



PRUDENTIAL

Staff Pension Scheme

Defined Contribution Section

Disclosures in respect of TCFD for the period ending 31 March 2023



November 2023

Your journey

Prudential Staff Pension Scheme – Disclosures in respect of TCFD for the period ending 31 March 2023

Executive Summary

This report sets out how climate related risks facing the prudential Staff Pension Scheme are being managed by the Trustee. It covers both the Defined Benefit (“DB”) and Defined Contribution (“DC”) Sections of the Scheme.

It describes the Trustee Board’s oversight of climate-related risks and opportunities in line with the Climate Change Policy.

The report summarises the climate-related risks and opportunities the organisation has identified over the short, medium and long-term.

The Trustee has undertaken scenario analysis to assess the resilience of both the DB and the DC Sections’ strategies over the short, medium and long term time horizons to a number of different climate scenarios.

- For the DB Section, the scenario analysis provides a range of expected impacts on the Scheme’s solvency funding level between +1.7% and -4.3%.
- For the DC Section, in general, older members are expected to be relatively well shielded from wider market disruptions caused by emerging transition and physical climate risks.
- Conversely, younger members will be more exposed to a delayed climate transition because the timing of transition and physical climate risks will be borne when they have accumulated sizeable levels of retirement savings.

The report also sets out a number of metrics, in line with DWP Guidance, which are used by the Trustee to assess climate risks and reports these for the Scheme year where available.

The Trustee has agreed the following targets in relation to managing climate-related risks, opportunities and performance:

- Reduce carbon footprint over time and reduce carbon emissions over time with a longer-term target of reaching net zero by 2050
- Aim to improve carbon emissions data coverage for listed equity and public fixed income to 100% by 2025

Introduction and background

The Task Force on Climate-related Financial Disclosures (TCFD) was commissioned in 2015 by Mark Carney in his remit as Chair of the Financial Stability Board. The TCFD was asked to develop voluntary, consistent climate-related financial disclosures that would be useful in understanding material climate-related risks. In 2017 the TCFD released its recommendations for improved transparency by companies, asset managers, asset owners, banks, and insurance companies with respect to how climate-related risks and opportunities are being managed. For the pensions industry, relevant guidance has been produced by the Pensions Climate Risk Industry Group (PCRIG).

From 1 October 2021, pension schemes over £5bn in size such as Prudential Staff Pension Scheme were required to start reporting in line with the TCFD recommendations. Further statutory guidance has also been issued by the Department for Work and Pensions.

The Task Force divided climate-related risks into two major categories: risks related to the transition to a lower-carbon economy; and risks related to the physical impacts of climate change. The TCFD report noted that climate-related risks and the expected transition to a lower carbon economy affect most economic sectors and industries, however, opportunities will also be created for organisations focused on climate change mitigation and adaptation solutions. The report also highlights the difficulty in estimating the exact timing and severity of the physical effects of climate change.



The Task Force structured its recommendations around four thematic areas that represent core elements of how organisations operate: governance; strategy; risk management; and metrics and targets. The four overarching recommendations are supported by recommended disclosures that build out the framework with information that will help investors/stakeholders understand how reporting organisations assess climate related risks and opportunities. The

disclosures are designed to make TCFD-aligned disclosures comparable, but with sufficient flexibility to account for local circumstances.

TCFD compliance

We have completed a gap analysis against the recommended disclosures of the Task Force on Climate-related Financial Disclosures. Our progress is disclosed below, under the four TCFD headings.

Governance

Disclosure 1: Describe the board's oversight of climate-related risks and opportunities.

Summary (DB and DC)

The Trustee has prepared and agreed a formal Climate Change Policy for the Scheme that outlines its approach to climate-related issues and further details on oversight of climate risks and opportunities. The policy also sets out roles and responsibilities relating to climate-related issues and how these are brought to the Trustee Board's attention.

The Trustee has assessed the requirements of the disclosure and put in place an appropriate budget for advisers and others to assist. An explicit budget has been allocated to fulfil the climate disclosure requirements and this will be reviewed annually to ensure sufficient resource.

The Trustee recognises that the overall responsibility for managing the Scheme, including managing the Scheme with respect to climate-related issues and oversight of any delegated responsibilities, lies with the Board.

The Trustee has undertaken an in-depth training session on climate change and metrics. The assessment of climate risk and identification of potential opportunities, as well as other climate-related issues such as policy direction, have been built into the Trustee's ongoing training plan and self-assessments. The Trustee has also incorporated Climate Risk into its overall Risk Register, which provides a framework within which all risks faced by the Scheme are quantified and sets out how they will be mitigated over time.

The Trustee has also received training sessions on climate scenario analysis, where it agreed the framework and methodology it intended to follow for its reporting. Please see the rest of this report for more information.

Disclosure 2: Describe management's role in assessing and managing climate-related risks and opportunities.

Summary

The Trustee has identified climate risk as a strategic priority for the Scheme. The Trustee considers climate risks and opportunities as set out in the Statement of Investment Principles (which are reviewed annually) and detailed in the annual Implementation Statement. The Trustee also considers these risks in general as part of the monitoring of the assets.

Climate risks and opportunities will be considered as part of the periodic review of the Scheme's investment beliefs. Key risks are noted within the Scheme's Risk Register and opportunities are minuted for further action when appropriate.

DB Section

There are a number of responsibilities delegated to the investment managers (M&G, BlackRock, Greenoak, Orchard) for the DB Section of the Scheme's assets. These asset managers are monitored on an ongoing basis by the Trustee. The Trustee's investment consultant assists with the ongoing monitoring of the investment managers, including rating the approach of the managers with respect to sustainable investment related issues.

DC Section

There are a number of responsibilities delegated to the investment managers (M&G, Baillie Gifford, MFS, L&G, KBI, Schrodgers, Invesco, AMG GW&K (Trilogy), RBC) for the DC Section of the Scheme's assets. These asset managers are monitored on an ongoing basis by the Trustee. The Trustee's investment consultant assists with the ongoing monitoring of the investment managers, including rating the approach of the managers with respect to climate related issues.

