reduce risk while increasing exposure to companies that can potentially benefit from the transition.

The Trustee has reviewed the Global Equity Index Tracker fund, introducing screens and tilts into the portfolio construction to favour companies with lower carbon emissions and decarbonisation plans. This change is expected to halve the carbon footprint of the fund.

Diversified Growth

The Section's Diversified Growth fund already incorporates ESG factor tilts for the majority of its equity exposure. The manager is targeting a 50% reduction in the fund's carbon footprint by 2030, which it expects to achieve through tilts to the equity funds; changes to the investment grade bond and infrastructure exposures, and an effective stewardship program.

Wider DC strategy

The Trustee also uses exclusions to reduce climate-related risks within the Scheme's developed regional equity fund, including the UK and Overseas Equity (ex-UK) funds.

# DC Section

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Climate scenario analysis: short-term shock analysis

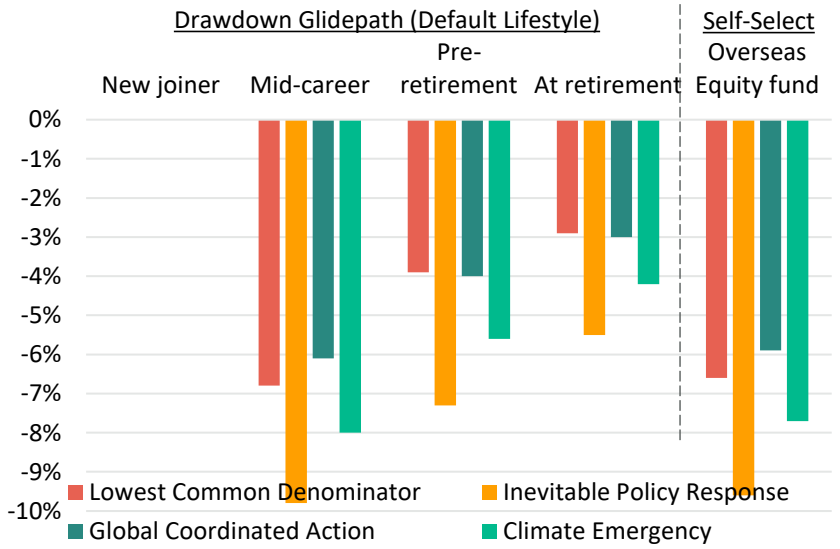
Our analysis over the short term assumes that the impact on the investments occurs as an instantaneous shock.

In practice, it is rare for investors to price in the right long-term expectation immediately. Typically, markets overreact as sentiment becomes bearish and/or investors want to receive a risk premium until expectations are more certain. As such, we allow for an overreaction in our calculation of the one-off shocks from each scenario.

The size of the impact is influenced by the size of the member's investment and how they are invested under the different scenarios. The Trustee has assessed all of the "popular" DC arrangements, this includes the Drawdown Glidepath ("the Default Lifestyle") and the Overseas Equity (ex-UK) self-select fund.

- "New joiner" has no money invested at the start of the year so the impact of a shock is negligible.
- "Mid-career" is assumed to be invested predominantly in the JMEPS Global Equity Index Tracker fund at the start of the year, which has a relatively high climate risk. The analysis highlights that the Inevitable Policy Response ("IPR") scenario poses the greatest risk to outcomes for mid-career members, followed by the Climate Emergency scenario. All scenarios pose a material risk of loss.
- "Pre-retirement" is assumed to be invested purely in the JMEPS Diversified Growth fund at the start of the year, with the same fund value and salary as "Mid-career". The climate risk is reduced across all scenarios but remains significant under the IPR scenario.
- "At retirement" is invested in a mixture of the JMEPS Diversified Growth fund and the Cash fund. This shows that the strategy helps to reduce climate risk for members in the years immediately prior to retirement.
- The impact for all members (excluding new joiners) is the same for the Overseas Equity (ex-UK) fund, which has a relatively high climate risk, as a result of asset allocation remaining static and the same fund value and salary assumptions for these members. Similar to the default strategy, the analysis highlights that the IPR scenario poses the greatest risk to outcomes, irrespectively of the member's age.

Fund value loss as a % of current salary*




Notes: Additional details on the scenario analysis can be found in the appendix. *Data in the chart shows the results of a 1-in-20 shock to fund values (i.e. VaR) as a percentage of current salary.

# DC Section

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

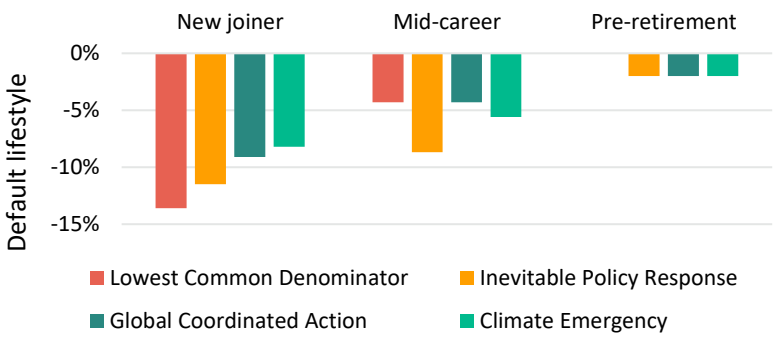
Climate scenario analysis: Impact on fund value at retirement

