BG PENSION SCHEME

Climate Change Report for year ending 31 March 2023

1. Chair's introduction

Climate change

Climate change refers to long-term shifts in global temperatures and weather patterns across the world over time. Scientific evidence indicates that human activity is substantially responsible for global warming over the past 200 years, and the world is warming faster now than it has done in thousands of years. The average temperature of the Earth is now over 1°C higher than it was in the late 1800s (also referred to pre-industrial levels). The decade to 2020 was the warmest on record.

An increase in global temperature is not the only thing we can expect as climate change occurs. The physical impacts of climate change have been identified to include droughts, water scarcity, rising sea levels and wildfires, amongst many other consequences. This will affect us all in a number of ways, from agriculture and food supply to floods, migration and conflict over natural resources.

World governments have started to respond to climate change, with many becoming signatories to the 2015 Paris Agreement, which commits to keeping the global temperature to well below 2°C higher than pre-industrial levels, and ideally to no more than 1.5°C higher than pre-industrial levels.

The signatories to the Paris Agreement undertook to set and implement a number of actions that aim to reduce greenhouse gas emissions across the globe. These efforts are set to strengthen in the coming years, to encourage and support a transition to a low-carbon economy by eliminating as much fossil fuel use as possible, with a goal of a global net zero carbon economy by 2050.

Investors, which includes our pension scheme, are exposed to both climate-related risks and opportunities. We need to be aware of these risks and opportunities and prepare accordingly. An important part of this will be ensuring that our investment strategy is sustainable and resilient to climate-related impacts.

The Taskforce on Climate-related Financial Disclosures (TCFD)

In April 2015, the intergovernmental forum G20 commissioned the Financial Stability Board (FSB) to look into how public and private participants take account of climate-related issues. The outcome of the review was the establishment of the Taskforce on Climate-related Financial Disclosures. Following a consultation, the TCFD issued recommendations for reporting to assist stakeholders in financial markets understand their climate-related financial risks and opportunities. The TCFD recommendations are split into four sections: governance, strategy, risk management, and metrics and targets.

Pension schemes in the UK are subject to regulations that now require schemes of a certain size to disclose in line with the TCFD recommendations. The BG Pension Scheme (the Scheme) is one of the schemes captured by these requirements. To that end, I have pleasure in presenting the first Climate Change Report of the Scheme for the year ending 31 March 2023.

This report is technical in places. In order to provide helpful context for the discussion on how climate-related issues may impact the Scheme, we have included additional details on the Scheme's position and management. There is a glossary in Appendix I which sets out the definition of some of the technical terms used in this report.

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The aims of the Scheme

The Trustee's overriding purpose is to ensure that all benefits promised by the Scheme under its Trust Deed are paid in full and on time to members and beneficiaries throughout the life of the Scheme. The Trustee seeks to achieve this purpose by investing the Scheme's assets so that they are sufficient to pay all benefits.

Based on the most recent estimate of the funding position, the Scheme is expected to be fully funded on the statutory funding basis as at 31 March 2023. Throughout this report, we refer to two different types of funding bases – the statutory funding basis and the gilts basis, a more prudent measure of the Scheme's liabilities. An explanation of both of these bases is included within the Glossary. The Scheme also benefits from strong support from its Sponsor through what is known as the Sponsor covenant – that is the Sponsor's legal obligation and financial ability to provide additional contributions to the Scheme, should they be necessary. Because of the current adequacy of funding and the nature of the investments held, our focus as a Trustee is more on the risks associated with climate change rather than on the investment opportunities that may arise from the necessary changes in the world economy and the energy industry, though these are considered as part of our investment management processes. Overall, the Trustee has discussed both climate-related risks and opportunities throughout the year, taking a proportionate approach to the various climate-related activities as described in this report based on the potential impact of decisions made.

The Trustee believes that climate change is a systemic risk that will become material if not properly managed. The Scheme is a long-term investor, and the Trustee believes that improved transparency on climate-related matters will lead to improved investment decisions which, in turn, will enhance the security of members' benefits.

Integrated risk management

Integrated risk management is an important tool in managing risks to the Scheme, in particular with respect to Scheme funding. It includes consideration of funding risk, investment risk and covenant risk, as well as how these risks interact with each other. However, integrated risk management goes further than this, also considering what actions should be put in place to manage the risks and what should be done if the risks materialise. Climate change poses risks to the Scheme across each of these areas and may compound the impact of existing risks that have already been identified by the Trustee.

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Governance

The Trustee has overall responsibility for managing, assessing and addressing climate-related risks faced by the Scheme, including ensuring that sufficient time can be allocated to important topics such as climate-related risks and opportunities. Furthermore, the Scheme receives support from the Sponsor and its investment, actuarial and other strategic advisers. The Trustee has established a governance statement that sets out the roles and responsibilities for all relevant parties and has designed robust processes to ensure that climate-related risks and opportunities are appropriately managed; these are also discussed in the governance section of this report.

Strategy and risk management

The Trustee has robust integrated risk management processes in place in order to properly identify, assess, prioritise and manage all material risks to the Scheme. Climate change risk has been incorporated into these processes for some time. Overall responsibility for identifying and managing risks, including climate change risk, lies with the Trustee who takes this seriously given the materiality and interconnectedness of the risks to the Scheme.

The overarching risk to the Scheme is that of insufficient funds to meet all benefit payments. This is referred to as funding risk, and it is affected by changes in liability values, asset values and the ability of the Sponsor to support the Scheme. As a result, we focus on managing integrated funding risk, considering all of these changes together, over the short, medium and long term.

One of the actions that the Trustee has completed over the past year to 31 March 2023 has been to undertake climate change scenario analysis and incorporate this into our risk management. As part of this, we have looked at possible ways in which the world's handling of climate change could play out (scenarios) and assessed the risks that each of those scenarios represents to the Scheme. The output of this analysis indicates that the Scheme is broadly resilient to climate change, based on the current position and investment strategy of the Scheme. The Trustee will consider re-running this analysis in future years to ensure it remains appropriate for the Scheme's ongoing position and strategy.

As the funding position of the Scheme has improved over time, the strength of the Sponsor covenant has gradually become less immediately important (currently there are no contributions required), but it remains a key area of focus for the Trustee for the longer term. Therefore, climate change risks affecting the Sponsor covenant are carefully considered by the Trustee.

Metrics and targets

The Trustee has chosen a number of climate-related metrics that have been measured with respect to the Scheme's investments. These metrics are used in order to help the Trustee in identifying climate-related risks and understanding climate-related risk exposure. The metrics chosen comprise total greenhouse gas emissions, carbon footprint, data coverage and a binary target measurement metric. More detail on what each of these mean and the measurement of these metrics can be found in Section 13.

Clear insight into the emissions related to the Scheme's investments is an important tool for managing climate change risk. Whilst there is good coverage for the Scheme overall, the Trustee sees potential for further improvement in the corporate bond segment. Therefore, the Trustee has set a target for the Scheme in respect of the data coverage of emissions metrics for the corporate bond assets that the Scheme holds as part of the investment strategy. This target aims to improve the data coverage of the corporate bond assets from 72.5% to 75-80% over the next Scheme year to 31 March 2024. Once this is achieved, as well as on an annual basis, the Trustee will consider whether to update the target or put in place a new target for the Scheme. We will be reporting on progress against this target in next year's Climate Change Report.

Concluding remarks

This report contains considerable detail on how we run the Scheme in relation to climate change risk, on investment management and on climate change data related to the Scheme's investment portfolio.

We hope you find the information in the report of interest and value.

Martin Jones
Chair of Trustees, BG Pension Scheme

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2. Purpose of the climate change report

This report is written for members of the Scheme and is required by the Pension Schemes Act 2021. Its purpose is to inform members about the risks to the Scheme from climate change and about how the Trustee of the Scheme, BG Group Pension Trustees Limited (Trustee), is responding to those risks.

This report is produced in line with the framework, regulations and supporting guidance produced by the TCFD as it pertains to pension schemes. The TCFD framework is designed to increase comparability but allow sufficient flexibility to communicate the specific approach adopted by each entity, with the key objective of providing transparency, accountability and direction on climate-related risks and opportunities. This will therefore help inform the Trustee's decision-making on behalf of the Scheme.

This report is the first TCFD Report produced for the Scheme in line with the requirements as at the Scheme year end date of 31 March 2023. The Scheme operates as a single section for funding and investment purposes, so this report covers the Scheme as a whole but excludes all Additional Contribution benefits and investments.

In order to ensure a sustainable future and to safeguard economic growth, concerted global action is required to tackle the climate crisis. As the Scheme is a large asset owner, the Trustee believes that improved transparency on climate-related matters will lead to improved investment decisions which, in turn, will improve member outcomes.

The four thematic areas of TCFD are supported by recommended disclosures that build out the framework with information that will improve understanding of how climate-related risks and opportunities are identified, assessed and managed.

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This report provides details of our approach against the four pillars:

- **Governance**: The Scheme's governance and oversight around climate-related risks and opportunities.
- **Strategy**: The actual and potential impacts of climate-related risks and opportunities on the Scheme's strategy and financial planning.
- **Risk management**: The processes used by the Scheme to identify, assess and manage climate-related risks.
- **Metrics and targets**: The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

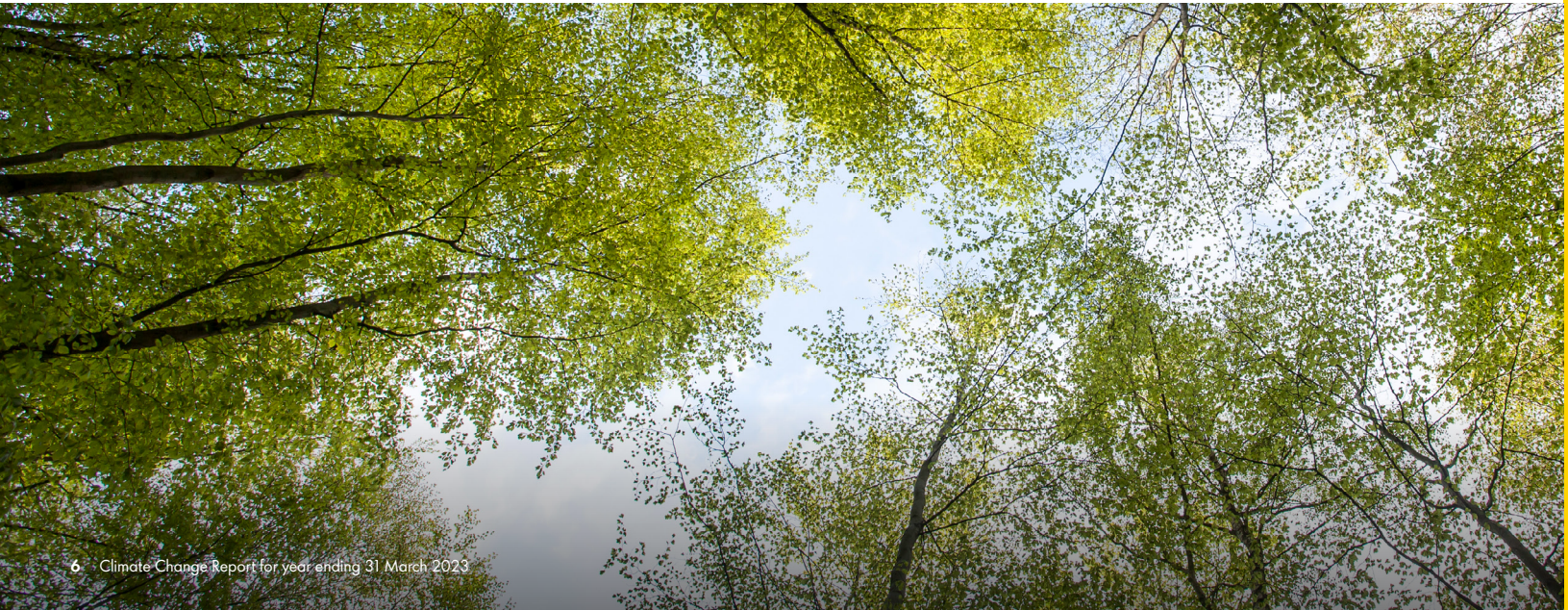
Application of the TCFD-aligned framework to this report:

- **Governance (Section 12)** Sets out in detail how the Scheme is governed with respect to climate-related risks and opportunities.
- **Strategy (Sections 3-7)** Sets the context for assessing the risks, discussing the risks themselves and includes the insights from scenario analysis.
- **Risk management (Sections 8-11)** Describes the Scheme's approach to managing identified risks and opportunities with a view to maintaining financial resilience. This includes the position of the Scheme in adopting a net zero target.
- **Metrics and targets (Section 13)** Provides the climate-related metrics and targets.