The Trustee undertook an investment strategy review in the Scheme year 2022/23 to assess appropriateness of the DC strategy and alignment to the agreed climate-related investment beliefs. The Trustee considered the asset managers' approach to climate-related issues as part of this review and agreed some changes to the Scheme strategy which have been implemented following the end of the Scheme year (in May 2023). A number of changes were made to further improve sustainability and climate related issues.

Strategy

Disclosure 3: Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long-term.

Summary The Trustee notes that climate-related risks and opportunities will evolve over time as more information and new investment products come to the fore.

Given the likely time horizon over which members' benefits are expected to be paid by the Scheme, the Trustee has agreed short, medium, and long term time horizons of 5, 10 and 30 years respectively. The Trustee notes that the 30-year time horizon roughly aligns to 2050, the date by which countries bound to the Paris Agreement have agreed to meet net-zero requirements.

Climate-related risks can be broadly classified into two categories.

Transition to a low carbon economy, including (but not limited to):

- **Policy changes**, e.g. carbon pricing, seek to create the changes needed in society;
- **Technology development**, e.g. renewable energy, and adoption enable the changes to be implemented

Physical impacts, including (but not limited to):

- **Chronic changes**, e.g. sea level rise, agricultural systems, impact economic and social systems;
- **Acute changes**, e.g. storms, wildfires create damage and give rise to costs of adaptation and reconstruction

		Short term	Medium term	Long term
Risks	Strategy level	Increased regulation Stock price movements	Technological change Consumer preferences Increased pricing of greenhouse gas emissions	Resource availability Physical damage to real assets as a result of extreme weather events Employer covenant risk
	Asset class/sector level	Listed equities Growth assets Oil-dependent issuers	Carbon-intensive corporate issuers Energy-intensive industry	Infrastructure Property Agriculture Food Commodities Insurance
Opportunities		Increased member engagement as topical issue	Successful investments in new technology	Investment opportunities in infrastructure, renewable energy and other lower-carbon investments

**DB
Section**

Some of the identified risks and opportunities over the short, medium and long term for the DB Section include Environmental, Social and Governance risks and political risks. The table below provides comment on some of these risks as recognised for the DB Section in the Statement of Investment Principles.

Risk	Comments
Environmental, Social and Governance (ESG) risks	Is measured by reference to the Trustee's assessment of the policies operated by the Scheme's investment managers and the expected impact of portfolio holdings. It is managed by the Trustee engaging with the Scheme's managers where appropriate to try to ensure that their policies are in line with the Trustee's approach. The management of ESG risks within the Scheme will have relevance to managing Climate Risk.
Political Risk	Is measured by the level of concentration of any one market leading to the risk of an adverse influence on investment values arising from political intervention. It is managed by regular reviews of the actual investments relative to policy and through regular assessment of the levels of diversification within the existing policy and by the diversification of the assets across many countries. Political risk has an impact on policy change relating to Climate.
Principal Employer Risk	Is measured by the level of ability and willingness of the principal employer to support the continuation of the Scheme and to make good any current or future deficit. It is managed by assessing the interaction between the Scheme and the principal employer's business, as measured by a number of factors, including the creditworthiness of the principal employer and the size of the pension liability relative to the financial strength of the principal employer. Climate change could potentially impact on the strength of covenant of the principal employer

**DC
Section**

Some of the identified risks and opportunities over the short, medium and long term for the DC Section include Environmental, Social and Governance risks and climate risks. The table below provides comment on some of these risks as recognised by the DC Section.

Risk	Comments
Environmental, Social and Governance (ESG) risks	The extent to which ESG issues are not reflected in asset prices and/or not considered in investment decision making leading to underperformance relative to expectations. Management of ESG risks within the Scheme will have relevance to managing Climate Risk
Climate Risk	The extent to which climate change causes a material deterioration in asset values as a consequence of factors including, but not limited to: policy change, physical impacts and the expected transition to a low-carbon economy.

However, as well as risks, there can be opportunities such as increased member engagement as ESG and Climate change are topical issues, successful investments in new technology and investment opportunities on infrastructure, renewable energy and other low carbon investments.

Disclosure 4: Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.

Summary The Trustee has estimated the costs of the additional work undertaken to meet the requirements under the TCFD as well as additional actions that it may wish to undertake as part of the Scheme's financial planning and budget. However, there is an expectation that these costs will be negated through the reduced risk and improved position of the Scheme over time through lower impacts of climate change as well as taking advantage of climate-related opportunities.

DB Section In line with embedding climate-related issues into the Scheme's Integrated Risk Management (IRM) framework, the Trustee will also consider the impact of climate risk on the DB Scheme's liabilities. This will include possible margins of prudence to make allowance for the economic impacts of climate change as well as the effect of the long-term effects of climate change on assumptions such as longevity and mortality.

The Trustee engages with its appointed covenant adviser on the impact that climate-related risks and opportunities may have on the covenant of the principal employer over the short, medium and long term time horizons as outlined under the strategy disclosures.

DC Section The Trustee regularly monitors the investments held by the DC Section of the Scheme and considers climate risks and opportunities, and its impact on the Scheme, as a part of this monitoring process.

The Trustee undertook an investment strategy review in the Scheme year to assess appropriateness of the DC strategy and alignment to the agreed climate-related investment beliefs. As part of this review, the Trustee documented the consideration they give to climate-related issues, opportunities and risks both at a strategy level and individual asset class level.

As part of their consideration of climate related issues and opportunities and risks both at a strategy level and individual asset class level the Trustee decided to increase the level of sustainability in the default lifestyle strategy of the Scheme by increasing the allocation to funds managed sustainably and also specifically including an allocation to an Impact equity fund (i.e. a fund with an explicit aim to achieve social and environmental goals). These changes were implemented in May 2023 and will be included in the next TCFD report for the Scheme year to 31 March 2024.