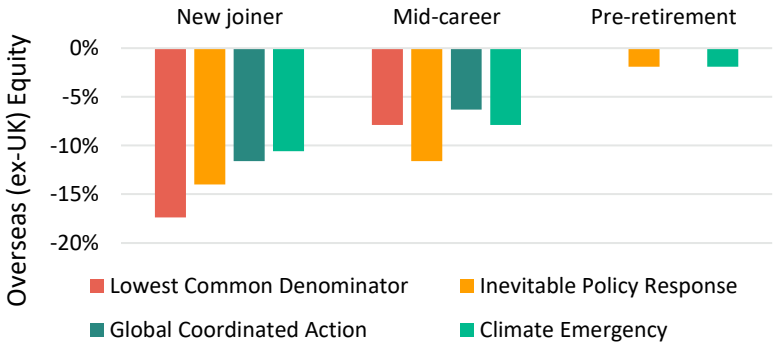
In order to consider the impact over the medium to long term we have assumed that the impact of climate change is time dependent. The impact of physical and transition risk on cashflows will vary over time with the transition risk being front-end loaded and the physical risk being back-end loaded. We arbitrarily assume that the transition risk impact in each scenario bites over the first 10 years and the physical risk over the remainder of the period.

The charts to the right show the potential impact on the member's projected fund value at retirement based on the default lifestyle and the "popular" self-select fund (overseas equity) for the three groups of members across the four climate scenarios, relative to a "base case".

- Under the default lifestyle and in the "popular" self-select fund, younger members are impacted to a greater extent than older members and are impacted differently under the different scenarios. Younger members are most exposed to the Least Common Denominator ("LCD") scenario or 'business as usual' followed by the Inevitable Policy Response ("IPR"), where there are delays in taking policy action and a disorderly transition. These members are impacted materially under all climate scenarios.
- Members in their mid-career are most exposed to the IPR. These members are also expected to be negatively impacted under all other scenarios considered.
- Older members are least exposed to the LCD scenario, with moderate impact under the other scenarios considered. The short-term impacts for members in the Overseas Equity fund are modest, as shown by the Pre-retirement member, with the IPR and Climate Emergency scenarios having the greatest impact.

Impact on expected fund size (vs base case)




Notes: Additional details on the scenario analysis can be found in the appendix.

# DC Strategy

Low
Average
High

## Describe the resilience of the Scheme's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Materiality of climate-related risks and opportunities

The Trustee, in conjunction with its Investment Consultant, has used a Red, Amber, Green rating scale to illustrate the likely magnitude of the potential impacts of climate-related risks and opportunities across the different time horizons agreed.

Assets – The Section's assets are diversified, will be de-risked as the member approaches retirement, and are expected to react differently to various climate scenarios.

| | Timeframe (years) | Default Lifestyle | Overseas Equity (ex-UK) fund |
|---|---|---|---|
| Lowest Common Denominator | Short term (1-5) *Pre-Retirement member* | | |
| | Medium term (20) *Mid-career member* | | |
| | Long term (40) *New joiner member* | | |
| Inevitable Policy Response | Short term (1-5) *Pre-Retirement member* | | |
| | Medium term (20) *Mid-career member* | | |
| | Long term (40) *New joiner member* | | |

| | Timeframe (years) | Default Lifestyle | Overseas Equity (ex-UK) fund |
|---|---|---|---|
| Global Co-ordinated Action | Short term (1-5) *Pre-Retirement member* | | |
| | Medium term (20) *Mid-career member* | | |
| | Long term (40) *New joiner member* | | |
| Climate Emergency | Short term (1-5) *Pre-Retirement member* | | |
| | Medium term (20) *Mid-career member* | | |
| | Long term (40) *New joiner member* | | |

# TCFD Recommendations – Risk Management

# Risk Management

## Describe the Trustee's processes for identifying, assessing and managing climate-related risks

Climate-related risk management process

We depict below the Trustee's climate-related risk management process. This is designed to allow identification of the most material risks for the Scheme and the development of controls and processes to manage these.

### Risk identification and prioritisation

Risk register: The Trustee reviews the climate-related considerations annually.

Roles & responsibilities: The Trustee has agreed with the Scheme's Advisors their various roles and responsibilities, documented in the Climate Delegation Framework. This includes their advice covering the identification, assessment and managements of climate-related risks across investment, actuarial, legal and covenant matters.

Training: The Trustee receives training to understand potential impacts of climate-related risks.

### Investment strategy impact

Climate scenario analysis: The Trustee seeks to quantify the potential impact of climate change on the Scheme's investment and funding strategy (DB only) (as discussed on pages 23-24 and 28-29).

ESG integration: Where possible, the Trustee ensures ESG considerations are integrated within each mandate. For example, the DB Section's segregated B&M Credit mandate has climate and UN SDG alignment objectives within the investment guidelines.

### Climate risk monitoring

Assessing investment managers: The Trustee assesses the ESG capabilities of the investment managers (including the DC Provider) on an annual basis (further detail provided on page 34).