The four core elements outlined above are interlinked and, in particular the Governance section of the Climate Change Report, contain further details on the Scheme's approach to risk management.

In drafting this report, the Trustee has considered the TCFD's Principles for Effective Disclosure.

Other documents relevant to the matters discussed in this Report are available on the **BGPS website** and include the BGPS Annual Report and Financial Statements and the Statement of Investment Principles.



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3. The Trustee's objectives

The Trustee's primary objective is to ensure that all benefits promised by the Scheme under its Trust Deed & Rules are paid in full and on time to members and beneficiaries throughout the life of the Scheme.

The Trustee seeks to achieve this objective by way of its over-riding funding principles, which are to set the investment strategy and the level of employer contribution so that they are sufficient to:

- recover any shortfall in assets relative to the value placed on accrued liabilities (i.e. the pensions promised to all members and dependants) over the longer term; and
- ensure that there are always sufficient assets of the Scheme to meet all benefits as they fall due for payment to members.

In particular, the Trustee, having taken advice from its advisers and having consulted with the Sponsor, has set an investment strategy and agreed an asset allocation 'the Strategic Benchmark' with the aim of generating sufficient returns so that by 2028, the Scheme is fully funded on a gilts basis; that is, a funding basis where the Scheme's discount rate is equivalent to gilts with no additional risk premium (i.e. assets are at least equivalent to the liabilities) over time.

The Trustee recognises that climate change represents a funding risk within a timeframe that is relevant to the Scheme. One of the tasks of the Trustee is to keep its risk assessment in balance. The Trustee views climate-related risk through the lens of funding resilience (i.e. securely meeting the Scheme's overriding purpose in all climate change and energy transition paths).

This is the fundamental context for the Trustee's assessment of the risks and opportunities from climate change. It means aiming to ensure resilience in the funding of the Scheme whatever path is followed by the world in tackling climate change. As a large asset owner, the Trustee seeks to be a responsible investor.

Furthermore, the Trustee must meet the requirements of The Occupational Pension Schemes (Investment) Regulations 2005. This means that, amongst other things, the assets must be invested in the best interests of members and beneficiaries and in a manner to ensure the security, quality, liquidity and profitability of the portfolio as a whole. Investment decision-making must take account of the nature and duration of the liabilities of the Scheme, ensure proper diversification and avoid concentration of risk.

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4. The current state of the Scheme

When considering the resilience of the Scheme to risk and opportunity, including climate-related risks and opportunities, the Trustee starts from the current position of the Scheme.

The Scheme is closed to new members and future accrual, which means that there are no members building up new pension scheme benefits.

Benefit payments to members are currently around £35m per year and are projected to increase over the next 15 years, peaking at around £45m per year in today's terms, before reducing over the remaining lifetime of the Scheme.

At the most recent triennial valuation, as at 31 March 2020, the Scheme had a funding level of 95% on the statutory basis, with the value of the assets equal to £1,974m and the liabilities equal to £2,081m. By 31 March 2023, funding had improved such that the Scheme is fully funded on a statutory basis. Section 13 containing metrics and targets shows the broad asset mix at 31 March 2023.

The Trustee looks to the longer term and considers how the strategic asset allocation will change over time, with an expectation to continue reducing risk. This approach is kept under review, taking into consideration the Scheme's funding position and strength of the Sponsor covenant over time. This transition to less risky assets and a lower return investment strategy overall has already reduced the sensitivity of the funding strategy to climate change risks, with liability-matching assets moving in line with the valuation of future benefit payments from the Scheme – irrespective of the climate change path the world actually follows.

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5. The importance of the Sponsor covenant and covenant assessment

If the Scheme were to have a funding shortfall, i.e. if the Scheme's assets were lower than the value of the liabilities on the statutory funding basis, the Trustee would look to the Sponsor to make the necessary additional contributions to restore full funding.

The legal obligation on the Sponsor to provide these contributions and remove the shortfall, and its ability to satisfy these obligations, is known as the Sponsor covenant. BG Group Limited, BG Energy Holdings Ltd and BG International Ltd (collectively known as the Sponsor) currently have a strong covenant. A strong covenant indicates that there is a strong ability of the Sponsor to support the Scheme, were a shortfall to arise.

Implications of a strong covenant

As the covenant is strong, this means that the Trustee has in the past been able to have an asset allocation with a higher proportion of return-seeking assets than would otherwise have been the case while not putting at risk the entitlements of the members. This has reduced the long-term expected dependence of the Scheme on the Sponsor, which the Trustee regards as of benefit to all members. At the same time, in terms of funding level resilience, one of the major steps available to a pension scheme is to increase the level of assets which closely match its liabilities. This will, over time, further reduce the risk to the Scheme and the reliance on the covenant over time.

Based on the most recent funding estimate as set out in Section 4, the Scheme currently has a modest surplus on the statutory funding basis, and should this continue, the reliance on the Sponsor, and therefore the covenant risk, reduces. However, because of the importance of the Sponsor covenant, especially in the short to medium term whilst the reliance on the covenant reduces, the Trustee pays close attention to the strength and progress of the Sponsor.

Understanding risks to the Sponsor

It is therefore important to consider, as part of broader risk management processes, the potential risks that could affect the strength of the Sponsor covenant. These include risks that may manifest as a result of climate change and the energy transition across a range of potential scenarios (further details of the types of scenarios considered are included within Section 9).

Therefore, the processes in place for assessing the strength of the covenant as well as the Trustee's risk management processes, and in particular where these overlap, are an important part of how the Trustee considers, assesses and manages climate change risk.

This means that good and regular communication between the Trustee and the Sponsor is important in order to ensure that the risk management approach to the covenant is both appropriate and timely. As part of this, the Trustee considers the approach of the Sponsor to climate change and its associated risks and opportunities, as well as the potential impacts that this approach may have on the covenant. This includes awareness of the Sponsor's own climate change policies and approach.

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Assessment of the Sponsor covenant

The main purpose of the assessment of the Sponsor's covenant is to determine whether the Scheme is carrying an acceptable level of funding risk now and into the future. If the Trustee were to decide this was not the case, various mitigants would be available – for example, accelerating the de-risking programme, thereby increasing the level of contributions required from the Sponsor in the short term, or putting in place additional contingent support.

The Trustee's assessment of the covenant of the Sponsor is undertaken through ongoing dialogue with the Sponsor and analysis of financial information and business plans. These discussions and analytical reviews support the Trustee in identifying any climate considerations which should be incorporated into the Plan's strategic discussions and in the Plan's integrated risk management plan.

The Trustee has entered into an information protocol with the Sponsor, under which it receives information relevant to the ongoing assessment of the Sponsor covenant. It monitors matters such as the Sponsor's published metrics, cashflow forecasts provided confidentially to the Trustee and the profile of Sponsor debt in relation to the Scheme's reliance over time on the Sponsor covenant. It also considers external and market-based metrics such as credit ratings and credit spreads on the Sponsor's long-term bonds compared with general corporate long-term bond spreads.

As the Sponsor is a subsidiary of Shell, when considering the Sponsor's activities in this area, the Trustee looks through to what Shell is ultimately doing. This includes considering Shell-specific metrics, as well as taking into account changes in government policy, technological and commercial changes in the energy industry and legal developments both in regulation and litigation.

Climate-related risks and opportunities to the Sponsor covenant

The Trustee engages with the Sponsor and their representatives to discuss the potential impact that climate-related risks and opportunities may have on the covenant of the Sponsor over the short, medium and long-term time horizons, as outlined in Section 8 under the strategy disclosures.

The Trustee, as part of its discussions with the Sponsor, considers the Shell scenarios and the insights they and third-party commentary provide on developments. Additionally, given the importance of the Sponsor covenant, especially in the short to medium term, the Trustee pays close attention to the progress of the Sponsor in delivering against its Powering Progress Strategy, which includes becoming a net zero emissions energy business by 2050. Further information on the relevant risks and opportunities to the Sponsor over the different time horizons are described within the Sponsor's own climate change report.

Climate change funding risk – the member perspective

It is worth highlighting the question of climate change funding risk from the perspective of the Scheme's members. As the Scheme is currently well funded and benefits from a strong Sponsor covenant, the Scheme's members are mostly protected from the effect of any investment under-performance or related climate change risks whilst these conditions are maintained. This is because the Trustee would look to the Sponsor to restore the funding position through additional contributions or contingent support for a return to growth-seeking investments, should there be any deterioration.

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6. Liability measurement

Every three years, an actuarial valuation of the Scheme is undertaken to assess the present value of benefits expected to be paid from the Scheme in the future and to assess contributions to be paid into the Scheme.

As part of the Scheme's 2023 triennial valuation, the Trustee, with support from the Scheme actuary, has given consideration to the role of climate risk and how this may be reflected within the choice of valuation assumptions. It was agreed that some of the effects of climate risk are likely to be incorporated in market-derived measures such as interest rates and inflation rates, and that this and the prudence generated by the strong discount rate provide an appropriate allowance for climate risk. The most significant other measures are the longevity assumptions for the Scheme's membership, affected by many factors not just the effects of climate change, and the expected return assumptions for the various classes of assets the Scheme, now and in the future.

In line with embedding climate-related issues into the Scheme's Integrated Risk Management framework, the Trustee will also consider the impact of climate risk to the Scheme's liabilities.

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7. Investment principles

The primary objective of the Scheme is to ensure the payment of benefits to members as they fall due, which includes an over-riding funding principle for the Trustee to set the investment strategy and the level of the Sponsor contribution which are sufficient to achieve this objective.

The investment strategy and contributions set by the Trustee must therefore both recover any shortfall in assets relative to the value placed on accrued liabilities over the longer term; and ensure that there are always sufficient assets of the Scheme (at their realisable value) to meet 100% of benefits as they fall due for payment to members. The current investment strategy and underlying asset allocation of the Scheme has been set with the aim to generate sufficient returns so that by 2028, the Scheme is fully funded on the gilts basis.

The Trustee is a responsible steward of the assets in which it invests. The Trustee's primary concern is to act in the best financial interests of its beneficiaries, seeking the best return that is consistent with a prudent and appropriate level of risk.

In taking material financial factors, including environmental (such as financial risks relating to climate change), social and governance, considerations (collectively ESG) into account, the Trustee expects to both protect and enhance the value of the Scheme in the long term. The Trustee considers ESG, including financial risk from climate change, in a manner which is consistent with the Trustee's investment objectives, legal duties and other relevant commitments.

The Trustee expects all investment managers to:

- assess the integration of ESG factors in the investment process where relevant;
- use their influence to engage with underlying managers to ensure the Scheme's assets are not exposed to undue risk; and
- report to the Trustee and its advisers on its ESG activities.