Disclosure 5: Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, include a 2C or lower scenario.**Summary
(DB and
DC)**

The Trustee is required to undertake analysis to explore the potential impact of different future climate scenarios on the DB and DC Sections of the Scheme, which can capture the impact of transition and physical risks.

The Trustee has undertaken scenario analysis to assess the resilience of both the DB and the DC Sections' strategies over the short, medium and long term time horizons to a number of different climate scenarios. The output of this analysis is set out in the later sections of this report.

According to the analysis:

- For the DB Section, under each of the four scenarios the funding of the Scheme's guaranteed benefits is robust to the modelled impact of climate change over all time horizons, with the impact of the largest shock being significantly lower than the solvency basis surplus. This reflects the low-risk asset position held by the Scheme and the significant steps already taken to hedge longevity risk.
- For the DC Section, the scenarios considered would not have a significant impact on the Scheme over the short and medium terms but are likely to have some impact in some scenarios over the medium and longer term. The Trustee will consider the output from scenario analysis work undertaken as part of the ongoing investment strategy review for the DC Section. This will involve consulting the Trustee's assessment of climate-related risks and opportunities and embedding the beliefs around climate-related risks and opportunities within the decisions made regarding asset allocation, as well as identifying an appropriate asset allocation that would help reduce the risk to the Scheme based on the scenario analysis output.

Risk management

Disclosure 6: Describe the organisation's processes for identifying and assessing climate-related risks.

- Summary** Climate change is a potential long-term material financial risk for the Scheme which could impact the DC and DB investments, the Company and the world into which their members will retire. The financial risks and opportunities arising from the impacts of climate change may include:
- Physical Climate Risk - The physical impacts of a changing climate on businesses directly or indirectly through their supply chain. This could include increasing temperatures, changing weather patterns, sea level rise and severe weather events
 - Transition Climate Risk - The impacts of the global transition towards a low-carbon economic system. This could include changes in industry regulation, consumer preferences and technology that will impact current and future investments.
 - As well as providing competition to existing businesses, both physical and transition climate risks may create new investment opportunities.

At a simple level, the Trustee's risk management process comprises identification, assessment, monitoring and control of risk. The Trustee currently takes a top-down approach, which uses its investment beliefs together with the Climate Change Policy as the starting point for the risk management process.

Climate risks are identified by the Trustee and their advisers as appropriate. Risks relating specifically to climate change are discussed by the Trustee and documented in the Scheme's Risk Register. Information from a number of sources is used to help identify risks and the Trustee and its advisers are responsible for identifying risks as appropriate.

Once risks are identified, they are then evaluated and prioritised based on the overall threat posed to the Scheme. This helps the Trustee build up a picture of the Scheme's risks more widely and where climate-related risks sit in the overall risk management framework.

The Trustee notes that evaluation of climate-related risks and opportunities is based on relevant information and tools being available, as well as the quantification of climate-related risks and opportunities being a developing area based on continuously emerging information.

The Trustee prioritises risks based on the size, scope and materiality of the risk event. This includes rating the likelihood and impact of the risk event to produce a score reflecting the threat that the risk event poses to the Scheme, then making a decision on the appropriate action (mitigation, control or acceptance) based on this score and available courses of action. Rating the risk's likelihood and impact may be informed by scenario analysis and calculated metrics where relevant.

DB Section The DB Section of the Scheme will also undertake risk analysis at the individual asset level. This is known as a bottom-up analysis. In this instance, the Scheme's investment managers (M&G, BlackRock, Greenoak, Orchard) are also responsible for the identification and assessment of climate related risks and opportunities. This approach will use available information to assess the potential impact of climate-related risks to investment performance.

DC Section The DC Section of the Scheme will also undertake risk analysis at the individual asset level. In this instance, the Scheme's investment managers (M&G, Baillie Gifford, L&G, MFS, KBI, Schrodgers, Invesco, Trilogy, RBC) are also responsible for the identification and assessment of climate related risks and opportunities. This approach will use available information to assess the potential impact of climate-related risks to investment performance.

Disclosure 7: Describe the organisation's processes for managing climate-related risks.

Summary Once the risks facing the Scheme have been considered and prioritised, mitigation strategies are established and monitored to ensure that they remain effective. Ownership of risks and the corresponding controls is also allocated where appropriate.

Risks that are deemed to be high in likelihood, impact, or both after allowing for mitigating controls are deemed to take priority for future action. An action in the context of risk management should aim to either introduce an additional control to mitigate the likelihood of a risk occurring or reduce the impact of a risk should it occur. This discussion should also consider whether additional Trustee training is required.

Risks and opportunities are considered in absolute terms and in relation to the risk appetite of the Scheme. Risk appetite can be defined in terms of a willingness to take risk or the acceptability of risk.

The Scheme's approach to stewardship is also a key aspect of the management of climate-related risk. The Trustee expects their investment managers to consider and take appropriate steps to manage climate-related risks within their funds, including engagement with underlying investee companies on their management of climate risks. The Trustee engages with its investment managers to ensure they take such considerations into account within their decision making.

The Trustee has a process by which it fulfils the requirements on climate metric reporting. The Trustee considers reporting from asset managers and advisers on the climate risks associated with the underlying investments and overall investment strategy. They consider relevant metrics and scenario analysis (using adviser modelling tools) to assist estimating the nature of climate risks

DB Section The Trustee regularly reviews the DB Section's underlying managers and actively seeks their input on how they manage the Scheme's investments in relation to climate issues. The Trustee also receives an annual report from their investment consultant setting out its review of the investment managers' capabilities, including the extent to which climate considerations are embedded in their investment processes and, where relevant, an assessment of the managers' engagement and voting activities at a mandate level. Where this assessment indicates that the managers are not in compliance with the Trustee's policies or that improvement is required, the Trustee will raise this with the manager in order to seek improvement.