Assessing climate metrics: In line with TCFD recommendations, the Trustee monitors the Scheme's investments against pre-agreed climate-related metrics on an annual basis. The quality and availability of these metrics is expected to improve over time.

### Stewardship

Assessing investment managers: The Trustee assesses the stewardship activities and capabilities of the investment managers annually, documenting this in the Implementation Statement, to ensure these align with our ESG beliefs and policy.

Stewardship priorities: In early 2023 the Trustee set stewardship priorities that the investment managers will be specifically monitored against going forwards. The four priorities are in line with the Trustee's two ESG focus areas: climate change and human rights.

# Risk Management

## Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the Trustee's overall risk management

Risk register

In 2022, the Trustee's Investment Consultant proposed the following additions to the risk register to ensure climate considerations are embedded into the Scheme's ongoing governance and risk management processes. These are currently being reviewed as part of the Scheme's wider risk register review.

| | Potential risk: | Potential control measures: |
|---|---|---|
| Sponsor Company covenant | – Worsening Covenant position associated with the impacts of climate change (transitional and physical)<br>– Damage to reputation and/or legal challenge due to poor or inconsistent climate practices | – Covenant formally considered by external professional covenant consultant ongoing<br>– Regular review with Sponsor Company |
| Investment strategy | – Asset mispricing due to the impacts of climate change and the transition to low carbon economy and/or physical impacts of climate change, e.g. lower real returns and/or market shocks due to pricing-in climate change | – Professional advice from investment consultant<br>– Continued monitoring of investments in the Career Average and Elements Sections against the Trustee's ESG policy and climate target(s), and regular (at least triennial) climate scenario modelling<br>– Ongoing Trustee training |
| Asset and investment manager allocations | – Investment managers do not adequately integrate financially material ESG factors in their risk management framework<br>– Investment managers do not adopt effective stewardship or collaborate to encourage best practice in addressing systemic climate risks<br>– Investment managers do not consider potential investment opportunities, which may be expected to benefit from climate change and provide upside opportunity for the portfolio, or individual asset classes | – Investment consultant monitors managers and reports to the Trustee; this may include but is not limited to, monitoring managers and asset classes on the risks and opportunities that arise from climate change and how these are managed on an ongoing basis |
| Funding level | – Funding target is increased at future actuarial valuations due to higher expected costs / greater uncertainty / weaker Sponsor Company due to climate-related reasons<br>– Cost of longevity insurance increases due to climate change | – Actuary, Sponsor Company, investment consultant and covenant consultant all involved in ongoing funding level assessment and IRM<br>– Training and advice on potential funding impact using climate scenario analysis |

# Risk Management

## Describe the Trustee's processes for identifying, assessing and managing climate-related risks

Investment Managers

Whilst the Trustee retains overall responsibility, the Trustee delegates day-to-day management of the investments to investment managers, and the Trustee expects the managers to be identifying, assessing and managing climate-related risks on an ongoing basis on the Trustee's behalf. The Scheme's investment managers meet with the Trustee annually to provide an update on the market and the Scheme's mandates. The Investment Consultants also review the investment managers for material developments on a quarterly basis.

The Trustee receives an annual assessment report from its DB and DC Investment Consultants that assesses each of the underlying managers with regard to the level of ESG integration for each mandate. The DB manager impact assessment is an evaluation tool used by the Investment Consultant, which includes a specific climate score for each of the underlying managers. Example criteria for this assessment are shown on the right.

Each mandate is assessed across five key areas, detailed on the right. At a high level, the majority of the Scheme's managers received at least satisfactory ratings. The main areas of improvement were in relation to the mandate's better-integrated ESG and climate considerations in their investment approaches.

The Trustee uses this assessment to identify areas of improvement and targets engagement efforts towards these areas. The Trustee expects to see progress in the investment managers' capabilities and the Investment Consultant's considerations each year.

| Assessment category | Example evaluation criteria |
|---|---|
| Investment approach | Are the fund's climate objectives quantifiable with interim targets set? |
| Risk management | Does the manager have a dedicated individual within the ESG team with responsibility for oversight of the climate change policy? |
| Voting & engagement | Can the manager provide a case study example demonstrating effective engagement on climate-related issues? |
| Reporting | Does the manager undertake forward-looking climate scenario modelling and is this published in quarterly reports? |
| Collaboration | Is the manager a member of the UN Net Zero Asset Owner Alliance? If not, is there a valid reason why? |

Stewardship Activity

The Trustee recognises the importance of stewardship in driving change and aiding the transition to a lower carbon economy.

The Trustee delegates stewardship responsibilities (Voting & Engagement) to its investment managers, and the managers should engage and vote on all issues, including climate, in the best interests of the Scheme's members.

The Trustee has explicit stewardship priorities, based on the most significant and likely risks, which it expects its investment managers to report on annually to be published in the Scheme's annual Implementation Statement. These are: climate change, biodiversity, gender diversity and equality, and labour rights (including modern slavery). The Trustee engages with the Scheme's managers to ensure alignment of priorities and streamlining of effort.