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Investment mandates

With respect to the Scheme's investments, an investment mandate is an instruction to an asset manager on how the Scheme's money may be invested. An individual mandate is set for each investment fund that the Scheme has across the Scheme's investment managers. Investment mandates that the Scheme holds might be either 'passive' or 'active' mandates, alternatively, they might be 'pooled' or 'segregated' mandates.

Passive mandates are funds that typically track an index (or a benchmark), both in terms of stock selection as well as expected return. In passive mandates, the Trustee recognises that the choice of benchmark dictates the assets held by the investment manager and that the manager has minimal discretion to take account of factors that may be deemed to be financially material. The Trustee accepts that the role of the passive manager is to deliver returns in line with the market and believes this approach is in line with the basis on which its current strategy has been set.

Active mandates have a more 'hands-on' approach, whereby a portfolio manager makes choices on the underlying asset (e.g. stock) selection of the fund in order to try and beat the market return. In active mandates, the Trustee recognises that the manager has freedom to exercise discretion as to the choice of assets held. The Trustee expects the manager to take into account all financially material factors in the selection of assets within their portfolios and to be able to demonstrate their approach when challenged.

For segregated mandates, the basis on which the manager is engaged will be defined specifically for the Scheme. Where the Trustee invests in pooled funds, the objectives of the fund and the policies of the investment manager will be evaluated by the Trustee to ensure that they are appropriate for the needs of the Scheme.

Implementing investment principles

The Trustee's approach to climate risk focuses on improving funding resilience in all circumstances, regardless of the speed at which the world progresses towards a low carbon economy and meeting Paris Agreement goals. The way in which this approach is implemented takes into account the way in which different assets may be impacted by the world's transition, as well as the part each of these assets plays in the strategy of the Scheme over the longer term. This allows the Trustee to prioritise the management of risks and the relevant actions to be undertaken with respect to the different assets that the Scheme is invested in, thereby promoting preparedness of the Scheme with respect to climate change, regardless of how these risks may manifest.

The investment approach of the Trustee is described in more detail in Section 10. The general approach is incorporated in the Statement of Investment Principles and further outlined within the additional TCFD Reporting Governance Disclosure document agreed for the Scheme.

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8. Risk management and climate change risk

The Trustee has a comprehensive risk management approach that enables them to identify, assess, prioritise and manage a wide range of risks that may impede the overriding objective to pay all pensions on time and in full.

As the Trustee believes climate change to be a material systemic risk and an immediate concern, addressing climate-related risks is an integral part of the approach to proactive risk management for the Scheme. This is compounded by the fact that a number of climate-related risks themselves overlap and compound other risks, as explained in more detail below.

The Trustee's risk management processes include maintaining a risk register – a document that records risks, the potential impact and likelihood of those risks and the risk controls and mitigation methods in place. The risk register also covers areas requiring improvement and the actions to deliver that improvement, as well as who owns those actions and the timescales by which they should be completed.

The Trustee and the Scheme's advisers, as appropriate, are responsible for identifying climate risks, as well as categorising these risks between both transition and physical climate-related risks. Information from a number of sources is used to help identify risks, and these are discussed by the Trustee. The processes by which the Trustee identifies, assesses and manages these risks are described throughout the rest of this section.

With respect to climate-related risks, risk analysis is also undertaken at the individual asset level. This is known as a bottom-up analysis and is informed by the climate metrics that have been put in place as well as scenario analysis. In this instance, the Scheme's investment managers 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 on investment performance.

ESG risks, including climate risks, are also identified as part of the following processes:

- **Investment strategy reviews** – ESG risks are considered as part of the Scheme's regular investment strategy reviews that are carried out at least triennially, and on an ad hoc basis. These reviews cover the extent to which ESG considerations are taken into account in the selection, retention and realisation of investments. The Scheme's investment advisers are expected to integrate ESG considerations into their strategy advice and to highlight any key risks that are included within any potential investment strategy.
- **Valuations and covenant reviews** – as set out under Section 6, ESG risks are also taken into consideration as part of the triennial actuarial valuation.
- **Considering asset classes and selection of investment managers** – if assessing new asset classes and investment managers, potential ESG risks would be assessed and discussed as part of the training provided. Key ESG risks would be factored in when comparing alternative options.
- **Individual mandates and investments** – risk analysis is undertaken at the individual asset level and the Trustee has adopted enhanced management of ESG issues and climate change, including new potential investment products. In this instance, the Scheme's investment managers are responsible for the identification and assessment of ESG, including climate-related risks and opportunities, and will be expected to identify and disclose these risks to us in the following ways:
  - as part of their regular reporting, as investment strategy is subject to continuous review by the Trustee;
  - during their presentations when meeting with the Trustee; and
  - by providing relevant data in order to assess risk exposures.

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Risks, including climate-related risks, are assessed by reference to their potential impact and likelihood to ensure they are prioritised appropriately for attention, mitigation and follow up.

Risks are prioritised 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. This helps us build up a picture of the Scheme's risks more widely and where ESG risks sit in the overall risk management framework.

Once the risks facing the Scheme have been considered and prioritised, mitigation strategies will be established and monitored to ensure that they remain effective. The management of certain risks may be delegated to other parties. 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.

The remainder of Sections 8 to 11 discuss the climate-related risks identified to date by the Trustee and how the Trustee has assessed and is managing them. More details about the Trustee's risk management processes are included in Section 12.

Climate-related risks

When considering the impact on the Scheme, climate risk more broadly may be defined as the potential impact on future outcomes (including elements such as financial returns or mortality) that may arise from climate change. Individual climate-related risks are typically divided into two categories: transition risks and physical risks. It is also important to consider the potential climate-related opportunities that may arise from a transition to a low-carbon economy (for instance, investment opportunities in renewable energy). Climate-related risks and opportunities may vary in likelihood and intensity over different time horizons and depend on how quickly and well the world transitions to a low-carbon economy. This is laid out in the diagram below.

Transition to a low-carbon economy: transition risks dominate

- 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 adopted.

Physical risks and impacts dominate

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

Transition risks are expected to feature more prominently over shorter time periods. This view is predominantly driven by the likely escalation in climate-change regulation over the short to medium term. Over longer-term periods, it is expected that physical risks will feature increasingly – however, the balance between the transition risks and physical risks experienced will depend on the approach taken to climate change and the speed with which the world transitions to a low-carbon economy. Both transition and physical climate risks will impact the Scheme during its lifetime. The short-, medium- and long-term time horizons for the Scheme are defined in Section 8 under the strategy disclosures.

The Trustee considers all three areas of its integrated risk management approach (i.e. covenant risk, liability risk and investment risk) when adopting policies for climate-related risks. The likelihood and impact of effects increase over time, including beyond the time horizons chosen for the Scheme by the Trustee as set out on page 17.

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Processes around climate risks

Climate risks may be identified, assessed and monitored in a number of different ways. These approaches include looking at climate risks and opportunities in detail for each asset in which the Scheme invests. The Trustee considers climate risks at both an overall strategy level as well as with respect to each investment which the Scheme makes. The Trustee then engages with the individual managers on these assets and the improvements that can be made to them.

When undertaking assessment of risks, the Trustee utilises a range of approaches and tools. This includes the various lines of communication and reporting in place between the Trustee and its advisers and providers as outlined under Governance, Section 12 of this report, as well as the scenario analysis and metrics reporting as described in the relevant sections of this report.

This reflects the wider variety of risks posed to the Scheme, and that there is no 'one size fits all' approach to assessing these risks and their impacts. The Trustee assesses and prioritises the responses to risks using the combined judgement of its advisers, managers and Trustee Directors as to the potential likelihood and impact of one risk relative to another.

As outlined above, climate risk may be considered to be a financial risk that arises from a number of different but often interrelated risks, the mix of which depends on the climate scenario that comes to pass based on the global speed of the response to climate change. However, these individual risks all share a root cause in the progressive heating of the global climate. Wider financial risks to the Scheme will also typically have multiple drivers, not just climate change.

Climate risks to funding

The liabilities of the Scheme are the starting point and the key consideration for setting an appropriate investment strategy for the Scheme. The measurement of the liabilities may be affected by climate-related risks in a number of ways. These include longevity impact from climate change (i.e. the impact that different climate scenarios may have on the life expectancy of Scheme members) and potential uncertainties in the funding assumptions, such as interest rates and inflation. Volatility in interest rates and inflation may be compounded by a number of different climate risks and will also affect the assets as well as the liabilities. As far as funding risk is concerned, the Trustee views changes to macro factors such as longevity, interest rates and inflation rates as having a greater overall impact than changes to individual asset values directly as a result of climate change. Climate-related risk, as it pertains to the Scheme's funding, is expected to impact, in particular, the medium-long term as it relates to the Scheme.

Climate risks to investment

The fund-specific, climate-related risks posed to the assets of the Scheme are covered in more detail in Section 10, which looks at the Scheme's assets and investment approach in more detail.

Climate risks to the covenant

The risks to the covenant are considered in more detail in Section 5. However, it is worth noting that because of the nature of the Sponsor's business, the most serious impact that the Trustee is concerned with in respect to the Scheme is the combination of a steep fall in the value of its assets happening after, or at the same time as, a major weakening in the strength of the Sponsor covenant. The Sponsor itself is strongly affected across all of its business activities by climate change and the transition of the energy system to net zero emissions. As such, the Sponsor spends a significant amount of time and resource considering the risks posed by climate change. The Sponsor has also set strong business goals aligned to sustainability, as well as Net Zero targets, on which it regularly reports progress. The risks identified within this section are expected to have implications for all of the short, medium and long term, as it relates to the Scheme.

More details on the Sponsor's approach to sustainability, including their sustainability reports can be found on their website **here**.

Interaction of climate risks

As well as risks arising from climate change, there will be major uncertainties arising from scientific and technological changes (including the impact of developments in medical science on longevity), from the long-lasting effects of global health emergencies and from geo-political tensions. The Trustee believes that these risks are expected to arise over the short to medium term in particular. All these must be taken into account. These scientific and technological changes may also offer investment opportunities that the Trustee will consider as appropriate and within the boundaries of the broader investment strategy.

Due to the wide variety of risks, as well as the complexity of these risks and how they may interact with each other, there is significant uncertainty about the net impact of climate risk as a whole. The Trustee therefore uses scenario analysis to help inform its approach to this uncertainty, as well as to better understand the resilience of the Scheme to climate risk in more detail. The scenario analysis undertaken for the Scheme is described in the next section (Section 9).

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Scheme time horizons

In the context of the Scheme, short-, medium- and long-term time horizons are considered. The Trustee has already agreed time horizons for the Scheme in the context of the target that has been set and considers how the effects of climate-related risks will manifest over these time horizons. The impact of climate-related risks and opportunities on the Scheme's investment approach is described at an asset class level in Section 10. The following table sets out the chosen time horizons for the Scheme, as well as the rationale behind them.

Time horizon	Time period	Rationale
Short term	To Scheme year ending 31 March 2026 (i.e. three years from the Scheme year covered by this report)	A three-year period allows for the triennial nature of certain cyclical actions undertaken for the Scheme, such as the formal valuation and relevant strategy reviews. During this period, there is good visibility on the Sponsor covenant strength. It also aligns to the need for climate scenario analysis to be completed at least every three years for the Scheme.
Medium term	To Scheme year ending 31 March 2030 (i.e. seven years from the Scheme year covered by this report)	This time horizon was chosen as an appropriate mid-point between the long- and short-term time horizons. It also reflects the interim target date set for a number of key regulatory and industry decarbonisation targets (i.e. 2030).
Long term	To Scheme year ending 31 March 2043 (i.e. 20 years from the Scheme year covered by this report)	A long-term time horizon of around 20 years is representative of the Scheme's duration and membership profile. It also allows for the 20-year maximum projection of the climate scenario analysis. 20 years from now is more reflective of the time by which global emissions need to reach net zero (2050) if global temperature increases are to be limited to 1.5°C above pre-industrial levels than shorter time periods would be.