DC Section The Trustee receives annual reports from their investment consultant on engagement and voting activities of investment managers and monitors performance in line with the agreed beliefs and resulting expectations for investment managers as well as any requirements within mandates in place on a quarterly basis. Where investment managers are not performing in line with expectations, the Trustee engages further with the manager to understand why and works to improve the performance, further to which the Trustee undertakes a formal review if this does not occur.

Disclosure 8: Describe how processes for identifying, assessing and managing climate-related risks are integrated into the overall organisation's risk management.

Summary Climate risks are identified by the Trustee, their advisers and the appointed investment managers as appropriate.

Appropriate controls and mitigating actions are determined and put in place as part of the process to add these risks to the Risk Register. The Audit and Governance Committee review and assess the risks to the Scheme and consider climate-related risks as a part of this process.

The Trustee also considers the approach taken to the principal employer to climate change as set out at:

https://global.mandg.com/~media/Files/M/MandG-Plc/documents/responsible-investing/climate-change/MG-approach-to-climate-change_0420.pdf

DB Section The Asset and Liability Committee is responsible for overseeing the DB Section investment management policy and, as a part of this process, considers the risks surrounding the specific investments used by the Scheme.

DC Section The DC Section Investment Committee is responsible for overseeing the DC Section investment management policy and, as a part of this process, consider the risks surrounding the specific investments used by the Scheme.

Metrics and targets

Disclosure 9: Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management processes.

Summary Carbon equivalent risk metrics will expect to form an important part of the Scheme's investment decision-making process to measure, manage and disclose climate risk. The selected metrics will also aid the Trustee in identifying opportunities for further engagement with investment managers and underlying investee companies.

The Trustee has considered advice from their advisers when selecting which metrics to use in measuring the climate-related risks and opportunities present for the Scheme.

The metrics chosen by the Trustee are:

- Total Carbon Emissions (absolute emissions based)
- Carbon footprint;
- Implied temperature rise; and
- Data Quality.

The Trustee acknowledges that there are limitations in data available from investee companies on emissions of greenhouse gases. The Trustee will seek to obtain information, where it is currently missing, for future assessments. In the meantime, the results of the above metrics have been understood to be reflective of the portfolio, but the limitations of data availability is noted when using the metrics for decision-making purposes.

DB Section A number of funds within the DB Section invest in government bonds and asset backed securities, for which there is currently no consensus metric for monitoring against climate targets. The DB section also invests in private assets where the data is not available because the entities to whom it lends to are too small and/or not required by law to disclose data. The Trustee will monitor developments in this space so these funds can be included in the analysis in future reports.

DC Section A number of funds within the DC Section invest in government bonds, for which there is currently no consensus metric for monitoring against climate targets. The Trustee will monitor developments in this space so these funds can be included in the analysis in future reports.

Disclosure 10: Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.

Summary (DB and DC) The calculated metrics for each section of the Scheme are presented in detail later in this report for the period covered by this report.

In future reports, the Trustee will monitor the metrics at least on an annual basis and identify whether performance has improved or deteriorated over time. Where performance has deteriorated, the Trustee will look to engage further to understand the reasoning and undertake any appropriate remedial actions. The metrics will also be used to monitor the Scheme's performance in line with climate-related targets (see Disclosure 11).

The Trustee has been unable to obtain full information to calculate metrics for all funds in which they are invested and will seek to obtain information for future assessments.

The Trustee acknowledges that at this point, limited data is available on an industry wide comparison basis and the Trustee has relied heavily on the benchmark set for each fund and the market knowledge of its advisers in understanding how well the funds are performing and whether further improvements could be made at this stage.

Disclosure 11: Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Summary (DB and DC) The ability for diversified investors (such as pension funds) to set meaningful climate targets is inhibited by the paucity in credible methodologies and data currently available. Like most investors, the Scheme is supportive of the development of target-setting methodologies, and of the increasing completeness of carbon datasets. The Trustee wishes to set meaningful and challenging climate targets for its investment portfolio and work is underway to assess options within the limitations of currently available data.

The Trustee has agreed the following targets in relation to managing climate-related risks, opportunities and performance:

- Reduce carbon footprint over time and reduce carbon emissions over time with a longer-term target of reaching net zero by 2050
- Aim to improve carbon emissions data coverage for listed equity and public fixed income to 100% by 2025

These targets have been selected because the Trustee recognises the importance of moving towards a net zero target and because it recognises the significant limitations around the availability and quality of underlying climate data, and that improving this area will be key to ensuring future assessments of climate-related risks and opportunities are as meaningful as possible.

Climate scenario and portfolio analysis

Climate-related risks can be broadly classified into two categories:

Transition to a low carbon economy, including (but not limited to):

- **Policy changes**, e.g. carbon pricing, seek to create the changes needed in society;
- **Technology development**, e.g. renewable energy, and the level of technology adoption which might facilitate the transition to a lower carbon economy

Physical impacts, including (but not limited to):

- **Chronic changes**, e.g. sea level rise, agricultural systems impact economic and social systems;
- **Acute changes**, e.g. storms, wildfires create damage and give rise to costs of adaptation and reconstruction.

The Trustee is required to undertake analysis to explore the potential impact of different future climate scenarios on the DB and DC Sections of the Scheme, which can capture the impact of transition and physical impacts. The Task Force recognised that the use of scenarios in assessing climate related issues and their potential financial implications is relatively recent and that practices will evolve over time but believed that such analysis is important for improving the disclosure of decision-useful, climate related financial information. At least two of the scenarios must be aligned with the objectives of the Paris Agreement (i.e. a reduction in global warming potential to between 1.5°C and 2°C above pre-industrial levels), and one scenario should be based on a more pessimistic outcome. With the support of its advisers, the Trustee has undertaken climate scenario analysis at the asset class level to estimate the effect of different climate scenarios on retirement outcomes for different members. Details of the scenario analysis carried out for the DB and the DC Sections of the Scheme are described below and background on the methodology is set out in Appendix 2.