# TCFD Recommendations – Metrics and Targets

# Metrics and Targets

## Disclose the metrics used by the Trustee to assess climate-related risks and opportunities in line with its strategy and risk management process

Climate metrics selection

Greenhouse gas ("GHG") emissions are a key driver of climate change. These result from a number of economic activities, primarily as a result of burning fossil fuels. The gases contribute to the increased retention of the sun's energy, resulting in a "greenhouse effect" where the Earth is warmed. Slowing and reducing the release of GHGs into the atmosphere is therefore important. The Trustee selected and monitored four climate metrics, for the whole Scheme (both DB Sections and the DC Section), during the year:

1. Absolute emissions metric: Total greenhouse gas emissions (scope 1 & 2)
2. Emissions intensity-based metric: Carbon footprint (scope 1 & 2)
3. Portfolio alignment metric: Implied temperature rise ("ITR")
4. Additional climate change metric: Data quality

The process of selecting these metrics for monitoring focussed on two key aspects 1) level of impact and 2) availability of data.

Monitoring

The Trustee will assess these metrics, at least annually, to monitor climate-related risks and as a tool to engage with the investment managers.

More detail on how the metrics are defined can be found in the appendix.

Level of impact

The metrics were chosen based on their potential to add value to the Trustee's decision making. The Trustee is currently focussing on scope 1 and 2 emissions only i.e. direct emissions from company-owned or -controlled sources and indirect emissions from purchased energy. The Trustee will start reporting on scope 3 emissions (indirect emissions in the value chain) in our 2023/2024 TCFD report as the coverage at the time of data collection was immaterial for decision making.

Whilst it's important to consider emissions to date, it's also important to assess how these could evolve into the future. We have chosen ITR, expressed in degrees Celsius (°C), in order to estimate the global implied temperature rise if the whole economy was invested according to our strategy. This ensures we have a longer term focus for our climate-related decision making.

Availability of data

The Investment Consultants gathered this data from the investment managers on behalf of the Trustee. The quality of this information is important to allow robust decision-making and target-setting. We have chosen to monitor data quality as our fourth metric given this.

The Investment Consultants, on behalf of the Trustee, engage with the investment managers to seek improvements in data quality.

# Metrics and Targets

## Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks

Metrics review

The Trustee gathered climate metrics for the Scheme as at 30 September 2022 (or the data at the best-available proximate date) and the results are set out below. This helps to set a baseline against which future action can be measured, so that trends over time and problem areas within the portfolio can be understood. The Trustee will report on scope 3 emissions in next year's TCFD report.

The Trustee has monitored the same metrics over both Sections to allow consistency and comparison across the Scheme's holdings. Details of the DB Section's metrics are at the mandate level and notes to the data can be found in the appendices. For the DC Section we have provided metrics for in scope assets, being the Default Lifestyle and one Self-Select fund.

| Mandates | | Total GHG emissions (scope 1 & 2) | | Carbon footprint (scope 1 & 2) | | Implied Temperature Rise | | Data quality % of scope 1 & 2 emissions intensity that are: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Metric, $tCO_2e$ | Coverage | Metric, $tCO_2e$/ $1m of EVIC | Coverage | Metric | Coverage | Verified | Reported | Estimated | Unavailable |
| DB Section | | | | | | | | | | | |
| CARE | | 36,604 | 40% | 49 | 66% | 2.2°C | 57% | 1% | 30% | 9% | 60% |
| Elements | | 3,892 | 67% | 40 | 83% | 2.4°C | 82% | 0% | 0% | 67%* | 33% |
| DC Section | | | | | | | | | | | |
| Default Lifestyle | Global Equity portfolio | 4,915 | 99% | 55 | 99% | - | - | 0% | 85% | 14% | 1% |
| | Diversified Growth portfolio | - | - | 108 | 82% | 2.9°C | - | 0% | 0% | 0% | 100% |
| | Cash fund | 3 | 82% | 0 | 82% | - | - | 0% | 77% | 5% | 18% |
| S-S | Overseas Equity (ex-UK) fund | 889 | 99% | 35 | 99% | - | - | 0% | 84% | 14% | 2% |

Sources: Investment managers, Investment Consultants' calculations.
Notes: $tCO_2e$: Tonnes of carbon dioxide equivalent, where $CO_2e$ expresses the impact of each different greenhouse gas in terms of the amount of $CO_2$ that would create the same amount of warming.
EVIC: Enterprise value including cash. Coverage: Denotes the % of each fund where data is available. Figures rounded to nearest whole number or percentage. Current asset allocation as at 30 September 2022.
*Investment manager for the Elements Section cannot split out the data coverage quality currently so we have assumed the total GHG emissions coverage is all estimated. Please see appendix for further caveats.