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9. Scenarios

The Trustee uses scenario analysis to support its judgements about the resilience of its funding strategy and investment strategy over time. Scenario analysis is a tool with which to consider how different future events may unfold, although they are based on many assumptions and simplifications.

With respect to pension schemes, scenario analysis is the process of projecting forward the expected value of the assets and the liabilities of the Scheme over various periods of time, assuming a variety of changes to the key factors that affect those assets and liabilities, in order to assess how the Scheme performs. These factors include both financial assumptions (e.g. investment returns, interest rates and inflation) as well as demographic assumptions (e.g. longevity, or how long Scheme members are expected to live).

In order to test the resilience of the funding and investment strategy of the Scheme to climate risk, the Trustee carried out climate scenario analysis, considering the Scheme's assets and market conditions as at 30 September 2022 and liabilities projected from the 31 March 2020 valuation.

The scenario analysis was based on top-down analysis of the investment strategy, using a model produced by the Scheme's investment adviser, Hymans Robertson, and taking this into account versus the funding cashflows of the Scheme. The scenario analysis considers the impact of an investment strategy under three defined climate scenarios, versus a base-case scenario, which differ in how quickly and decisively the world responds (or fails to respond) to climate change. In the table on page 19, the Trustee summarises these scenarios.

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Climate scenarios considered

The climate scenarios considered are outlined below. They align to the possible global approaches that may be realised in a transition to a low-carbon economy. The scenarios used within the scenario modelling were proposed to the Trustee by its investment adviser and comprise a range of scenarios that provide an overview of the different potential outcomes depending on the approaches to transition. The modelling includes two scenarios that align to the requirement to model a scenario of a 2°C or less temperature increase, as well as one scenario that reflects a temperature increase of 4°C or above.

These scenarios therefore provide the Trustee with an overview of what may happen to the Scheme's strategy if the global target of net zero carbon emissions is achieved on the one hand, or what may happen should global activity, and therefore carbon emissions, continue at current levels.

Base case: standard capital market assumptions are based on consensus views on economic outlook, which feed into their long-term views on what is currently priced into the market. This scenario therefore indirectly captures the climate risk and opportunities that are priced into current market conditions.

The climate-specific scenarios modelled are as follows, based on the speed and strength of global action taken to mitigate climate change.

Aggressive mitigation → **Business as usual**

Green revolution	Delayed transition	Head in the sand
Concerted policy action starting now, e.g. carbon pricing, green subsidies	No significant action in the short term, meaning the response must be stronger when it does happen	No or little policy action for many years
Public and private spending on 'green solutions'	Shorter and sharper period of transition	Growing fears over ultimate consequences leads to market uncertainty and price adjustments
Improved disclosures encourage market prices to shift quickly	Greater (but delayed) transition risks but similar physical risks in the long term	Ineffective and piecemeal action increases uncertainty
Transition risks in the short term, but less physical risk in the long term	High expectation of achieving <2°C warming	Transition risks exceeded by physical risks
High expectation of achieving <2°C warming		Low/no expectation of achieving <2°C warming

Timing of disruption	**Immediate** →	**10+ years**
Intensity of disruption	**High** →	**Very high**

The scenarios as set out above were projected on an annual basis over a 20-year period to 2042. Scenario analysis includes testing a number of elements of the Scheme's overall strategy, in particular:

- Liability calculations based on different financial assumptions as set by Hymans Robertson. These financial assumptions include interest rates and inflation. There was no analysis of changes to demographic assumptions such as longevity included within the modelling.
- The current investment strategy, as well as a number of alternative investment strategies as set out on the following pages. The different asset classes that form the strategy each have an appropriate expected return and volatility applied to them as part of the projections.

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Outcomes of the scenario analysis

In summary, the Scheme's expected trajectory is unlikely to be significantly affected by any of the three climate scenarios versus the base case. The outputs suggest that, across the scenario modelling in the short, medium and long term, there is at most a 7% difference between the base case and the scenario results when allowing for financial impacts. Whilst any negative impact would not be welcome and an impact of up to 7% is not ideal, when considered over the long-term time horizon to 2042 and in light of the risk controls and monitoring the Trustee is satisfied that this risk is sufficiently managed. Thus, the Trustee is satisfied that the results of the scenario analysis suggest that the Scheme is resilient to climate-change risk.

The reason why the impact of the climate scenarios is unlikely to be significant is, in part, due to the level of diversification in the Scheme, which is intended to mitigate certain levels of volatility, as well as the liability-hedging portfolio (on which there is more detail in Section 10). The outcomes of the analysis are explained in more detail below.

The Trustee considered two key outputs when understanding the resilience of the Scheme to each of the climate scenarios:

- **Likelihood of success:** this means the probability that the Scheme will be 100% funded on the gilts basis.
- **Downside risk in 20 years:** this means the possible funding level over time in the worst 5% of cases.

Over the short-, medium- and long-term time horizons as defined in the first instance by the targets the Trustee has set, the effects of the different climate scenarios on the Scheme's downside risk funding level are as set out below. This is the key measure that the Trustee discussed concerning the potential risk the Scheme faces under each climate scenario against the base case.

	Downside risk* (funding level)		
	2025	2029	2042
Base case	89%	89%	108%
Head in the sand	90%	89%	101%
Delayed transition	89%	85%	104%
Green revolution	88%	89%	107%

Green figures indicate an equivalent result or an improvement in the expected outcome versus the base case, and red figures a worsening in expected outcome.

*The scenario analysis for the Scheme was undertaken in 2022, so the three-year, seven-year and 20-year timescales in line with the Scheme's chosen time horizons mean we look at the results in 2025, 2029 and 2042 respectively, but these are consistent with the Scheme year ends as set out in the time horizon table in Section 8.

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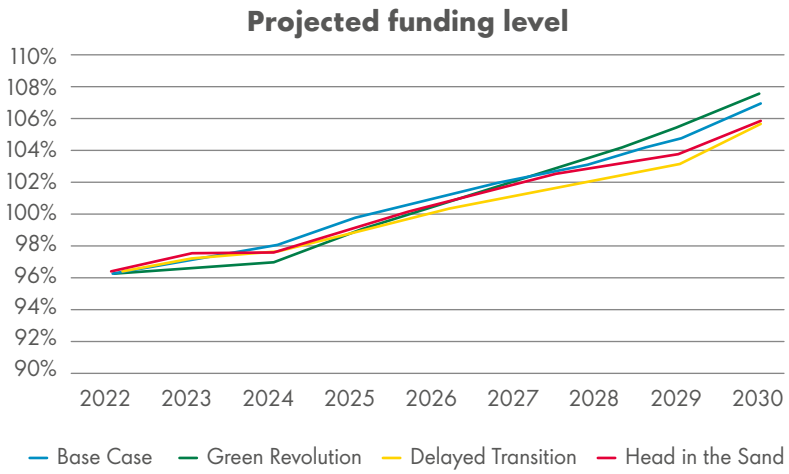
Additionally, though, whilst the results show a mix of positive and negative outcomes versus the base case, the expectation is that the Scheme will remain well funded over the longer term, even on a prudent basis such as the one modelled. This is demonstrated further by the graph below, which sets out the expected funding level of the Scheme over the longer term on the gilts basis modelled (i.e. that where the discount rate is set equivalent to gilts with no risk premium).



In summary, the results of the **head in the sand** scenario remain close to the results of the base case, except for the medium-term likelihood of success and long-term downside risk. However, even these changes are modest and the probability of success is still extremely high over the longer term, with even the worst-case scenarios (i.e. the downside risk) over the longer term remaining above 100% funded. This is due to the effects of this scenario (which are predominantly physical impacts of climate change) mainly manifesting over the longer term, with little to no impact of this scenario in the short to medium term.

The **delayed transition** scenario is the one which has more negative results versus the base case, with lower likelihood of success and downside risk over the medium term and lower worst-case scenarios over the longer term. This is due to the expectation that volatility will be felt by markets in the medium term for the delayed transition scenario, due to the rapid pace of change needed at that point in time to meet Paris Agreement. By the longer term, markets will have started to stabilise following this volatility, hence over the longer term, we would expect this scenario to catch up to and outperform the head in the sand scenario.

Finally, under the **green revolution** scenario, effects will predominantly be felt by markets in the short to medium term due to the significant pace of change required globally over that period. Following that period of volatility, the markets will then begin to stabilise and eventually outperform the delayed transition and head in the sand scenarios.

As expected of a relatively low-risk investment strategy, the funding level of the Scheme is resilient across each of the three scenarios, with only small negative impacts versus the base case. As a result of this scenario analysis, as well as broader investment strategy discussions, the Trustee has agreed to maintain the Scheme's current strategy and structure in order to manage climate risk and, if possible within the asset classes chosen, capture climate opportunities from the transition to a low-carbon economy. The Trustee will continue to monitor this over time, and it will be informed by scenario analysis as appropriate.

Taking the scenario analysis forward

The Trustee will continue to measure the Scheme's exposure to climate risk through the chosen climate metrics, which will flag specific risks and opportunities in portfolio investees.

The scenario analysis set out within this disclosure will be carried out on at least a triennial basis, alongside each future investment strategy review and triennial actuarial valuation. In the interim years, the Trustee will consider whether to refresh the analysis, stating whether it chooses to do so and why in the relevant TCFD report covering that period.

It is important to note that scenario modelling, whilst an important tool in assessing the possible effects of climate change, should be used with care. This analysis, as with any scenario modelling, uses simplified models of the world and relies on the assumptions and data that underpin the model. The scenarios considered may or may not occur in practice and, as such, are used by the Trustee to inform decision-making more broadly, rather than being the sole basis for decisions. The Trustee is also aware that the data and methodologies used within climate scenario modelling are evolving rapidly and will be clear in future reports on how the approach of scenario analysis has changed, if it differs.

Further information on the assumptions, reliances and limitations of the climate scenario modelling are set out in Appendix II.

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10. Investment approach

Shell Asset Management Co BV (SAMCo) and Hymans Robertson advise the Trustee on the Scheme's investments, in line with the investment strategy set by the Trustee.

The Trustee has an investment strategy in place that considers an appropriate mix of assets held by the Scheme, the risks and opportunities of those individual assets, as well as the risks and opportunities across the investment strategy as a whole. The Trustee recognises that climate-related risks and opportunities can be addressed and managed in different ways for different asset classes, as well as in active and passive mandates as outlined in Section 7. Therefore, due to the different characteristics and nature of the asset classes in which the Scheme invests, the following investment approach has been set out by each individual asset class.

The Trustee reviews the nature of Scheme investments on a regular basis, with particular reference to suitability and diversification. The Trustee seeks and considers written advice from a suitably qualified person when determining the appropriateness of each manager and mandate for the Scheme, particularly in relation to diversification, risk, expected return and liquidity.

It is important to note that the likelihood and impact of the different climate-related risks and opportunities that may arise for each asset class and the overall investment strategy will depend on the time horizon in question as well as the type of scenario that occurs in practice. This will inform the balance of transition and physical risks experienced by the Scheme and its investments. With the long-term strategy of the Scheme predominantly formed of lower risk, liability-matching investments, it is expected that climate-related risks and opportunities are less likely to have a significant impact on the Scheme's investment strategy. Consideration of the time horizons involved has been included within the investment approach as set out opposite.