Please note that the scenario analysis was undertaken in 2022 using data as at 31 December 2021 and in line with the Pension Regulator guidance has not been updated this year. The Trustee, with advice from advisers, does not believe that updating the scenario analysis would have produced any meaningfully different results from the analysis conducted in 2022. In the absence of any significant changes, the Trustee will conduct scenario analysis every 3 years in line with the Regulator's guidance.

Scenario analysis – DB Section

For the scenario analysis for the DB Section of the Scheme, the Trustee considered four separate scenarios which are in part defined through their success, or otherwise, in meeting the Paris Agreement target.

The scenarios (described in the table below) differ in the size of the physical risks, based on the resulting temperature impacts, but also in the size of the transition risks. The Climate Emergency scenario, where decisive action is taken, and the Inevitable Policy Response scenario, where transition is more disorderly due to delays in meaningful action, represent bigger transition risks than the Global Co-ordinated Action scenario.

Scenario	Description
Lowest common denominator	A “business as usual” outcome where current policies continue with no further attempt to incentivise further emissions reductions. Socioeconomic and technological trends do not shift markedly from historical patterns. Temperature rise hits c.3.5°C with low transition risk but high physical risk.
Inevitable policy response	Delays in taking meaningful policy action result in a rapid policy shift in the mid/late 2020s. Policies are implemented in a somewhat but not completely co-ordinated manner resulting in a more disorderly, but still just, transition to a low carbon economy. Temperatures rise by around 2°C meaning low-medium physical risk but transition risk is high.
Global Co-ordinated action	Policy makers agree on and immediately implement policies to reduce emissions in a globally co-ordinated manner. Companies and consumers take the majority of actions available to capture opportunities to reduce emissions. Compared to the “Inevitable policy response”, we see similar temperature rises of around 2°C with low-medium physical risk again; the co-ordinated nature of the response sees less transition risk (low-medium).
Climate emergency	A more ambitious version of the Global Coordinated Action scenario where more aggressive policy is pursued and more extensive technology shifts are achieved, in particular the deployment of Net Emissions Targets at scale. This scenario sees a medium level of transition risk and low physical risk due lower temperature rises (around 1.5°C)

	31 December 2021 position
Assets (£m)	7402
Liabilities (£m)*	6834
Surplus (£m)	568
Funding Level	108%

*Liabilities measured on a solvency basis

In the analysis, the Trustee considered from a top-down perspective the possible impact on the Scheme of the four alternative climate scenarios. In each case, it was assumed that the full impact (on both assets and liabilities) is immediately priced in, resulting in an instantaneous change in the funding level. In practice, it is more likely that any impacts will evolve more gradually over time, though asset markets can move quickly once possible costs are understood. The table below shows the expected impact on the Scheme’s solvency funding level with the “change in funding level” representing the change from the funding level at the date of the analysis (31 December 2021) of 108%:

Scenario	Lowest common denominator	Inevitable policy response	Global co-ordinated action	Climate emergency
Change in funding level	1.7%	-4.1%	-4.3%	-4.1%

Under each scenario the funding of the Scheme’s guaranteed benefits is robust to the modelled impact of climate change, with the largest shock being significantly lower than the solvency surplus. This reflects the low risk asset position held by the Scheme and the significant steps already taken to hedge longevity risk.

Scenario analysis – DC Section

For the DC Section of the Scheme, the Trustee has explored the following real-world scenarios as part of this analysis (which, although named differently, are similar to those for the DB Scheme):

Scenario	Description
Head in the sand	<p>No or little policy action from governments for many years. Growing fears over ultimate consequences leads to market uncertainty and price adjustments. Ineffective and piecemeal action increases uncertainty. Transition impacts exceeded by physical risks. Little or no expectation of reducing global warming to <2°C.</p> <p>When modelling this scenario, the Trustee has assumed a greater likelihood of market disruption in the long-term driven by transitional impacts and material physical climate impacts.</p>
Delayed transition	<p>No significant action in the short term, meaning response must be stronger when it does happen. Shorter and sharper period of transition. Greater (but delayed) transition risks but similar physical risks in the long term. A relatively high expectation of reducing global warming to <2°C.</p> <p>When modelling this scenario, the Trustee has assumed a greater likelihood of market disruption in the medium term driven by mainly transitional impacts. The likelihood of material long-term physical climate impacts is slightly higher under this scenario.</p>
Green revolution	<p>Concerted policy action starting now e.g. carbon pricing, green subsidies. Public and private spending on “green solutions”. Improved disclosures encourage market prices to shift quickly. Transition risks in the short term, but less physical risk in the long term. A relatively high expectation of reducing global warming to <2°C.</p> <p>When modelling this scenario, the Trustee has assumed a greater likelihood of market disruption in the short term driven by mainly transitional impacts. The likelihood of material long-term physical climate impacts is lowest under this scenario.</p>

These scenarios were chosen as they satisfy the guidance provided by the Department for Work and Pensions, and provide an intuitive way to help understand the range of potential impacts different climate scenarios may have in terms of member outcomes. By taking a broad view, across a range of stressed scenarios, the Trustee feels it has the ability to take action (where appropriate) to respond to and mitigate against the most severe potential impacts.

The assumptions underpinning these scenarios are provided in Appendix 2. At the time of writing there is no industry consensus on how to model different climate scenarios. The Trustee has therefore relied on the views of its advisers, underpinned by their research and development. The Trustee expects its advisers to continually test whether their approach represents good practice relative to the wider industry and to be proactive in suggesting revisions to improve over time.

The main limitation is that the future is unknown, and as for any forward-looking modelling, requires assumptions to be made. These assumptions may or may not be borne out in practice, so the outputs from this analysis should not be relied upon as an exact assessment of potential member impacts which could be better or worse than indicated. This limitation cannot be removed but managed over time by monitoring.