# Metrics and Targets

## Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks

Metrics review – key takeaways

| | |
|---|---|
| DB Section | Overall coverage levels for data quality leaves room for improvement in the DB Section, the Investment Consultant has engaged with the investment managers to improve coverage in these areas on behalf of the Trustee.<br>The Liability Driven Investment (LDI) portfolios, in both of the DB Sections, have a relatively low carbon footprint in comparison to other LDI portfolios in the market. However, the investment manager is currently unable to report on total emissions for the whole portfolio.<br>The segregated Corporate Bond mandates have climate-alignment objectives, including a decarbonisation target, within their investment guidelines: as such we expect their metrics to improve over time.<br>The Section's overall metrics will fluctuate as the revised target investment strategies continue to be implemented. |
| DC Section | Overall coverage levels for emissions data is high for the DC Section.<br>Total emissions data was available for just over half of the assets in the default lifestyle strategy and for the "popular" self-select fund. There were improvements in the total emissions emitted by the majority of these assets over the year.<br>The Section's Diversified Growth portfolio is currently unable to report on the data quality of its emissions data, however there is good coverage. We have assumed that this data is estimated for the meantime.<br>There is currently low coverage for the Section's Implied Temperature Rise. The Trustee, via its Investment Consultant, will engage with the investment managers on providing this in future. |

# Metrics and Targets

## Describe the targets used by the Trustee to manage climate-related risks and opportunities and performance against targets

Target setting

DB Section

The Trustee has set an interim target to increase data quality (emissions verified, reported or estimated) of the DB Section to 50% over the next year (i.e. by 30 September 2023).

Whilst the emissions data coverage is modest for the DB Section, the investment managers are currently unable to break the data down by its quality. The Trustee therefore views the current information on emissions as too low to set a meaningful decarbonisation target. With improved sight of the data quality, the Trustee will be able to explore the adoption of an impactful, long-term target.

The Trustee will calculate annually the proportion of the portfolio for which emissions are verified, reported, estimated or unavailable. This will also assist with encouraging industry-wide efforts in improving emissions data quality over time. The Scheme's Investment Consultant led a project with the UK Investment Consultants Sustainability Working Group ("ICSWG") to help focus investment managers' efforts on a list of essential ESG metrics.

Targets are important for measuring progress against the established baseline. To achieve the target on data quality that we have set, the Trustee intends to engage with the underlying investment managers via its Investment Consultant.

| | Baseline 30/09/2021 | Target |
|---|---|---|
| DB Section – Data quality | - | 50% |
| DC Section – Carbon footprint | 72 | -50% |

DC Section

The Trustee has set a decarbonisation target for the DC Section: to reduce carbon footprint by 50% by 30 September 2030.

Due to the already good data quality coverage for the DC Section, the Trustee has set a decarbonisation target for these assets.

The Trustee aims to achieve this target through a combination of the impacts of government net zero ambitions on the wider economy; effective stewardship by its investment managers, and changes to portfolio exposures – either as a result of investment managers evolving existing funds or through switching into alternative pooled funds with a different mandate.

The Trustee will re-calculate the carbon footprint on an annual basis in order to monitor performance against the target. The Trustee acknowledges the difficulties with data quality that may hinder their ability to monitor performance against the target and will engage with managers to drive improvements in the future.

The Trustee has implemented changes to the Global Equity Index Tracker fund which are expected to halve the carbon footprint of this fund. In addition, the Section's Diversified Growth investment manager has a target to reduce the fund's carbon footprint by 50% by 2030 which it expects to achieve through a combination of changes to the equity, investment grade bond and infrastructure exposures in combination with effective stewardship of the assets.

The Trustee will review this target on an annual basis to ensure it remains appropriate and achievable.

# Appendix

# DB Strategy - Elements

Low
Average
High

## Describe the impact of climate-related risks and opportunities on the Scheme's assets, liabilities, and Sponsor

Materiality of climate-related risks and opportunities

The Trustee, in conjunction with its Investment Consultant, has used a Red, Amber, Green rating scale to illustrate the likely magnitude of the potential impacts of climate-related risks and opportunities across the different time horizons agreed.

Assets – The Elements Section's assets are well diversified and are expected to react differently to various climate scenarios. The Section's investment strategy is expected to mature and de-risk over a long time period and the impact of climate-related risks is expected to change with the strategy.

Liabilities – The liabilities are well hedged and protected from movements in yields and inflation. Potential changes in longevity assumptions are a material risk.

Covenant – Due to the nature of the Sponsor's business area, it is expected to be highly exposed to climate risks and opportunities over the longer term.

| | Timeframe (years) | Government Bonds | Absolute Return Bonds | B&M Credit | Private Markets | Equities | Liabilities | Sponsor |
|---|---|---|---|---|---|---|---|---|
| Transitional (orderly scenario*) | Short term (3) | | | | | | | |
| | Medium term (7) | | | | | | | |
| | Long term (17) | | | | | | | |
| | V. Long term (27) | | | | | | | |
| Physical (hot house scenario) | Short term (3) | | | | | | | |
| | Medium term (7) | | | | | | | |
| | Long term (17) | | | | | | | |
| | V. Long term (27) | | | | | | | |
| Opportunities | | Mandate permits the use of green gilts | Opportunity to be replaced with a sustainable liquid credit mandate | Investment guidelines include climate and UN SGD alignment objectives | Opportunity to consider sub-asset classes beyond the current mandate | Current mandate is a Paris-aligned ESG equity fund | | |

* The directional impacts under a Disorderly Transition scenario are likely to be similar to an Orderly scenario, albeit the magnitude and timing is expected to be delayed and uncertain.