Identification and assessment of risks within the Trustee's investment approach

The Trustee's approach to the identification and assessment of climate-related risks and opportunities across the Scheme's investments can be set out in two parts below:

- Assessment of investment managers – the Trustee will engage, through SAMCo, with all investment managers employed by the Scheme to understand the approach each takes more broadly to climate-related risks and opportunities. This is informed by:
  - manager governance and risk management processes and documentation
  - manager alignment to and reporting in respect of TCFD, the UK Stewardship Code, and the Science Based Targets initiative
  - manager participation in industry initiatives
  - manager stewardship, engagement and escalation policies and practices.
- Climate scenario analysis and climate metrics – the Trustee will also use climate scenario analysis as set out in Section 9 and climate metrics as set out in Section 13 to understand the Scheme's exposure to climate-related risks and opportunities. This includes:
  - using climate scenario analysis as part of broader education on the resilience of the Scheme's strategy overall and whether alternative investment strategies may be more resilient
  - reviewing carbon emissions, carbon footprint and data quality of these metrics
  - reviewing the alignment to net zero targets and, through this, the Paris Agreement.

Both of the above help the Trustee better understand the climate-related risks to which the Scheme is exposed. Where possible and appropriate, the Trustee distinguishes the climate-related risks between transition and physical risks.

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As at 31 March 2023, the Scheme had assets invested as per the below table:

Manager	Mandate	Value as at 31 March 2023 (£m)	Allocation as at 31 March 2023 (%)
Matching assets			
Insight	LDI	661	46%
	Liquidity	24	2%
M&G	Corporate Credit	357	25%
Return-seeking assets			
CBRE	Property	32	2%
Henderson	Multi-Asset Credit	120	8%
M&G	Illiquid Credit Opportunities	52	4%
SCOR	Insurance Linked Securities	3	0%
TwentyFour Monument	Asset Backed Securities	123	9%
Wellington	Emerging Market Debt (Local Currency)	63	4%
Total		**1,436**	**100%**

If we plan any new investments, we will employ our principles, as relevant, at the point of selection. The Trustee, via SAMCo, also uses an ESG assessment framework to monitor managers and look at how the manager takes into account ESG (including climate risk). This does not include outcome-based assessment, which is done via Sustainability Risk Assessment and the TCFD metrics review.

The four pillars of the due diligence undertaken through the ESG assessment framework are:

- ESG governance (decision-making around ESG, from strategic to portfolio management decisions)
- ESG policy (how ESG practices are codified in a range of documents)
- Investment and risk management processes (process around integrating ESG risks and opportunities in investment management)
- Reporting (quality, extent and consistency of reporting with a view to increase transparency).

Whilst this covers ESG generally, climate change is a specific measure under each of these pillars. SAMCo additionally undertakes periodic reviews of managers with existing mandates using this framework.

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LDI / Index-linked gilts & nominal gilts

The Scheme has a liability-hedging portfolio in place for the Scheme, which represents the largest portion of the Scheme's assets at 46% of the overall portfolio. This liability hedging portfolio is used in such a way that the impact that changes in interest rates and inflation have on the Scheme's liabilities is matched (to a significant extent) by the assets. For example, if inflation increases, thereby leading to higher liabilities due to increased expected benefit payments, the hedging portfolio in place would mean that the assets would rise an equivalent amount. This portfolio is largely comprised of UK gilts or gilt-based instruments. Given the nature of the portfolio and its role in matching the liabilities of the Scheme, there is no specific action being undertaken or targets being set in relation to climate-change risk with respect to the Scheme's gilt holdings. This is due to the hedging portfolio naturally moving in line with movements in the liabilities, irrespective of the future climate scenario the world follows – therefore climate risk is less likely to materially impact this portfolio. It is worth noting that, should the UK government achieve the aim of being Net Zero by 2050, UK gilts could be expected to naturally follow this trajectory to Net Zero.

Credit/Bonds (other than gilts)

As the Scheme has de-risked its portfolio, the asset allocation to bonds, including gilts and other government debt, corporate bonds and other fixed income assets has increased. The majority of the bond allocation in the portfolio is to gilts, as outlined above. However, as at 31 March 2023, the Scheme had a strategic allocation of 25% of the overall investment portfolio to investment grade bonds and and a further 16% of the portfolio to multi-asset credit funds (which include e.g. bank loans, high yield and private debt) and an emerging market debt fund. The 4% allocation to the M&G Illiquid Credit Opportunities fund is in the process of being run off. The Scheme's portfolio of bonds is broadly diversified with low exposure to any one issuer.

Property

As at 31 March 2023, the Scheme's assets included an allocation of 2% to UK property, but these holdings are in the process of being run off. SAMCo has been subscribing to the Global Real Estate Sustainability Benchmark (GRESB) since 2011 and encourages all the underlying property managers to subscribe to get the most complete ESG and climate-related data for the Scheme, although this is less relevant to the Scheme given the property holdings are being run off.

Asset-backed securities

Asset-backed securities (ABSs) are financial securities that are backed by a pool of underlying assets, such as loans or receivables, which generate cash flows. As at 31 March 2023, the Scheme had 9% of its assets held in ABSs. ESG considerations, including climate-related risks, are an integral part of the due diligence for new investments and a recurring topic in monitoring meetings with existing managers. This means, for instance, that managers pay closer attention to climate-related risks and their mitigation. To increase visibility on this, SAMCo is strongly encouraging the managers to improve on ESG and carbon reporting. At this stage, detailed and reliable metrics on the carbon emissions and carbon footprint of assets in these asset classes are often not readily available and improving this is part of the data improvement project.

Insurance-linked securities

Insurance-linked securities (ILSs) are financial securities that link insurance risks, such as catastrophes, pandemics or mortality, to the capital markets – i.e. they allow investors to speculate on these types of events, allowing insurers and reinsurers to transfer risk and raise capital or capacity from investors from this speculation. As at 31 March 2023, the Scheme had no strategic allocation to these assets but held a residual amount which is being run off.

Liquidity and emerging market debt

As at 31 March 2023, the Scheme had 2% and 4% of its assets in liquidity and emerging market debt funds respectively.

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Opportunities

The Scheme is closed to future accrual of benefits. Whilst the assets and liabilities will fluctuate year on year, over the lifetime of the Scheme these are expected to decline. As such, the Trustee employs a low-risk investment strategy with high levels of liability hedging assets in order to protect the funding strategy, but which limits the Trustee's ability to make new investments. Therefore, the Trustee believes that the most appropriate way for the Scheme to access climate opportunities is through improving the operations of its existing assets.

To maintain the optimal asset portfolio for the Scheme, the Trustee expects the Scheme's investment managers to seek out investment opportunities arising from and supporting climate change mitigation efforts via the selection of underlying investments within the Scheme's investment mandates where possible and appropriate.

Across the investment horizon more broadly, there are a number of opportunities for investing in companies and assets that may benefit as we transition to a low-carbon future. However, these investments are not without issues and risk from both transition and the physical impacts of climate change. As set out above, the Trustee is unable to take full advantage of these opportunities due to the limitations of the Scheme's overall strategy.

Expectations of investment managers and stewardship

Stewardship involves using tools such as engagement and voting to shape corporate behaviour. Engagement can be defined as communicating with a person or organisation with the aim of raising an issue or achieving change. A consequence of the Trustee predominantly investing via pooled funds is that stewardship activities are delegated to the investment managers.

The Trustee and its advisers do not engage directly with the underlying portfolios but believe it is sometimes appropriate for its investment managers to engage with key stakeholders, which may include corporate management, regulators and governance bodies relating to their investments to consider the management of conflicts of interest and to improve corporate behaviours, improve performance and mitigate financial risks. Where necessary, investment managers are expected to notify the Trustee of any issue on which it may be beneficial for the Trustee to undertake further engagement.

The Trustee recognises that, through stewardship activities, it can positively influence the companies in which it is invested in relation to climate risk. Engagement with companies, fund managers and policy makers forms a key part of the Trustee's approach to managing climate-change risks. Engagement implementation is undertaken on the Trustee's behalf by our investment managers.

The Trustee's expectations of the investment managers regarding the integration of ESG risks are set out in the Scheme's Statement of Investment Principles (SIP). These documents are shared with the Scheme's investment advisers and managers who are asked to report regularly on how their strategy is aligned with the Trustee's intentions and to discuss any investments that do not comply with these policies. The Scheme monitors the responsible investment activities of all managers through regular reporting and meetings with SAMCo, as set out above.

In summary, the Scheme will expect all of its investment managers to:

- be aware of the investment risks and opportunities associated with climate change;
- incorporate climate considerations into the investment decision making practices and processes;
- monitor and review companies and assets in relation to their approach to climate change, pushing them to set out and deliver plans to decarbonise;
- consider the use of frameworks such as the TCFD and/or Transition Pathway Initiative (TPI) to assess the progress made by companies towards limiting temperature rises to 1.5°C as part of the climate risk-management process; and
- provide transparency and clear reporting on their RI activities such as significant engagements.

SAMCo may engage with current investment managers on behalf of the Trustee when risks have been identified to agree a plan of action. This may include setting specific targets for certain mandates and more regular monitoring of mandates at higher risk.

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11. Target setting and net zero

The Trustee has concluded that, based on the current asset allocation of the Scheme, setting a target in respect of improving underlying data quality is the appropriate current step in order to better understand the Scheme's baseline with respect to carbon emissions and climate risk and opportunity exposure.

The achievement of this target will be undertaken in a consistent manner with the Trustee's broader strategic priorities and direction, as well as its fiduciary duties.

The target is anticipated to help drive the improvement of data across the Scheme's managers, with appropriate interim targets set which align to the Scheme's chosen time horizons. In particular, the mandates that the data target is initially focusing on are those comprising the corporate bond allocation. The underlying reasoning is that these mandates form a significant part of the Scheme's portfolio, as well as there being the highest potential for short-term improvement within these mandates due to the nature of the underlying investments.

The Trustee expects that, once the baseline position and current carbon emissions of the Scheme are better understood, it will discuss the potential to set a further Scheme target around supporting the Paris Agreement. Setting emissions targets for the Scheme's assets requires significant care, due to the ever-evolving data quality and methodology behind emissions metrics. The Trustee will need to consider the milestones to be set, what is achievable within the Scheme's chosen time horizons and how to embed the possible changes needed to meet an emissions target into the broader strategic journey planning for the Scheme. It is important to note that progress on emissions data coverage is more advanced in some asset classes than others, and this plays a big part in setting emissions metrics due to materiality of these asset classes in the Scheme's longer-term strategy.

The Scheme will be working with its managers to better understand their plans and encourage them in their progress. One of the areas for further discussion, particularly when it comes to reducing the Scheme's carbon emissions, is the extent to which verified offsetting by the Scheme's managers plays a part in their plans and what the ambitions should be for reducing the contribution of offsetting over time.

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12. Governance

Governance means having the right structure, people and processes in place in order to manage the Scheme effectively, with efficient operations and good decision-making by the Trustee. Climate governance then means having the right arrangements in place with respect to structures, people and processes in order to manage the climate-related risks and opportunities to the Scheme.

The Trustee believes that maintaining high standards of governance, including climate governance, is a crucial part of its duty in managing the Scheme. Therefore, it takes care to ensure that those who undertake governance activities on behalf of the Scheme are the appropriate parties to do so. The definition of governance activities includes, but is not limited to, making Scheme-wide decisions. The Trustee is the only party outlined within this section that makes these Scheme-wide decisions; however, this section describes how other parties inform and support these decisions, as well as undertake other activities such as risk identification and delegated responsibilities.

The Trustee has a number of documents in place that support it in both the overall and climate governance of the Scheme. These documents have been set out below with further details on how they are used by the Trustee.