For Defined Contribution arrangements such as the DC Section of the PSPS, impacts should in the first instance be considered as the impact on retirement outcomes for different cohorts of members. This is in line with the requirement to define short, medium and long-term in the context of assessing climate risks. These time periods are defined as follows:

- **Short term:** Members aged around 60 who can start to draw on their pension savings, but may be expected to retire fully in at least 5 years;
- **Medium-term:** Members aged around 50 today with at least 15 years until they are expected to retire;
- **Long-term:** Members aged around 25 today with at least 40 years until they are expected to retire.

The following table sets out the results of the climate scenario analysis for these different cohorts of members. It should be noted that these are all stressed scenarios, and therefore generally reveal a 'worse' position relative to central expectations:

Impact on retirement outcomes for different climate stresses	Short term	Medium term	Long term
	Members retiring in at least 5 years	Members retiring in at least 15 years	Members retiring in at least 40 years
Head in the sand	unchanged	unchanged	-6%
Delayed transition	unchanged	unchanged	-6%
Green revolution	unchanged	unchanged	unchanged

In general, older members are expected to be relatively well shielded from wider market disruptions caused by emerging transition and physical climate risks. This is because they are invested across a range of markets, providing diversification. Conversely, younger members will be more exposed to a delayed climate transition because the timing of transition and physical climate risks will be borne when they have accumulated sizeable levels of retirement savings.

The Trustee has concluded that it is unlikely that strategic asset allocation decisions (such as the choice between investing in equity or bond markets) will lead to improved mitigation of real-world climate risks for members, without compromising on their long-term retirement outcomes. The Trustee believes that climate risks and opportunities will be better managed through implementation decisions, which could improve financial outcomes within asset classes, and effective stewardship with underlying companies to drive real world changes.

Climate metrics

Emissions-based metrics

The Trustee is required to adopt at least one absolute emissions and one intensity-based emissions metric to support its assessment of climate-related risks and opportunities plus two other metrics, one of which must be forward looking. After considering the available data and advice, the Trustee has decided to use the following emissions-based metrics:

Metric	Description
Total GHG Emissions	This is a measure of absolute carbon emissions and represents the estimated Scope 1 + Scope 2 (and where possible Scope 3) greenhouse gas emissions from a portfolio. This is expressed in terms of thousand tons of CO ₂ equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Carbon footprint, <i>measured in tonnes of CO₂e per £million invested (EVIC)</i>	A measure of a portfolio's carbon intensity. This is expressed in terms of tons of CO ₂ equivalent emitted per million pounds invested, weighted by the size of the allocation to each company. Is measured using Scope 1 + Scope 2 emissions and also, where possible, Scope 3 emissions.

Other climate metrics

The Trustee is required to adopt at least one non-emissions-based climate metric to support their assessment of climate-related risks and opportunities. After considering the available data and advice, the Trustee has decided to use the following non-emissions-based metric:

Metric	Description
Proportion of Scope 1, 2 and 3 emissions data coverage	This metric aligns with a recognition that there are limitations in the availability and quality of carbon emissions data for all portfolio holdings. This metric helps to measure progress in making improvements in coverage over time.

Additionally, the Trustee must also report on one forward looking metric and the Trustee has decided to use the following portfolio alignment metric,

Metric	Description
Portfolio Alignment Metric	Implied temperature change from current portfolio. This metric is forward looking and sets out the extent to which investments are aligned with the Paris agreement target of limiting the increase in the global average temperature to 1.5°C above pre-industrial levels. The Implied Temperature Rise metric gives the implied temperature rise attributed to a portfolio (in degrees Celsius) from a portfolio's aggregate carbon emission projections compared against climate scenario projections.

The following table sets out the climate metrics adopted by the Trustee for the period ending 31 March 2023 for the DC Section:

		Scope 1 & 2 Total GHG Emissions (tCO ₂ e)	Scope 3 Carbon footprint (tCO ₂ e/£m Invested)	Scope 1 & 2 Carbon footprint (tCO ₂ e/£m Invested)	Scope 3 Carbon footprint (tCO ₂ e/£m Invested)	Proportion of Emissions Data Coverage	Implied Temperature Rise	Coverage (ITR)
PSPS Global Equity - active	234,520,637	10,518	74,206	50.7	358.0	89.4%	2.0	88.6%
- MFS Meridian Global Equity fund (37.5%)	87,945,239	2,166	17,017	28.4	223.4	86.6%	1.8	86.6%
- Baillie Gifford Long Term Global Growth fund (25%)	58,630,159	219	1,086	3.9	19.6	94.6%	2.1	91.3%
- Kleinwort Benson Investors ACWI Equity fund (37.5%)	87,945,239	8,133	56,104	104.1	718.2	88.8%	2.2	88.8%
PSPS UK Equity - active	98,800,154	6,971	80,559	78.4	903.1	92.2%	1.9	92.1%
- Lindsell Train UK Equity fund (30%)	29,640,046	198	3,845	6.9	134.6	96.4%	1.5	96.4%
- Baillie Gifford UK Equity (30%)	29,640,046	1,893	24,339	69.0	887.9	92.5%	2.2	92.0%
- Schroders Life UK Prime Equity Fund (40%)	39,520,061	4,881	52,375	138.9	1490.8	88.9%	1.9	88.9%
PSPS Emerging Markets Equity - active	21,601,552	912	2,980	43.8	141.2	95.7%	1.9	95.7%
- AMG GW&K (Trilogy) Emerging Markets Equity fund (50%)	10,800,776	349	682	35.2	68.8	91.8%	1.9	91.8%
- RBC Emerging Markets Equity fund (50%)	10,800,776	563	2,298	52.3	213.7	99.6%	1.9	99.6%
PSPS Diversified Growth - active	26,022,937	973	4,637	153.5	734.3	25.7%	1.4	17.1%
- Schroders Life Diversified Multi-Asset fund (one-third)	8,674,312	232	1,681	181.0	1311.1	14.8%	2.0	14.2%
- M&G Episode Allocation Fund (one-third)	8,674,312	117		56.0	no data	24.0%	no data	no data
- Invesco Global Targeted Returns (one-third)	8,674,312	741	2,956	223.4	891.7	38.2%	2.3	36.9%
PSPS Total Return Bond – active	12,306,944	1,183	13,032	126.4	1392.2	76.1%	2.2	69.6%
- M&G Total Return Credit Investment Fund (100%)	12,306,944	1,183	13,032	126.4	1392.2	76.1%	2.2	69.6%
PSPS Overseas Equity - passive	99,748,881	13,325	77,797	167.6	978.3	79.7%	2.3	79.7%
- M&G Pooled Pensions Overseas Equity Passive fund (100%)	99,748,881	13,325	77,797	167.6	978.3	79.7%	2.3	79.7%
PSPS UK Equity - passive	40,140,371	5,997	55,023	161.6	1482.4	92.5%	2.2	92.1%
- M&G Pooled Pensions UK Equity Passive fund (100%)	40,140,371	5,997	55,023	161.6	1482.4	92.5%	2.2	92.1%
PSPS Corporate Bonds - active	15,782,384	860	6,369	75.3	557.4	72.4%	2.0	59.6%
- M&G Pooled Pensions All Stocks Corporate Bond fund (100%)	15,782,384	860	6,369	75.3	557.4	72.4%	2.0	59.6%
PSPS Responsible Investment Equity⁽¹⁾	9,475,719	545	4,811	58.3	514.9	98.6%	3.0	96.7%
- LGIM Ethical Global Equity Index Fund (100%)	9,475,719	545	4,811	58.3	514.9	98.6%	3.0	96.7%