# Strategy

## Scenario analysis appendix – DB Section

Modelling principles

Modelling was undertaken by the Scheme's Investment Consultant using a stochastic model that simulates a large number of possible future economic outcomes, in which financial conditions develop in a number of different ways, defined by assumptions for average outcomes, range of variability, and inter-dependency between different markets. The results shown in this report are based on the median results.

The high-level market scenarios are generated by a third-party Economic Scenario Generator ("ESG") provided by Moody's Analytics. The ESG is an industry-standard tool that is widely used by financial institutions (e.g. insurers, asset managers, and investment banks). Both the climate scenarios and the underlying economic impacts are provided by Moody's Analytics.

Based on the scenarios generated by the ESG, the model simulates asset class returns calibrated to the asset class assumptions.

The model takes the initial starting position of the assets, and projects these values forward under the simulated scenarios, taking into account any relevant inflows and outflows.

Different investment strategies are modelled in order to illustrate the effects of different allocations. In each case, the model assumes that the strategy remains constant over the full projection period, and assets are annually rebalanced back to the original allocations. We can model alternative future strategic asset allocations being explored.

Modelling limitations

The models are based on assumptions and simplifications across both the climate-related impacts and the investment implications, they are not intended to be a perfect prediction of the future but rather provide the Trustee with hypothetical constructs.

No guarantee can be offered that actual outcomes will fall within the range of simulated results.

The only risk factors considered in the modelling are those that affect the values of pension schemes' assets. The modelling results should be viewed alongside other qualitative considerations including portfolio complexity, governance burden, and liquidity risk.

The model's projections are sensitive to the starting position and the econometric assumptions. Changes to the assumptions can have a material impact upon the output. There can be no guarantee that any particular asset class or investment manager will behave in accordance with the assumptions. Newer asset classes can be harder to calibrate due to the lack of a long-term history.

# Strategy

## Scenario analysis appendix – DB Section

Climate scenario analysis

The Scheme's Investment Consultant partnered with Moody's to deliver a climate change model. Please see below an overview:

1. Selection of climate scenarios from the Network for Greening the Financial System. The interpretation and implementation of these scenarios are detailed below, across these building blocks.
2. Inclusion of climate scenarios within Moody's climate model, composed of two building blocks: a socioeconomic REMIND-MAGPIE general equilibrium model, modelling macroeconomic growth and energy systems. This assumes that markets are efficient and sets out traditional economic assumptions around the evolution of economic markets. This is combined with the MAGICC 6 climate model, modelling climate and weather. The model runs 600 climate scenario projections and takes the median outcome for each climate scenario: baseline, orderly, disorderly and hot house. There is interplay between these models.
3. The investment model determines how different asset classes will react under the different climate change scenarios analysed, and across time. It is also composed of two building blocks: Moody's Economic Scenario Generator, modelling economic pathways. This is combined with a proprietary investment model, which models the impact on investments.
4. The output is an understanding of the potential impacts on investment strategy and asset class outcomes, as well as the funding position. In particular, the impacts of rising transitional and physical costs associated with climate change are assessed.

# Strategy

## Scenario analysis appendix – DC Section

Climate scenario analysis methodology

To help build a picture how the impact is felt across the membership we have considered four strawman members and both short-term and longer-term impacts.

| | Current age | Retirement age | Current Salary | Current Fund value | Contribution rate as a %age of salary | Assumed future salary increases |
|---|---|---|---|---|---|---|
| New joiner | 25 | 65 | £25,000 | £0 | 9% | CPI + 0.5% for 15 years then CPI |
| Mid-career | 45 | 65 | £40,000 | £25,000 | 9% | CPI |
| Pre-retirement | 60 | 65 | £40,000 | £25,000 | 9% | CPI |
| At retirement | 65 | 65 | £40,000 | £25,000 | 9% | CPI |

- Short-term: We have undertaken a shock analysis, assuming the entire cost of climate change is capitalised over 1 year. The results show the Value at Risk expressed as a percentage of salary.
- Longer-term: This shows the impact on projected value of DC pension pot at retirement and assumes a return drag under each scenario.

# Metrics – DB Section

Climate metrics for the DB Section's investment strategies as at 30 September 2022 (or the data at the best-available proximate date) are set out below.

| Mandates | Total GHG emissions (scope 1 & 2) | | Carbon footprint (scope 1 & 2) | | Implied Temperature Rise | | Data quality % of scope 1 & 2 emissions intensity that are: | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Metric, $tCO_2e$ | Coverage | Metric, $tCO_2e$/ $1m of EVIC | Coverage | Metric | Coverage | Verified | Reported | Estimated | Unavailable |
| Government Bonds | - | - | 70 | 98% | 1.9°C | 100% | 0% | 0% | 0% | 100% |
| Short Dated Credit | - | - | - | - | - | - | 0% | 0% | 0% | 100% |
| Buy & Maintain Credit | 17,431 | 57% | 30 | 57% | 2.1°C | 65% | - | - | - | - |
| Multi-Asset Credit – Mandate 1 | 5,935 | 71% | 78 | 71% | - | - | 0% | 31% | 67% | 2% |
| Multi-Asset Credit – Mandate 2 | 6,613 | 60% | 132 | 60% | 3.5°C | 29% | 6% | 38% | 16% | 40% |
| Private Markets | 32 | 11% | 3 | 11% | - | - | 0% | 100% | 0% | 0% |
| Balanced Property | 299 | 100% | 4 | 100% | - | - | 0% | 100% | 0% | 0% |
| Infrastructure Equity – Mandate 1 | - | - | - | - | - | - | 0% | 0% | 0% | 100% |
| Infrastructure Equity – Mandate 2 | - | - | - | - | - | - | 0% | 0% | 0% | 100% |
| Equity | 6,295 | 99% | 61 | 98% | 2.9°C | 91% | - | - | - | - |
| Diversified Growth Fund | - | - | - | - | - | - | 0% | 0% | 0% | 100% |
| Total CARE Portfolio | 36,604 | 40% | 49 | 66% | 2.2°C | 57% | 1% | 30% | 9% | 60% |
| Government Bonds | - | - | 67 | 97% | 1.9°C | 100% | - | - | - | - |
| Absolute Return Credit | 998 | 79% | 99 | 79% | 2.5°C | 40% | - | - | - | - |
| Buy & Maintain Credit | 669 | 56% | 17 | 56% | 2.1°C | 69% | - | - | - | - |
| Equity – Mandate 1 | 1,030 | 99% | 19 | 99% | 2.7°C | 98% | - | - | - | - |
| Equity – Mandate 2 | 1,093 | 98% | 62 | 98% | 2.9°C | 91% | - | - | - | - |
| Corporate Bonds | 102 | 35% | 53 | 35% | 2.4°C | 33% | - | - | - | - |
| Total Elements Portfolio | 3,892 | 67% | 49 | 83% | 2.4°C | 82% | - | - | 67%* | 33% |

Source: Investment managers, DB Investment Consultant calculations.

Notes: $tCO_2e$: Tonnes of carbon dioxide equivalent, where $CO_2e$ expresses the impact of each different greenhouse gas in terms of the amount of $CO_2$ that would create the same amount of warming. EVIC: Enterprise value including cash. Coverage: Denotes the % of each fund where data is available. Figures rounded to nearest whole number or percentage. Current asset allocation as at 30 September 2022. *Investment manager for the Elements section cannot split out the data coverage quality currently so we have assumed the total GHG emissions coverage is all estimated. Please see next page for further caveats..

# Metrics – DB Section

Further metrics caveats are set out below covering the Funds in both the CARE and Elements Sections. Where data is not available, the manager has been unable to provide this.

| Mandate | Caveats |
|---|---|
| Government Bonds<br>Short Dated Credit<br>Absolute Return Credit<br>B&M Credit<br>World Equity<br>ESG Paris Aligned Equity<br>Corporate Bonds | • Data as at 30 September 2022.<br>• Investment manager cannot provide carbon emissions data for derivatives, therefore it is unrepresentative of the total LDI portfolio. They will provide data on derivatives in due course (this is likely to have a material impact on the figures).<br>• Carbon footprint reported in tonnes of $CO_2e$ per $1m invested. |
| Multi-Asset Credit Mandate 1 | • Data as at 30 September 2022.<br>• Carbon footprint reported in tonnes of $CO_2e$ per $1m invested. |
| Multi-Asset Credit Mandate 2 | • Data as at 30 September 2022.<br>• Emissions coverage is based on the % of carbon eligible securities, this may be lower than total market value.<br>• Carbon footprint reported in tonnes of $CO_2e$ per $1m invested. |
| Private Markets | • Data as at 30 June 2022. |
| Property | • Data as at 31 December 2021. |
| Infrastructure Equity – Mandate 1 & 2 | • Data as at 31 December 2021.<br>• Investment manager previously stated that they could provide emissions data on request but this is now expected by Q2 2023. |
| Diversified Growth Fund | • No data currently available. |

# Glossary

| Metric | Description | |
|---|---|---|
| Absolute Emissions Metric:<br><br>Total GHG emissions (scope 1 & 2) | Total amount of greenhouse gas emissions (as mandated by the Kyoto Protocol) emitted by the underlying portfolio companies, attributed to the investor based on the total investment in each company | $\sum_n^i \left( \frac{\text{Current value of investment}_i}{\text{Investee company enterprise value}_i} \right)$ X investee company's scope 1 and 2 emissions $_i$ |
| Emissions Intensity Metric:<br><br>Carbon footprint (scope 1 & 2) | An intensity measure of emissions that assesses the level of greenhouse gas emissions (as mandated by the Kyoto Protocol) arising from £1 million investment (based on Enterprise Value Including Cash) in a company | $\frac{\sum_n^i \left( \frac{\text{Current value of investment}_i}{\text{Investee company enterprise value}_i} \text{ X investee company's scope 1 and 2 emissions}_i \right)}{\text{Current value of all investments (£ millions)}}$ |
| Implied temperature alignment | A forward-looking view of carbon exposure that can be translated into a projected increase in global average temperature (°C) above pre-industrial levels that would occur if all companies had the same carbon intensity. For example, a company that is Paris-aligned would have an Implied Temperature Rise of 'well below 2°C', which means that if the whole world economy only consisted of this one company then the rise in global temperatures will be kept below 2°C. Weighted averages are used for the total mandate or portfolio. The DWP recommend a focus on a 1.5°C scenario. We acknowledge that there some concerns around complexity/opaqueness of calculations across investment managers. | |
| Data quality | Verified | % of the emissions data that is verified (audited or independently verified) |
| | Reported | % of the emissions data that is sourced from actual company reported data |
| | Estimated | % of the emissions data that is estimated, either by the manager or a third party data provider |



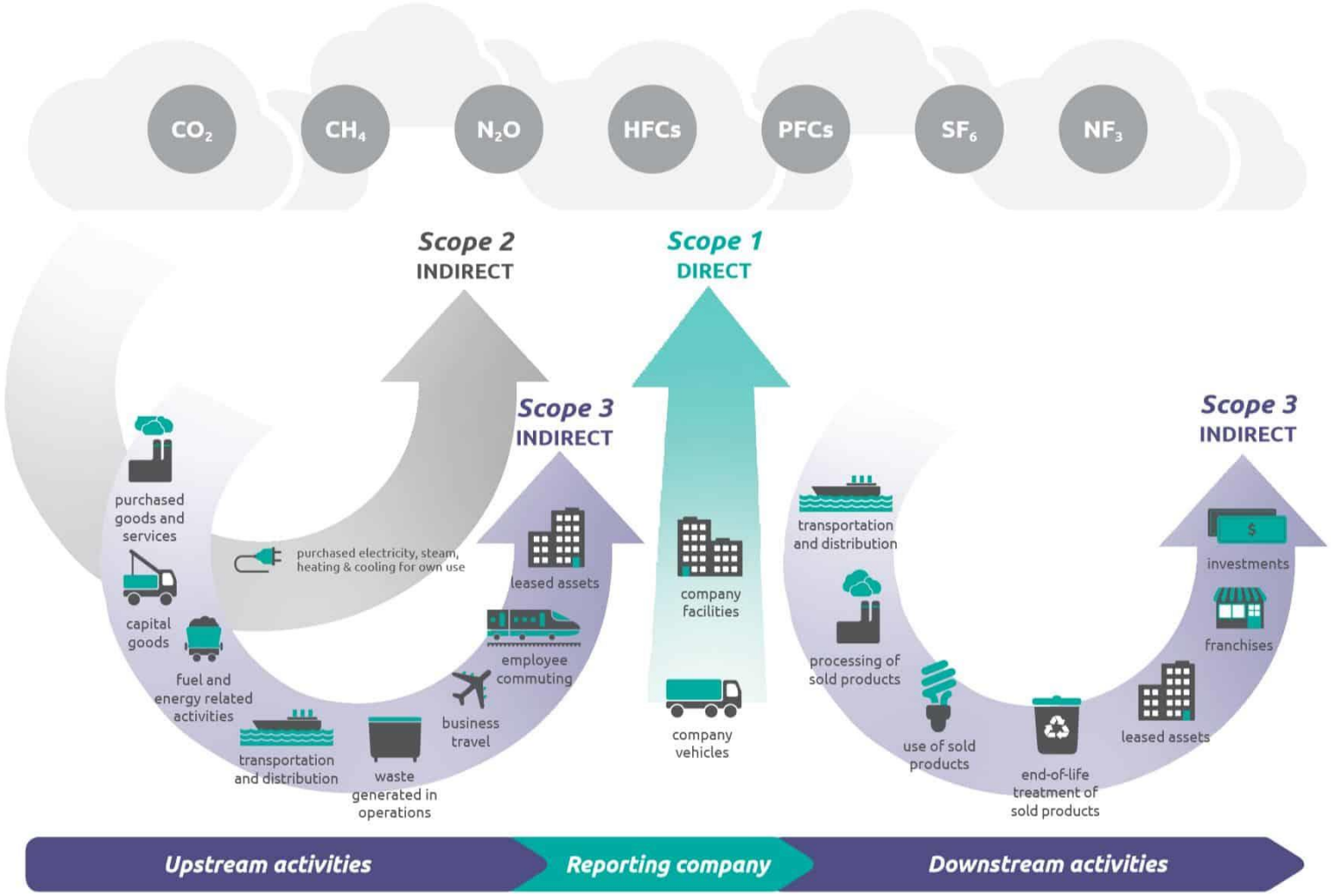


All metrics were provided by the investment managers, who are closest to the underlying assets, and consolidated by the Scheme's Investment Consultant.
Source: DWP - Governance and reporting of climate change risk: guidance for trustees of occupational schemes

# Glossary

GHG emissions from a particular company can be split across three levels, as shown in the diagram.

- Scope 1 are direct emissions from company owned or controlled sources – this includes heating/cooling of offices/factories and fleet vehicles.
- Scope 2 are indirect emissions from purchased energy – emissions are created during the production of the energy which is eventually used by the company.
- Scope 3 are all indirect emissions that occur in the value chain – this includes emissions from the production of purchased goods and services and the use of sold products. There are currently industry-wide issues with reporting scope 3 emissions.




Source: GHG Protocol

# Thank you