Document	Purpose	Relevance for climate governance
Statement of Investment Principles (SIP)	The SIP sets out the Scheme's arrangements with respect to the investment of Scheme assets.	The SIP includes acknowledgement that climate change is a financially material consideration when investing Scheme assets and sets out how the Trustee considers this in the approach to both specific investments and the overall investment strategy.
Implementation statement	Explains how the Trustee has fulfilled the approach and terms of the Statement of Investment Principles.	This document includes detail on the stewardship of assets and how the Trustee is a responsible owner of assets with respect to climate change, amongst other ESG issues.
Meeting minutes	Sets out the decisions made by the Trustee at meetings.	Meeting minutes provide a record of the decisions made including those that relate to the Scheme's strategy, as well as where climate change has been a consideration in those decisions.

The rest of this section describes how the Trustee governs matters relating to climate-change risk and where responsibility lies for climate-related matters for the Scheme. As explained in previous sections, the Trustee operates an integrated risk management approach and takes account of a wide range of risks to the achievement of its core objective. The effects of climate change and societal response to them in most cases become incorporated into the risks that the Trustee is managing in any case – such as investment performance risk or interest rate risk. The operation of the Scheme's day-to-day activities and support to the Trustee is carried out by the Trustee Services Unit (the TSU), a management team within Shell International Ltd. Their work is overseen by the Trustee.

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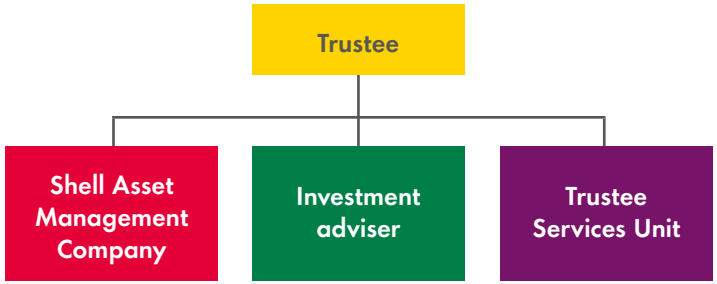

The Trustee

The Trustee has seven directors including an independent Chair, with three directors appointed by the Company and three directors elected by members of the Scheme. The primary objective of the Trustee is to invest the Scheme's assets so that they, together with the return on them and contributions from the Sponsor, are sufficient to pay all benefits on time and in full to members and beneficiaries. The Trustee acts in the best financial interests of members and beneficiaries by seeking an investment return that is consistent with a prudent and appropriate level of risk. The Trustee expects to protect and enhance the security of the Scheme in the long term by taking environmental, social and governance considerations, including climate-related risks, into account in its investment decisions.

The Trustee is ultimately responsible for oversight of all strategic matters related to the Scheme. This includes approval of the governance and management framework relating to ESG and climate-resilience considerations, including the oversight of climate-related risks and opportunities. The Trustee discusses climate-related risk, responses and reporting regularly.

During the year to 31 March 2023, climate change was on the agenda at three out of the four quarterly Trustee meetings. The Trustee, at these meetings, regularly questions and challenges its advisers and providers on the topics discussed and advice given.

Given the importance of the topic and the Scheme's integrated risk management approach for investment returns, covenant and liability measurement, the Trustee has not identified an individual to specifically be responsible for the Trustee's response to climate-related risks and opportunities. Rather, the Trustee has taken collective responsibility for the Scheme's approach to responding to the risks and opportunities of climate change. This includes setting policy, establishing a management framework and monitoring progress.

The Trustee will discuss and agree its climate-related responsibilities and overarching approach to managing climate-change risks and opportunities. Details will be set out in the Statement of Investment Principles (SIP) which is reviewed, updated where necessary, and (re) approved at least once every three years by the Trustee.

The Trustee is responsible for the implementation and oversight of the Scheme's climate change risk management approach, which is integrated into:

- the Trustee's overall risk register
- the Statement of Investment Principles, which includes the overall risk/return parameters of the Scheme and ESG considerations for investments.

The Trustee monitors the implementation of investment-related aspects of the governance and management framework that concern ESG (covering climate-related risks) and climate resilience including:

- overseeing the performance of the investment adviser (SAMCo), including the integration of financially material ESG (including climate change) considerations
- taking advice from SAMCo and other advisers in identifying and assessing climate-related risks and opportunities in relation to new Scheme investments
- commissioning climate scenario modelling for the Scheme from its investment advisers
- reviewing the 'implementation statement', a statement showing compliance with the Scheme's Stewardship Policy.

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The Trustee receives training as appropriate on climate-related issues to ensure that it has the appropriate knowledge and understanding on these issues to support good decision-making. The Trustee has no employees, but relevant members of the TSU also receive this training provided by the Trustee's advisers. It is normally organised close to or at meetings when the subject matter covered by the training is under discussion. During the year to 31 March 2023, the Trustee received training that covered a broad range of climate-related issues and how they are relevant to the four pillars of TCFD (governance, strategy, risk management and metrics and targets). This training also included training on climate scenario analysis.

Extensive material on climate change developments and reporting is also available in the press and from organisations such as The Pensions Regulator, The Department for Work and Pensions (DWP), the UK's Climate Change Committee, Carbon Tracker and UN PRI. The Trustee also expects SAMCo, Hymans Robertson, WTW, Barnett Waddingham and other advisers to bring important and relevant climate-related issues and developments to the Trustee's attention in a timely manner and at such frequency as is appropriate.

The Trustee has defined the roles and responsibilities for the principal management entities and service providers who undertake, advise and assist the Trustee with Scheme governance activities. The rest of this section describes the roles and responsibilities of these parties in identifying, assessing and managing climate-related risks and opportunities relevant to the Scheme, as well as the processes the Trustee has established to satisfy itself that these entities take adequate steps to ensure their competency in these tasks.

Within the management guidelines established by the Trustee, day-to-day activities are delegated to the TSU or SAMCo. The Trustee monitors progress on a quarterly basis.

Role of the Trustee Services Unit (TSU)

The TSU manages the operation of the Scheme on behalf of the Trustee and therefore supports the Trustee in a broad range of activities connected with the implementation of the Trustee's climate risk management framework across investments, covenant assessment and monitoring and liability measurement.

The TSU seeks to ensure that any investment proposals submitted to the Trustee appropriately consider climate-related risks and opportunities and are appropriate within the context of the Scheme's wider risk-and-return requirements.

The TSU monitors and reviews progress against the Scheme's climate change risk management approach and keeps the Trustee apprised of any material climate-related developments through updates.

Key activities delegated to the TSU include:

- ensuring the climate-related risks are incorporated in the assessment and monitoring of the sponsor covenant, in place of having an external covenant adviser for the Scheme
- engaging with SAMCo to understand how climate-related risks and opportunities are considered in the management of the Scheme's assets
- working with SAMCo to seek investment opportunities which enhance the climate resilience of the Scheme's portfolio
- ensuring investment proposals explicitly consider the impact of climate risks and opportunities.

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Role of Shell Asset Management Company B.V. (SAMCo)

SAMCo advises on the investment approach in line with the Investment Advisory Agreement and on ESG policy (including climate-related risks) and implementation. SAMCo's responsibilities for climate-change risk relating to the Scheme are summarised as follows:

- engaging with the external investment managers to understand how climate risks are considered in their investment approach and, where appropriate, pushing for further development in this area, including reporting
- where possible, providing relevant climate-related metrics, as set out in the TCFD recommendations, in addition to other ESG-related metrics
- providing training to the Trustee on climate-related issues, developments and emerging regulatory trends in sustainable finance as well as risks and opportunities
- advising the Trustee on ESG policy (including climate-related risks) and implementation.

Role of Scheme actuary

The Scheme actuary, employed by WTW, assists the Trustee in assessing the potential impact of climate-related risk on the Scheme's valuation and funding assumptions. Because of the terms of the Trust Deed, the Scheme actuary also has to make an independent judgement about the adequacy of the funding of the Scheme's liabilities. Where possible, the Scheme actuary will help the Trustee assess the potential impact of climate-related risk on the Scheme's valuation and funding assumptions.

Role of investment adviser

The Trustee has appointed Hymans Robertson as its investment and strategic adviser. Hymans Robertson provides strategic and practical support to the Trustee and the TSU in the appointment of investment managers as well as climate-related activities such as the management of climate-related risks and opportunities and ensuring compliance with the recommendations set out by the TCFD. This includes provision of training and updates on climate-related issues and climate change scenario modelling to enable the Trustee to assess the Scheme's exposure to climate-related risks.

Role of legal adviser

Mayer Brown International LLP is the Trustee's external legal adviser and provides advice as necessary on legal risks and regulatory developments including those relating to climate change. The legal adviser meets with the Trustee as necessary.

Adviser reviews

The Trustee takes an active role in assessing and reviewing its advisers. Feedback on service levels and performance in general is provided periodically both formally and informally. The Trustee reviews the services provided by SAMCo and Hymans Robertson annually and those provided by Mayer Brown and WTW triennially. These reviews will include questions regarding the advisers' expertise and performance in relation to climate-related risks and opportunities. Additionally, the investment advisers to the Scheme have annual objectives against which they are formally assessed; these objectives include reference to ensuring that the investment adviser supports the Trustee in understanding the TCFD governance and reporting requirements, and how to manage climate-related risks within the strategy.

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13. Climate-related metrics and targets

Reporting on climate metrics provides the Trustee with data that supports the processes around identifying and assessing risk exposures, identifying opportunities, and informs its decision-making.

In order to inform its decision-making, as well as to meet the requirements set out for the Scheme under TCFD, the Trustee has selected and measured a number of climate-related metrics. These metrics, and the target for the Scheme that has been set based on one of these metrics, are set out in this section.

The climate metrics chosen by the Trustee, as for climate metrics more broadly, are still evolving. Due to the immaturity of reporting, the data underpinning metrics, as well as the methodology used to calculate some metrics in particular, is still in its infancy. Therefore, the Trustee acknowledges that whilst these metrics are helpful in terms of understanding the Scheme's current position, there are some limitations that mean they require careful interpretation.

The Trustee, via SAMCo, has measured its chosen metrics as at the Scheme year end date of 31 March 2023. This output covers both backward-looking greenhouse gas (GHG) emissions data for the assets owned by the Scheme (such as total greenhouse emissions, carbon footprint and carbon intensity) and forward-looking metrics (such as information on Science Based Targets for GHG reduction, carbon risk rating, implied temperature scores and physical risk scores). This data will continue to be updated in 2023 and beyond.

When emissions are measured, they are categorised into three types of emissions: Scope 1, Scope 2, and Scope 3 emissions. What each of these categories mean is set out below.*

Scope 1	Scope 2	Scope 3
These are direct emissions from sources that are owned or controlled by the company.	These are indirect emissions from the generation of energy purchased by the company.	These are all other indirect emissions that come from value chain related activities of the company but occur from sources not owned or controlled by the company.

While the last few years have seen significant improvement in the measurement of Scopes 1 and 2 emissions, there are still limitations in data available from investee companies on emissions of greenhouse gases, particularly for Scope 3 emissions as noted above. Where these limitations in data exist, the data may be estimated, not yet reported or missing. 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.

*There is overlap on emissions data between different companies and between companies and governments on some measures. As a result, aggregate total greenhouse gas emissions reported across all investments may include some double counting in relation to the actual level of greenhouse gas emissions, especially as the coverage continues to expand and Scope 3 is fully included. For example, fossil fuels sold by a producer to a utility to generate electricity would be Scope 3 for the producer, Scope 2 for the electricity consumer and Scope 1 for the utility. In addition, if the basis for attributing emissions to government bonds was based on total country emissions, they are also included in the government bond emissions for the relevant country. Double counting of emissions is especially relevant when comparing portfolios against each other. These efforts notwithstanding, it is acknowledged that obtaining Scope 3 data for investments is very challenging as many underlying entities do not disclose these emissions and the data that is reported may be incomplete or unreliable. Within this report, Scope 3 emissions have been included where possible, and this includes a proportion of estimated emissions.