Source: Underlying holdings data has been sourced from Fund Managers. Climate metrics are based on analysis of data provided by MSCI using Hymans Robertson LLP's in house proprietary tool. Valuations based on data provided by Prudential Assurance Company Limited (excludes reserve account). There is not yet an industry consensus for determining the level of carbon emissions associated with government bonds and short term money market instruments. As such, the Trustee has been unable to gather data for the M&G Index-Linked Gilts Passive, M&G Index-Linked Gilts active, M&G Long term Gilts Passive and M&G Fixed Interest Funds. Total DC assets £626m

Note: Total GHG Emissions calculated as Portfolio Value £m * Carbon Footprint * Data Coverage

As methodologies have developed the methodology this year using our adviser's in-house proprietary tool in connection with MSCI data improves on and provides greater detail and accuracy of data coverage (including granularity of data types) and can give a better overall weighted average metrics calculation for each portfolio metric score.

Data coverage has significantly widened with inclusion of Scope 3 emissions although coverage of individual funds still lags the target of carbon emissions data coverage for listed equity and public fixed income to 100% by 2025. Many funds have data coverage of over 90% (with around 89% of data coverage for the funds with reported data and 76% coverage of all DC assets) but there are still some laggards.

In terms of trends towards longer term reduced carbon emissions, it is difficult to draw conclusions at this stage. The methodology used this year has improved to better adjust overall carbon footprint and temperature alignment scores to eliminate the holdings with no data. This methodology will be repeated in the next report from which a better understanding of trends may be reached. Also, given the improved sustainability characteristics introduced by the Trustee as a result of their latest strategy review it is anticipated that the change in funds should see a reduction in carbon emissions scores. The Trustee is encouraged to note that active equity portfolios (where underlying managers have a greater choice of stocks to hold rather than largely replicating an index) have lower carbon emissions scores than passive index tracking portfolios.

The forward looking portfolio alignment metric remains similar to last year's report with implied temperature change of c.2 degrees.

The following tables sets out the climate metrics adopted by the Trustee for the period ending 31 March 2023 for the DB Section:

	Corporates		Real Estate	Scope 1 & 2	Scope 3	Scope 1 & 2	Scope 3
	Scope 1 & 2	Scope 3	Scope 3				
	Total GHG Emissions (tCO ₂ e)			Carbon footprint (tCO ₂ e/£m Invested)		Proportion of emissions data coverage	
Buy & Maintain	19,079	176,268		76.1	703.4	46.5%	46.1%
Active Matched	10,071	49,592		47.1	288.8	59.1%	47.5%
Passive Matched	33,158	346		20.8	20.1	103.9%	1.1%
Active Gilt							
Index-Linked Gilt							
Long Dated Asset	1,392	13,286	6,163	8.4	264.4	58.0%	17.5%
Alpha Opportunities	4,280	19,760		79.7	391.4	63.8%	60.0%
Credit Opportunities IV							
Senior Asset Backed							
Debt Opportunities III	46			4.9	15.5	29.4%	
Debt Opportunities IV	243			15.8	154.2	32.7%	

Source: M&G

Note: Real estate assets may not have Scope 1 or Scope 2 emissions attributable to those assets. This is due to the tenants of underlying properties being classified as the owner of Scope 1 and 2 emissions related to those properties; as a result those emissions are classified as Scope 3 emissions for the investor.

Note: Total GHG Emissions calculated as Portfolio Value £m * Carbon Footprint * Data Coverage

For the DB Assets, some limited sovereign debt emissions have been obtained from M&G as set out in the table below. It is not possible to set out scope 1 and 2 emissions in a suitable way from scope 3 emissions for sovereign debt. The reason for this is that the definitions of the different emission scopes as applicable to companies or other holdings are not relevant for governments; instead sovereign emissions can be categorised in two ways – government emissions (the emissions from activities directly linked to the government) and production emissions (the total emissions from the country). Therefore, reporting on sovereign emissions in this way (i.e. as production emissions) provides a more complete picture of the total emissions and how they may be attributed.