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Currently, a proportion of the Scheme's holdings are unable to be measured across the different metrics. This is in part due to the nature of some investments and the difficulties in measuring climate metrics across these types of investments. As part of ongoing dialogue with managers, we will strive to improve this over time to ensure we receive a fuller picture of the Scheme's position.

Given the immaturity of the data, it has been a significant project to undertake the data collection for this report, and work will continue in the future as the quality and availability of data continues to improve and expand. SAMCo has spent a significant amount of time to increase and improve the climate-related data available to the SAMCo investment teams and therefore the Trustee. However, data is still incomplete in some areas and remains unreliable in others, which then requires an element of estimation in order to try and build a more complete picture which the Trustee can use. As part of this, SAMCo has purchased additional data from multiple parties so that the climate-related risks of the investment portfolio can be better understood and managed. SAMCo is also continuously enhancing its data architecture and engaging with data providers, to ensure maximum coverage.

The Trustee has decided to report on the four metrics set out below this year, in line with the requirements and guidance for pension schemes under TCFD. These metrics will be reviewed from time to time, and the Trustee will report additional data and metrics in future years as the quality and coverage improves.

Metric	Description and overview of methodology
Total greenhouse gas emissions	This measures the portfolio's absolute emissions attributable to investments made by the Scheme. This is shown in tonnes (t) of carbon dioxide (CO_2) equivalent (tCO_2e). The rationale for adopting this methodology is that it is in line with the DWP's statutory guidance, or in the case of emissions relating to government bonds, a methodology more comparable to other asset classes.
Carbon footprint	This is the greenhouse gas emissions of the assets of the Scheme per £ million invested. It is the aggregation of the total greenhouse emissions divided by the value of the relevant part of the portfolio (in £ millions). The rationale for adopting this methodology is that it is in line with the DWP's statutory guidance.
Data quality and coverage	This measure presents the proportions of the various portfolios for which the Trustee has good quality greenhouse gas emission data. The rationale for adopting this methodology is that it is one of those suggested in the DWP's statutory guidance, and it will help the Trustee develop the quality of its reporting on the two metrics above and better inform the Trustee on climate risks in the portfolio.
Portfolio alignment – binary target measurement	This measure presents the proportions of the various portfolios where there are net-zero commitments (i.e. emissions reduction targets) in place. These may be public, Paris-aligned commitments as well as those approved by the Science Based Targets Initiative (SBTI). The Trustee considers only those targets approved by the SBTI to be aligned for the purposes of this metric. While targets that are not-SBTI approved may be aligned to the Paris Agreement's goal, the SBTI provides the leading assessment of this alignment for the industries covered.

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The data quality metric can be broken down further into the descriptions below:

Corporate bonds	**Reported emissions** are those disclosed by the company itself. **Estimated emissions** are provided by a third-party data vendor where reported emissions are not available or are deemed insufficiently reliable. These may be based on industry averages or other information sources. **No coverage** is when there is no reported or estimated data for the asset.
Government bonds	Carbon emissions allocated to government bonds can be categorised in two ways: • **Government emissions** are the emissions (all scopes) associated directly with the government, e.g. from public services. • **Production emissions** are based on the total (production) emissions of the country. Both of these are scaled by an 'attribution factor' that reflects the share of the emissions financed by BG, using the holdings in the country's bonds as a share of total debt outstanding. Data has been collected and reported on for both of these types of emissions for this report.
Property	As property data is hard to collect in a timely manner due to lags in reporting, and the property portfolio is currently running off, this data has not been reported on as at 31 March 2023.

While most of the Scheme's assets have been included in the climate metric reporting, not all assets have been included, because not all types of asset classes can be linked to ESG data. Some securities cannot be assigned GHG emissions, and there is often a lack of transparency in private market assets (i.e. assets that are not publicly listed). The Trustee plans to monitor this and improve the scope of reporting where possible in future years.

The metrics for the Scheme's investments are shown on pages 34 to 37, based on the assets held as at 31 March 2023. Other asset classes for which data is currently difficult to gather include the illiquid credit opportunities, asset backed securities and local currency allocations. Finally, as the insurance-linked securities allocation is nearly fully run off and immaterial as at 31 March 2023, this data has also not been gathered. As a result, when considering the Scheme's assets as a whole, the proportion of assets for which metrics are available as part of this first measurement exercise is 81.5%.

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Corporate bonds

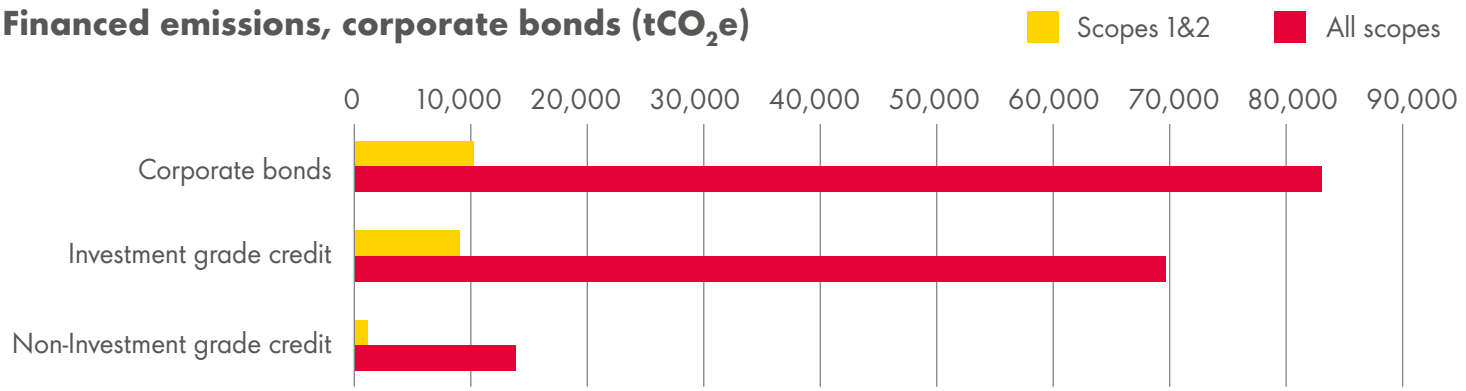
The corporate bond allocation held by the Scheme may be broken down into two categories – investment grade credit and non-investment grade credit. Investment grade credit refers to assets where the investment in underlying holdings is of a specific credit rating or above, i.e. meets a certain quality. Non-investment grade credit refers to assets which do not meet this measure, but have a higher risk/return profile that supports the Scheme's overall strategy. In the graphs below, we have shown the total corporate bond figures, as well as the split between the investment grade credit and non-investment grade credit.

	Scope 1 and 2 emissions		Data coverage (%)		
	GHG emissions (thousands tCO_2e)	Carbon footprint (tCO_2e/£m)	Reported	Estimated	No coverage
Total	**10**	**40**	**69%**	**3%**	**29%**
Investment grade	9	40	72%	1%	27%
Non-investment grade	1	60	45%	16%	39%

	Scope 1, 2 and 3 emissions		
	GHG emissions (thousands tCO_2e)	Carbon footprint (tCO_2e/£m)	% coverage
Total	**83**	**340**	**67%**
Investment grade	69	310	69%
Non-investment grade	13	650	51%

Sources: SAMCo, ISS, Factset, IMF

Financed emissions, corporate bonds (tCO_2e)



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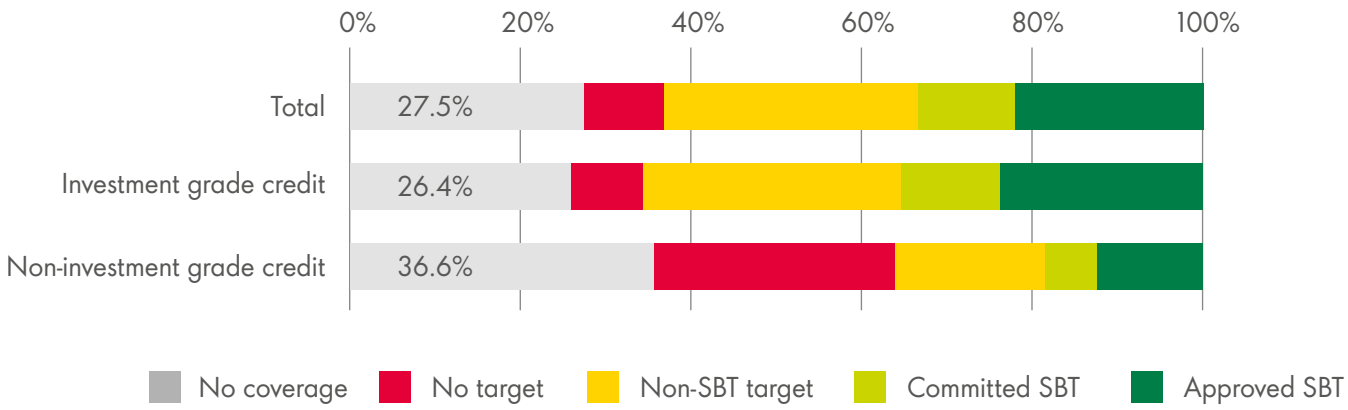
	GHG emission reduction target				
	No coverage	No target	Non-science based target	Committed science based target	Approved science based target
Total	**28%**	**10%**	**29%**	**11%**	**22%**
Investment grade	26%	7%	31%	12%	23%
Non-investment grade	37%	29%	16%	5%	13%

Emissions reduction targets, by ambition



Sovereign bonds

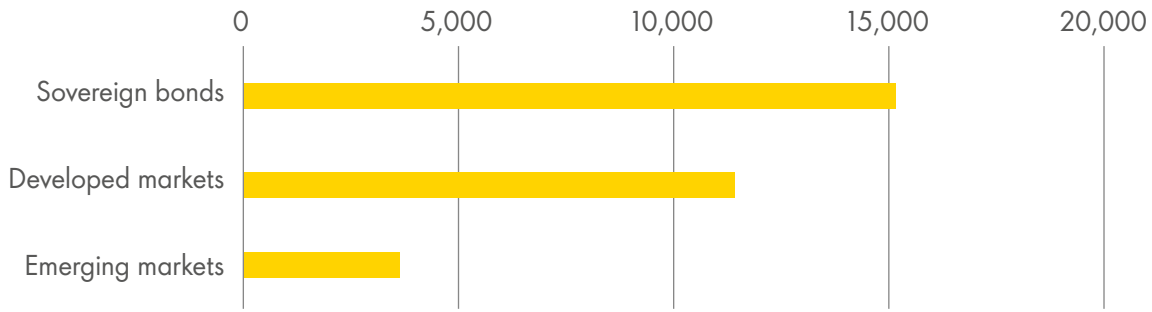
Sovereign bonds may also be split into two categories, based on the market they are invested in – developed markets or emerging markets. Emissions and data coverage metrics are set out in the tables below.

	Government emissions/Debt – Scope 1, 2 and 3		Production emissions/Debt – Scope 1, 2 and 3	
	GHG emissions (thousands tCO_2e)	Carbon footprint (tCO_2e/£m)	GHG emissions (thousands tCO_2e)	Carbon footprint (tCO_2e/£m)
Total	**15**	**20**	**134**	**180**
Developed markets	12	20	98	150
Emerging markets	3	60	35	600

	Government emissions/Debt – data coverage	Production emissions/Debt – data coverage
Total	**100%**	**100%**
Developed markets	99%	99%
Emerging markets	100%	100%

Sources: SAMCo, ISS, Factset, IMF

Financed emissions, sovereign bonds (tCO_2e)



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In Scope Portfolio

1. The total emissions metrics reported only relate to the assets held in the relevant portfolio where the emissions were reported or can be estimated, the proportion of which is shown through the coverage metric. The coverage for the overall portfolio is 72.5%. The Trustee expects the coverage level to increase over time and estimates it to improve, so there could be significant deviation in the stated emissions in future years from improvements in the data rather than changes in the actual financed emissions related to the portfolio.
2. The calculation of greenhouse gas emissions differs between asset classes, so the results cannot be compared across asset classes.
3. Carbon emissions allocated to government bonds are those (production-based) emissions that are financed by the government (as opposed to total country emissions, to prevent double counting issues), proportioned based on the Scheme's holdings of the government debt compared to total government debt issued.
4. Emissions reduction targets ('alignment data') are classified by their level of ambition and/or external validation by the Science-Based Targets initiative.
5. There is no data available for other investment and non-investment grade credit, liquidity funds or other alternatives.
6. It is not possible to separate out Scope 1 and 2 emissions in a suitable way from Scope 3 emissions for sovereign bonds. 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). Reporting on sovereign emissions in this way provides a more complete picture of the total emissions and how they may be attributed.

   In future reports, the Trustee will monitor the metrics on at least an annual basis and identify whether performance has improved or deteriorated over time. Where performance has deteriorated, the Trustee will 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.

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Target for the Scheme

Because of the need to make progress with the coverage and quality of data being reported and on which decisions can be made, the Trustee has set a target for the Scheme on the data quality and coverage metric. This has been agreed, as the baseline data coverage metrics show scope for improvement and, by improving the coverage and resulting reliability of the emissions metrics, the Trustee can then make better informed decisions on the emissions metrics, including possible emission-reduction targets in the future.

The target has been focused in the short term on the corporate bond portfolio, with a target to bring data coverage up to 75-80% over the short-term time horizon chosen for the Scheme (i.e. the three-year period from now until the Scheme year ending 31 March 2024). The Trustee plans to achieve this through engagement with the data providers and the Scheme's investment managers to drive improved reporting of underlying assets within the corporate bond funds that the Scheme invests in, as well as optimising the data matching of the metrics.

As the above target was set during the 2022/2023 Scheme year, we are not yet able to report an update on performance against the target. To do this, the Trustee will compare the updated data coverage figure across the Scheme against the target figure of 75-80%. In future years, this report will consider the performance of the Scheme against this target. The Trustee will also consider, on an annual basis, whether the target set is still appropriate and, if not, agree a suitable replacement. This decision will also be reported on in future TCFD reports.

More broadly, the ability for diversified investors (such as pension schemes) to set meaningful climate targets is inhibited by the limited availability of 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. We wish to set meaningful and challenging climate targets for the Scheme's investment portfolio, and work is under way to assess options within the limitations of currently available data.

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Appendix I: Glossary and definitions

Asset class
An asset class is a group of investments that typically share a lot of the same characteristics, that may be subject to the same rules and regulations. For example, equities, bonds and property are three well known asset classes.

Carbon pricing
Carbon pricing assesses and quantifies the external costs of greenhouse gas emissions, for example damage to crops or loss of property from flooding and sea level rises, and relays these costs back to the source of the emissions through a price, usually in the form of a price on the carbon dioxide (CO_2) emitted.

Engagement
Engagement with respect to assets of the Scheme means communication with a person or organisation, typically via investment managers, with the aim of driving change.

ESG
Environmental, social and governance.

Fiduciary responsibilities
The responsibilities of the committee to act in the best interests of the Scheme's beneficiaries (i.e. Scheme members).

Financial Stability Board
The 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.

IPCC
Intergovernmental Panel on Climate Change

Gilts basis
The gilts basis for the Scheme is a funding basis that is more prudent than the statutory funding basis by which potential Sponsor contributions are decided. On the gilts basis, the liabilities are typically higher than those on the statutory funding basis, so by aiming to achieve full funding on this basis by increasing the Scheme's assets, this should result in additional security of future benefits. Hence, this basis forms part of our long-term strategy for the Scheme.

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. These gases may be natural or anthropogenic (i.e. resulting from human activity). The main greenhouse gases are:

- Water vapour
- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Ozone (O_3)
- Chlorofluorocarbons (CFCs and HCFCs)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (CF_4, C_2F_6 etc.), SF_6, and NF_3.

Water vapor is a potent greenhouse gas but not one that humans are directly adding to and is therefore excluded from the IPCC list of greenhouse gases as it is not one of the drivers of climate change that the IPCC is concerned with. The major human origin sources of greenhouse gases are carbon dioxide, nitrous oxide, methane, and the three groups of fluorinated gases listed above.

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Low-carbon economy
An economy based on energy sources that produce low levels of greenhouse gas (GHG) emissions.

Macro-economic
The area of economics concerning with large-scale (e.g. national or international) or general economic factors, such as interest rates and inflation.

Mandate
An instruction to an asset manager on how the Scheme's money may be invested.

Net zero
Net zero refers to the amount of all greenhouse gases (which includes but is not limited to carbon dioxide) being emitted being equal to those removed. It typically also includes reduction of total emissions as much as possible, with only the remaining unavoidable emissions being offset.

Paris Agreement
The Paris Agreement on climate change is a 2015 global accord seeking to keep the rise in global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the increase to 1.5°C. As of 2021, the Paris Agreement has been signed by 191 countries, and ratified by 186 countries.

Science Based Targets Initiative (SBTI)
The SBTI is a partnership between the Carbon Disclosure Project, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature. The SBTI defines and promotes best practice in emissions reductions and net-zero targets, in line with climate science, and provides technical assistance and expert resources to companies who set science-based targets in line with the latest climate science amongst other activities.

Scope 1 emissions
All direct emissions from the activities of an organisation or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2 emissions
Indirect emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3 emissions
All other indirect emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

Statutory funding basis
The statutory funding basis, sometimes also referred to as the 'technical provisions' basis, is formed of a set of assumptions (for instance, interest rates, future inflation, longevity and mortality) that are used to calculate the liabilities of the Scheme. This basis determines potential contributions to be made to the Scheme, should there be a deficit (i.e. should the assets be less than the expected liabilities), and should be set in a prudent manner, but not so prudent that it puts a strain on the Sponsor covenant by resulting in unnecessary contributions.

Stewardship
Stewardship of assets is a responsibility of investors via which they can shape corporate behaviour using methods that include engagement and voting.

Systemic risk
Systematic risk refers to a risk that impacts the entire market, not just a particular stock or industry.

Responsible investment
The integration of ESG factors into investment decision-making and asset stewardship practices.

TCFD
Taskforce on Climate-Related Financial Disclosures.

Trustee
The Trustee is a group of appointed individuals (Trustee Directors) who oversee the management of the Scheme and meet their fiduciary duties to members.

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Appendix II: Scenario analysis – assumptions, reliances and limitations

The scenarios used within the climate scenario modelling are described in more detail below, including their key features:

Scenario	Years 1-5	Years 6-10	Years 11-15	Years 16-20
Green revolution/ Smooth transition 2100 temperature pathway **at or below** 2°C	• Short-term concerted policy action and investment in new technology • Immediate introduction and ramping up of carbon pricing • Policy actions to reduce reliance on fossil fuels for electricity generation and transportation • Government/corporate spending on 'green solutions' and favourable tax position for sustainable strategies • Significantly improved climate disclosures help market prices adjust to reflect expectation of 'new normal' • Market repricing in response to companies' reaction and preparedness		• Further policy action to maintain policy intent and acceleration of timeframes for change • Continued ramp-up of policy actions sees carbon emissions fall rapidly • Expectations of the reliance on technological solutions for negative carbon emissions in future fall • Markets weed out poor performers on climate, fast adapters do well	• Policies have forced companies to pursue more sustainable agendas and take account of externalities through explicit pricing mechanisms • Innovation is rewarded and expectations of physical impact from climate change are therefore expected to be more limited • Expectations of meeting 2°C targets are high • Modest physical impacts are seen, such as reduced crop yields and increased precipitation • Renewable energy now represents a significant proportion of energy usage and is continuing to trend upwards

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Scenario	Years 1-5	Years 6-10	Years 11-15	Years 16-20
Challenging times/ Delayed transition 2100 temperature pathway **at or below** 2°C	• Limited investment and policy measures are introduced, perhaps inconsistently across the globe • Modest government spending on adaptation • No significant market repricing or physical risks	• Concerted policy action as Paris commitments are reviewed and enforced. Action is more extreme and disruptive than may otherwise have been needed • Carbon pricing is implemented with prices rising higher and faster than under the smooth transition • Government spending is redirected as climate priorities take hold • Pricing adjusts in face of growing policy action • Some businesses respond quickly, leading to divergence between them and climate laggards		• Outcomes similar to Green revolution, with high expectations of meeting 2°C targets
Head in the sand/ No transition 2100 temperature pathway **above** 2°C	• No material policy action • Governments pursue own agendas and societal pressure for change is resisted • No significant market repricing or physical risks	• Low effort at climate adaptation with policy failure and adherence to current ways of thinking • Little concerted effort, countries pursue their own interests	• Growing fear that world is on track for more than 2°C temperature increase creates market uncertainty and price adjustments • Increased likelihood of acute physical impacts on businesses • Increased government spending in response to immediate environmental damage, concentrated on short-term mitigation measures • Attempts to respond by governments and businesses are generally piecemeal and ineffective	

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Modelling assumptions

Further key assumptions within the modelling include:

- The average excess equity return over the risk-free asset and its volatility which affects growth asset returns.
- The level and volatility of yields, credit spreads, inflation and expected (break-even) inflation, which affect the projected value placed on the liabilities and bond returns.
- The gap between CPI and RPI. The market for CPI-linked instruments is not well developed and this is based on our judgement. Expected long-term RPI and CPI rates are in line with the current Bank of England targets. The RPI-CPI wedge, that is the average difference between projected RPI and CPI rates, is set to 1% p.a. over the short term ultimately transitioning to zero after early 2030, when the RPI measure will switch to CPIH.
- The output of the model is also affected by other more subtle effects, such as the correlations between economic and financial variables.

Modelling methodology

This modelling is a form of asset-liability modelling (ALM). Assets are projected forward from 31 March 2020 using membership data at that date under 5,000 different outcomes for future market and economic conditions.

For each outcome (5,000 per scenario), the funding position is calculated annually throughout the projection period. The funding position uses the same methodology as at the 2020 formal valuation. The 5,000 outcomes are then ranked from best to worst and plotted graphically. The range of outcomes can then be compared with other scenarios.

The ALM combines the Scheme's cashflows, an investment strategy including any hedging, contributions into the Scheme and stochastic economic scenarios from Hymans Robertson's economic model (ESS) to create stochastic projections of the funding positions.

Modelling limitations

While the model allows for the possibility of scenarios that would be extreme by historical standards, including very significant downturns in equity markets, large systemic and structural dislocations are not captured by the model. Such events are unknowable in effect, magnitude and nature, meaning that the most extreme possibilities are not necessarily captured within the distributions of results.

A summary of economic simulations used is included within the Scheme's scenario analysis outputs as presented to the Trustee; fuller information about the scenario generator, and the sensitivities of the results to some of the parameters, can be provided on request.

The distributions of outcomes depend significantly on the Economic Scenario Service (ESS), Hyman Robertson's (proprietary) stochastic asset model. This type of model is known as an economic scenario generator and uses probability distributions to project a range of possible outcomes for the future behaviour of asset returns and economic variables. Some of the parameters of the model are dependent on the current state of financial markets and are updated each month (for example, the current level of equity market volatility), while other more subjective parameters do not change with different calibrations of the model.

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