Sovereigns (FSPE Scope 1) Total GHG Emissions (tCO ₂ e)	
Buy & Maintain	395.1
Active Matched	8,519.0
Passive Matched	307,271.3
Active Gilt	50,393.4
Index-Linked Gilt	179,874.3

The table below sets out the portfolio alignment metric data (implied temperature rise) for the DB assets which the Trustee has been able to obtain:

	Implied Temperature Rise		Data Coverage	
	With SBTi Applied*	Without SBTi Applied*	With SBTi Applied*	Without SBTi Applied*
	Degrees C	Degrees C	%	%
Buy & Maintain	2.8	3.2	26.0%	48.1%
Active Matched	2.2	2.3	28.7%	48.1%
Alpha Opportunities	2.3	2.5	22.0%	48.8%

* Note: Some organisations have made commitments to meet science-based climate targets (e.g. SBTi). When such targets are included in the estimation of a portfolio's aggregate ITR, the resulting temperature figure is lower compared to a figure where the underlying organisations' commitments are not taken into consideration.

Please Note: We are unable to report more fully on funds containing government bonds and asset backed securities as there is currently limited industry data for this. Putnam, Orchard, BlackRock and Greenoak have been unable to supply data at this time. There is currently no industry consensus on the approach to be taken to determine the GHG emissions for private markets debt assets. With any approach likely to include many assumptions due to limited data, the Trustee has determined that it would be appropriate to exclude these assets until there is sufficient underlying data and/or an industry consensus methodology can be adopted.

Like the DC assets, data coverage for the DB assets has improved and widened to cover more of the portfolios and also additional metrics (including some coverage of sovereigns and real estate and also including the portfolio alignment metric). However, data emissions coverage and implied temperature rise coverage for the individual portfolios does remain lower than the Trustee's target of 100%. As with the DC assets, trends in the emissions data will become more relevant and identifiable as the methodology and types of data collected become more consistent and complete.

Climate targets

Targets are necessary to monitor progress towards longer term net zero and carbon reduction goals as well as the objectives of the Paris Agreement. The Trustee is required to establish at least one climate-related target based on the selected climate metrics. The IIGCC published their [Net Zero Investment Framework Implementation Guide](#) in March 2021. The guide is aimed at investors, with recommended actions, metrics and methodologies to maximise progress towards achieving net zero global emissions by 2050 or sooner. The IIGCC suggest adopting < 10 year targets at the portfolio level and to review and update these at least every 5 years. The Trustee has adopted targets as set out in Disclosure 11 earlier in the report.

Appendix I: Glossary and definitions

Carbon footprint, measured in tonnes of CO₂e per £million invested

Carbon Intensity is a normalised measure of the emissions allocated to a portfolio,

$$\frac{\sum \left(\frac{\text{Current value of investment in Entity}}{\text{Entity's Enterprise Value including Cash}} \times (\text{Entity's Scope 1 + 2 GHG emissions}) \right)}{\text{Current portfolio value (£m)}}$$

or

$$\frac{\sum \left(\frac{\text{Current value of investment in Entity}}{\text{Entity's Enterprise Value including Cash}} \times (\text{Entity's Scope 3 GHG emissions}) \right)}{\text{Current portfolio value (£m)}}$$

ESG

Environmental, Social and Governance

EVIC

Enterprise value including cash. This is a measure of overall corporate value including equity shares, debt and cash.

Financial Stability Board

The Financial Stability Board is an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in April 2009 as a successor to the Financial Stability Forum.

Greenhouse Gases (“GHG”)

Greenhouse gases are gases in the Earth’s atmosphere that are capable of absorbing infrared radiation and thereby trap and hold heat in the atmosphere. The Kyoto protocol covers six categories of greenhouse gas (GHG) emissions: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphurhexafluoride (SF₆).

IIGCC

The Institutional Investors’ Group on Climate Change. The IIGCC aims to support and enable the investment community in driving significant and real progress by 2030 towards a net zero and resilient future.

Paris Agreement

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 nations at COP 21 which was held in Paris on 12 December 2015. The Paris Agreement came into force from 4 November 2016. Further support for the principal goals of COP 21 were agreed in the Glasgow Climate Pact made in November 2022 at COP 26.

Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

Scope 1 Greenhouse Gas Emissions

Scope 1 emissions are direct emissions produced by the activities of the emitter.

Scope 2 Greenhouse Gas Emissions

Scope 2 emissions are indirect emissions generated by the electricity, heat, or steam consumed and purchased by the emitter.

Scope 3 Greenhouse Gas Emissions

Scope 3 emissions are other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities not covered in Scope 2, outsourced activities, waste disposal, etc.

TCFD

Task Force on Climate-related Financial Disclosures

Total Financed Carbon Emissions *in tonnes CO_{2e}*

Total Financed Carbon Emissions measures the emissions that are allocated to a portfolio, based on the investors share of the capital (Enterprise Value) in each Entity within the portfolio

$$\sum \left(\frac{\text{Current value of investment in Entity}}{\text{Entity's Enterprise Value including Cash}} \times (\text{Entity's Scope 1 + 2 GHG emissions}) \right)$$

Or

$$\sum \left(\frac{\text{Current value of investment in Entity}}{\text{Entity's Enterprise Value including Cash}} \times (\text{Entity's Scope 3 GHG emissions}) \right)$$

Appendix 2: Climate Scenario analysis methodology

We recognise that there is no single methodology for exploring the potential impact of different climate scenarios on members’ long-term outcomes. For the purpose of the analysis undertaken to date, the Trustee relied on the methodology developed by our investment advisers.

For the DC Section, their approach draws on stochastic analysis of future potential outcomes, with emphasis on pathways demonstrating greater levels of market volatility/disruption during periods aligned with the climate scenarios described above. The following table illustrates the impact of each scenario on global equity returns, credit spreads, CPI inflation and real yields. In all instances the horizontal axis represents time (years) and the vertical represents the annual percentage return / yield:

