Climate change report

A report for members by the Trustee of the 2013 Next Group Pension Plan

Plan year to 30 September 2023

Chair's introduction

Larger pension plans have started reporting on their climate impact using the reporting standards of the Taskforce for Climate-Related Financial Disclosures (or TCFD for short). This is the first TCFD report for the 2013 Next Group Pension Plan (the "Plan"). In it we set out details of the carbon emissions associated with the Plan's investments.

The Trustee wants to ensure the best outcome for members and understanding and managing climate risk is a part of this. Managing climate risk is something that the Trustee has actively done for years. For example in 2021 we moved our global equity to a fund that had an explicit carbon reduction and in 2022 we did the same with our infrastructure equity holding.

Our main responsibility as Trustee of the Plan is to seek to ensure our members get the benefits due to them. While we were preparing this report we were actively considering what else we could do to ensure the best outcome for members. In 2018 we took a first step towards insuring the pensions promised by the Plan by buying annuities to cover pensions in payment with Just and since we finished preparing this report, we have insured the remainder of the pension promises of the Plan with Pensions Insurance Corporation ("PIC"). As a result, most of the investments of the Plan have been transferred to PIC, and not all of the proposed actions outlined in this report remain relevant.

As part of the insurer selection process we assessed the climate resilience of PIC. Our advisers have assessed PIC as 'doing more than its peers' in managing climate and other environmental, social and governance risks. Their actions are in line with what we currently expect from a large UK-based insurance company. They have a net zero carbon emissions target by 2050, with an interim target of halving emissions by 2030. They are also a signatory of the UK Stewardship Code.

Going forward we will engage with our annuity providers to encourage continued and improved governance of climate risks.

Why have we written this report?

The UK has become the first G20 country to make it mandatory for Britain's largest companies and financial organisations to disclose their climate-related risks and opportunities.

This is part of the government's commitment to making the UK financial system the greenest in the world.

This report provides members the opportunity to find out more about the work carried out by the Trustee in relation to climate change.

It is the first climate change report by the Trustee of the Plan. We hope you find it informative and would welcome any feedback you have.

V. C. Paramour, Director for
The Law Debenture Pension Trust Corporation p.l.c.

On behalf of the 2013 Next Group Pension Plan, Chair of the Trustee of the Plan

Overview

The 2013 Next Group Pension Plan (the "Plan") is an occupational defined benefit pension scheme. The Trustee's primary objective is to maintain a portfolio of suitable assets of appropriate liquidity which will generate investment returns to meet benefit payments of the Plan as they fall due. In achieving this objective, the Trustee considers many factors, including climate change, which is covered in this report.

The Trustee recognises the importance of climate change in achieving its primary objective, as an issue that poses major systemic risks to society, the economy and the financial system as a whole. This includes the transitional and physical risks related to climate change that could affect the Plan's sponsor business performance and reputation, such as regulatory changes, customer preferences, extreme weather events, supply chain disruptions, and increased costs.

The Plan's financial position may be materially influenced by climate change. This could happen in two ways: physical risks that impair the value of assets, and transition risks that lower the returns of companies as they incur the costs of transitioning to a low carbon economy (or face penalties if they do not). The Trustee tries to identify these risks and take appropriate measures to reduce them. These actions aim to ensure the Plan's members receive their expected benefits.

This report describes how the Trustee has identified, assessed and managed climate-related risks and opportunities to the Plan during the scheme year to 30 September 2023. For a broader indication of the Trustee's policies in relation to investments, please see the Statement of Investment Principles ("SIP"). For details of the Trustee's activity in relation to the environmental, social and governance policies outlined in the SIP, including examples of voting action taken on the Trustee's behalf, please see the Implementation Statement. Both are available online and we have provided links below.

- Statement of Investment Principles: https://www.nextpensionscheme.co.uk/
- Implementation Statement: https://www.nextpensionscheme.co.uk/

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Approved by the Trustee for the Plan year to 30 September 2023.

Published alongside the Plan's annual report and accounts for the year to 30 September 2023 ending and available online https://www.nextpensionscheme.co.uk/.

Executive summary

This report describes the activities and approach taken by us (the Trustee) to understand and reduce the climate-related risks faced by the Plan, and to potentially take advantage of any investment opportunities as part of the transition to a lower carbon economy. The Trustee has considered the climate-related risks faced by the Plan in the context of its journey to its long-term funding target and will continue to monitor these risks on an ongoing basis. **The Trustee notes that any actions taken due to work in relation to climate change, including efforts to move towards achieving any targets set, will be taken on the condition that they are also appropriate from a wider strategic perspective with the Trustee's overall objectives in mind.**

The following points are a summary of the detailed report that follows:

- We believe that appropriate management of climate-related risks and opportunities for the Plan's investments should improve outcomes for our members through better long-term returns and lower risk.
- We have therefore allocated time and resource to this topic in recent years, integrating climate considerations into the Plan's risk register and considering which fund manager mandates should have specific carbon reduction targets. We remain focussed on delivering our key objective of delivering members' benefits, but within that we seek to ensure that climate related risks and opportunities have been properly identified and managed accordingly.
- We have identified a number of risks and opportunities to the Plan arising from physical changes to the climate itself and from steps being taken to limit climate change. Over the upcoming year we will be working through these actions and engaging with our fund managers to reflect these factors.
- During the year to 30 September 2023, we considered how such risks and opportunities might affect the funding level of the Plan under different climate scenarios. Of the scenarios we examined, the analysis under the "Net Zero Financial Crisis" scenario has the greatest impact on the Plan in the short term (this is where net zero carbon emissions are achieved by 2050 via rapid climate action, but financial markets are slow to react, and then react abruptly). Whereas the "High Warming" scenario has greater impact on the Plan's funding position over longer time periods (this is where there are severe global impacts from climate change). However, we acknowledge that many different scenarios exist and the potential impact on financial markets and economies from climate change may be significantly different to that assumed in our analysis.
- With the help of our advisers, we assess our fund managers' Responsible Investment ("RI") practices including their ability to protect the Plan's assets from negative impacts of climate change annually.
- During the year the Trustee received training on various climate related matters, stewardship and regulatory developments to ensure our knowledge of climate risks and opportunities remains up to date.
- We have collected data on four climate-related metrics: total emissions, carbon footprint (emissions per £m invested), portfolio alignment (a measure of alignment with a transition to a Net Zero economy) and data quality. We have also set a target against the third metric – portfolio alignment – which aims to increase the number of investments in the Plan's portfolio that have approved Science Based Targets ("SBTs"). By 31 December 2025, we are targeting 65% and 30% portfolio alignment for equities and bonds respectively (further details on this is set out in the Targets section of this report). The baseline for this target is 31 December 2022 when 51% and 14% of the Plan's equity and bonds were SBT-aligned. So, we are seeking to substantially improve this score over the next 3 years.
- Collecting metrics helped us to identify climate exposures, but there remain data gaps. It is widely recognised that there remain shortcomings in the quality and completeness of the emissions data available for many assets, unlisted assets being a key stumbling block. Our investment adviser is liaising with our investment managers and bulk annuity providers to encourage improvement in both the quality and the coverage of reporting on climate data and also to improve SBT alignment in keeping with our target. This is the first year in which we are reporting on our climate data, and we look forward to reporting on our progress towards our target next year.

The purpose and structure of this report

The purpose of this report is to describe the Plan's governance framework for managing climate-related risks and opportunities for the Plan and how it has been implemented in the year to 30 September 2023. It is the Plan's first report in line with the recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD), as required by the 2021 Climate Change Governance and Reporting Regulations.

This report covers the TCFD's thematic areas of:

- Governance – the Plan's governance around climate-related risks and opportunities;
- Strategy – the potential impacts of climate-related risks and opportunities on the Plan and the resilience of the Plan's investment strategy and DB funding strategy under different climate-related scenarios;
- Risk Management – the processes used by the Plan to identify, assess, and manage climate-related risks;
- Metrics and Targets – the metrics and target used to assess and manage relevant climate-related risks and opportunities to the Plan.

Governance is covered in Section 1 of the report; Strategy and Risk Management are covered in Section 2 and 3, with details of the climate scenario analysis in Appendix 3; and Metrics and Targets are covered in Section 4. There is a Glossary in Appendix 5, and the other appendices provide more detailed information on various topics.

Governance

Management of climate-related risks and opportunities – roles and responsibilities

The Trustee has ultimate responsibility for ensuring effective governance of climate change risks and opportunities in relation to the Plan. The Trustee identifies, assesses and manages them, with some matters delegated to the Investment Committee ("IC"), and with support provided by the Trustee's external advisers. This section documents the governance processes that the Trustee has put in place to ensure that it has oversight of the climate-related risks and opportunities relevant to the Plan. No climate-related governance activities are undertaken by parties other than the Trustee and their committees.

In September 2023, the Trustee agreed a Statement on Governance of Climate Change Risks and Opportunities, which clearly lays out the division of responsibilities between the parties noted above to maintain appropriate oversight of the climate-related risks and opportunities relevant to the Plan. This ensures the Trustee can be confident that its statutory and fiduciary obligations are being met.

Chair of the Trustee

It is the Chair of the Trustee's responsibility, with support from the Scheme Secretary and IC Chair, to ensure that sufficient time is allocated for consideration and discussion of climate matters by the Trustee, the IC, and its advisers.

The Trustee's role

In broad terms, the Trustee, working with its advisers, is responsible for:

- ensuring that the Trustee Directors have sufficient knowledge and understanding of climate change to fulfil their statutory and fiduciary obligations and are keeping this knowledge and understanding up to date. This includes knowledge and understanding of the principles relating to the identification, assessment and management of climate-related risks and opportunities for the Plan;
- considering the climate-related impact into its investment beliefs and the Plan's investment policies;
- putting effective climate governance arrangements in place;
- determining the short, medium and long term periods to be used when identifying climate-related risks and opportunities for the Plan;
- identifying and assessing the main climate-related risks and opportunities for the Plan over these time periods and documenting the management of them;
- commissioning scenario analysis from time to time which illustrates how the Plan may be affected under different climate pathways, including the potential impact on its assets and liabilities, and the resilience of its investment and funding strategies;
- incorporating climate-related risks and opportunities into strategic decisions relating to the Plan's funding arrangements;
- incorporating climate-related risks and opportunities into the Plan's risk register;
- allowing for climate-related risks and opportunities when assessing and monitoring the strength of the sponsoring employer's covenant;
- ensuring that the Plan's actuarial, investment, and covenant advisers have the appropriate competency and clearly defined responsibilities in respect of climate change. The Trustee also contacts its advisers as necessary to satisfy itself that the advisers appear to be taking adequate steps to identify and assess any climate-related risks and opportunities which are relevant to the matters on which they are advising, and that they are adequately prioritising climate-related risks;
- considering and documenting the extent to which the advisers' responsibilities are included in any agreements, such as investment consultants' strategic objectives and service agreements;
- communicating with Plan members and other stakeholders on climate change where appropriate, including public reporting in accordance with *The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021*, and

The Occupational and Personal Pension Schemes (Disclosure of Information) Regulations 2013 (together "TCFD reporting"[1]) when required.

The Trustee has delegated consideration of some climate-related matters to its IC, as outlined below.

Investment Committee ("IC")

In broad terms, the IC is responsible for:

- considering the climate-related impact of strategic decisions relating to the Plan's investments;
- ensuring that the Plan's investment managers are managing climate-related risks and opportunities in relation to the Plan's investments, and have appropriate processes, expertise and resources to do this effectively; and
- selecting and regularly reviewing metrics to inform the Trustee's identification, assessment and management of climate-related risks and opportunities, and setting and monitoring targets to meet these metrics over time, where appropriate.

In addition, the IC assists the Trustee where appropriate concerning the fulfilment of its responsibilities outlined in the section above, including the investment aspects of:

- identifying and assessing the main climate-related risks and opportunities for the Plan over the short, medium, and long term, and documenting them accordingly;
- incorporating the impact of climate-related risks and opportunities into the Plan's risk register;
- considering and documenting the extent to which the advisers' responsibilities are included in any agreements, such as the strategic objectives and service agreements of LCP as investment adviser; and
- communicating with Plan members and other stakeholders on the risks and opportunities of climate change where appropriate, including TCFD reporting.

The Trustee's climate-related investment beliefs and policies

The Trustee has agreed a range of climate-specific investment beliefs and policies. These are incorporated in its Statement of Investment Principles ("SIP"), which sets out the policy of the Trustee on various matters governing decisions about the investments of the Plan.

The Trustee's key climate-related investment beliefs are as follows:

- Environmental, social and governance ("ESG") factors should be considered when making investment decisions;
- investment managers may be able to improve risk-adjusted returns by taking account of ESG factors, since companies with strong ESG performance are expected to deliver better returns in the medium to long term;
- climate change is a financially material systemic issue that presents risks and opportunities for the Plan over the short, medium and long term; and
- voting and engagement are important and can create long term value which is in the best interest of Plan members and therefore we encourage managers to improve their voting and engagement practices by communicating our stewardship priorities and expectations to them annually, and also asking them about these topics when they give presentations to us.

The Trustee's key climate-related policies are as follows:

- The Trustee influences the Plan's approach to ESG and other financially material factors through its investment strategy and manager selection decisions. It expects the Plan's investment managers to take account of financially material factors (including climate change and other ESG factors) within the parameters of the mandates agreed with them. It seeks to appoint managers that have the skills and processes to do this, and annually review how the managers are taking account of these issues in practice.

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[1] Note that, for convenience, this Governance Statement refers to the reporting requirements under the climate regulations (which are based on the recommendations of the Taskforce on Climate-related Financial Disclosures) as "TCFD reporting", although in practice it is recognised that the recommendations of the TCFD may change over time and may not always be aligned with the statutory requirements applying to the Plan.

- Whilst the Trustee notes that it has limited influence over managers' investment practices where assets are held in pooled funds, it encourages its managers to improve their practices within the parameters of the fund.
- Within each asset class, the Trustee's policy is to consider investment options that give increased weight to ESG factors. The Trustee has chosen to invest part of the equity allocation in a passively managed fund that tracks a market index of equity stocks with reduced exposure to climate-related risks and increased exposure to climate-related opportunities. The listed infrastructure allocation is also allocated to a fund with an explicit focus on low carbon infrastructure investments.

Ensuring adequate oversight of climate-related risks and opportunities

It is essential that the Trustee and IC have sufficient knowledge and understanding of climate change, and related risks and opportunities, to fulfil their statutory and fiduciary obligations. The Trustee and ISC will review their skills and experience in this area when reviewing their knowledge and understanding needs and also consider what training and decision are likely to be required over the coming year.

The Trustee believes that by delegating certain responsibilities to the IC and by allocating specific time at its quarterly meetings to discuss and consider advice in relation to climate risks and opportunities, along with the advice of its investment adviser, ensures a structure that allows significant dedication to climate matters, and sufficient discussion and challenge on information provided.

Examples of the main items discussed in relation to climate risks and opportunities over the year are as follows:

- Training on new climate regulations and statutory guidance for pension schemes;
- Modelling of climate scenario analysis for the Plan, see pages 7-12 and Appendix 3 for further details;
- An overview of climate risks and opportunities and agreeing climate-related beliefs for the Plan (see section below);
- Update on the new Stewardship priorities for the Plan to focus engagement efforts with its underlying investments, noting that climate was one of the key priorities identified; and
- Training on climate-related metrics, discussion on what metrics to monitor for the Plan and agreeing the choice of target, see pages 13-15 for further details.

Typically, the IC will receive advice or recommendations from the investment adviser on climate risks and opportunities which is discussed at its regular meetings. The IC typically debate the advice and provide challenge where appropriate, to ensure the advice is fully understood and a range of options considered. Once an agreement has been reached, any decisions are proposed to the Trustee for approval.

An example of debate and challenge relates to setting the Trustee's roles and responsibilities in the Climate Governance Statement regarding the extent to which the Trustee maintain oversight of advisers' staff and resourcing on climate related risks. The Trustee wanted to set clearer expectations on its objectives with its advisers. Regarding TCFD metrics collated, the Trustee reviewed the managers' climate related data and provided its view to its investment adviser to further engage with some managers to improve coverage.

Ensuring appropriate adviser arrangements

Appendix 1 details the advisers that were in place during the year, along with the advisers' responsibilities, as set out in the Statement on Governance of Climate Change Risks and Opportunities.

The Trustee has ensured that appropriate climate-related considerations are reflected in the objectives of its advisers, as relevant. When appointing new advisers, the Trustee take steps to satisfy itself that the adviser has suitable climate credentials.

The Trustee and the IC satisfy themselves that their advisers take adequate steps to identify and assess climate-related risks and opportunities which are relevant to the matters on which they advise by:

- setting clearly defined responsibilities and expectations in respect of climate change, where appropriate;
- documenting their responsibilities, where relevant, in agreements such as the strategic objectives for the Plan's investment adviser;
- ensuring they are adequately prioritising climate-related risk.

The Trustee reviews advisers against objectives set on an annual basis. The Trustee has processes for assessing the competency of the advisers, including (but not limited to) reviewing the advisers against specific climate objectives where relevant. Reviews of the investment adviser against the Trustee's objectives take place annually, typically in November, and there were no concerns this year.

The trustee is also supported by Next pension staff. Next staff provide secretarial services to the trustee. The trustee is not reliant on the expertise of Next pension staff, as they do not make decisions on behalf of the trustee nor advise the trustee, however the trustee does ensure that the scheme secretary attends the same training as received by the trustee.

Oversight activities and processes

The Trustee and IC consider a range of different information about the climate change risks and opportunities faced by the Plan to enable them to fulfil their responsibilities set out above.

Annual review

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

- its governance arrangements in relation to climate change;
- its draft TCFD reporting;
- a draft business plan for the following year that outlines the main topics due to be discussed at each meeting, including climate-related topics.

At one or more meetings each year, the IC and Trustee will review, revise (where appropriate) and approve its investment beliefs and the Plan's investment policies in relation to climate change.

At one or more meetings each year, the IC will review:

- data on environmental, social and governance ("ESG") metrics for the Plan's investments, including four climate-related metrics (as required by TCFD), and performance against any targets set in relation to these metrics;
- whether to retain or replace any targets set in relation to these metrics.

At one or more meetings each year, the Trustee will review:

- whether it is appropriate to carry out scenario analysis that illustrates how the Plan's assets and liabilities might be affected under various climate change scenarios, noting that such analysis is required at least every three years and if there is a material change of investment strategy;
- the advisers' climate competency and assess how they have performed against their climate responsibilities.

Less frequent reviews

The Trustee, with help from the IC where appropriate, will consider climate-related risks and opportunities whenever the following activities are undertaken:

- actuarial valuation of the Plan;
- review of the Plan's investment strategy;
- assessment of the sponsoring employer's covenant.

The Trustee, with help from the IC where appropriate, will also at least every three years, and following any major changes in the Plan's circumstances, for example the investment strategy or funding position, review:

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

The IC will, at least every three years, review:

- a *responsible investment report* from the Plan's investment advisers that reviews the Plan's investment managers in relation to ESG factors and climate change;
- its choice of metrics to inform the Trustee's identification, assessment and management of climate-related risks and opportunities.

Whenever reviewing agreements with external advisers, or appointing new advisers, the Trustee will consider and document the extent to which the advisers' climate-related responsibilities are included in the agreements and/or any adviser objectives set.

Training undertaken by the Trustee

The Trustee allocated additional meeting time to climate-related topics during the year on the following items before publishing this report, to enhance the Trustee's knowledge and understanding of climate change, also to ensure the Plan was compliant with TCFD requirements. There was also a dedicated training session on climate related risks in September 2023:

November 2022:	DWP stewardship guidance
February 2023:	Training on new Stewardship requirements, including agreeing Stewardship priorities
May 2023:	Climate regulations and statutory guidance
August 2023:	Climate change refresher, including Climate Governance statement and TCFD metrics
September 2023:	Climate scenario analysis, including agreeing climate metrics.
September 2023:	TCFD Metrics and targets

Strategy

Identification and assessment of climate-related risks and opportunities relevant to the funding position of the Plan

Periods for assessing climate-related risks and opportunities

The Trustee has considered climate-related risks and opportunities over various time periods that it believes are most relevant to the Plan.

The Trustee has selected short-term, medium-term and long-term time horizons over which to formally consider the impact of climate-related risks and opportunities. The Trustee agreed to different time horizons considering the Plan's membership profile and funding strategy. These timeframes are outlined in the table below, along with the Trustee's rationale for each.

The key climate-related risks and opportunities relevant to the Plan that the Trustee has identified are also outlined in the table below.

The Plan faces risks and opportunities from both the physical effects of climate change – for example, rising temperatures and more extreme weather events – and from the effect of transitioning to a lower carbon economy to help mitigate the impacts of climate change – for example, government policies to reduce the use of fossil fuels, technological advantages in renewable energy and shifts in consumer demand for "greener" products.

Many of these climate-related risks and opportunities could impact the value of the Plan's assets and liabilities. The strong funding level means that the Plan is not expected to require support from the Company, but the climate-risk could limit its ability to do so in a worst-case scenario.

Time period	Rationale for time period	Key risks	Key opportunities
Short term	**3 years** – aligned with triennial actuarial valuation cycle	Exposure to climate-related investment risks may be highest while an allocation to growth assets is retained	Investment in climate-tilted equity funds has already been made with the intention of protecting against transition risks and provide exposure to transition opportunities. The equity infrastructure fund was also switched to a fund with a carbon objective in 2022
Medium term	**8 years** – the period over which we expect the most impact on markets if the transition to low carbon is implemented as expected to meet the Paris goals.	Market volatility could cause investment losses and negatively impact the Plan's funding position	Climate-aware corporate bond mandates may increase the resilience of assets to climate risks – an opportunity the trustee will keep under review. However with buy-out of the pension benefits potentially imminent it may not be in the Plan interests to incur the restructuring costs.
Long term	**15 years** – our standard long term time horizon for modelling, since showing a period much less than this will not illustrate much of an impact.	Cost of buy-out may increase as insurers allow for climate related risks in their pricing and reserving bases.	Buy-out of the benefits with an insurance company is expected to provide greater protection from climate risks for members' benefits. Completing a buy-out in the short to medium term would mitigate this risk.

The potential impact of climate-related risks and opportunities on the Plan was explored by the Trustee using a range of tools as set. One such tool (the results of which are set out in the section that follows) was undertaking climate scenario analysis, which shows how the Plan might be affected under a range of different climate scenarios.

Climate scenario analysis

Scenario analysis is a tool for examining and evaluating different ways in which the future may unfold. At the September 2023 IC meeting, the IC used scenario analysis to consider how climate change might affect the Plan's investment and funding strategies. The results were also discussed at the September Trustee Board meeting. With the support of its investment adviser, the Trustee

carried out the scenario analysis based on macro-economic data at 31 December 2022, calibrated to market conditions at 31 March 2023.

The trustees have also considered the potential impact of physical and transition risks on the sponsor covenant and considered how meaningful these risks might be in the context of the scenario analysis results.

Climate scenarios considered and why the Trustee chose them

When considering the possible impact of climate change on the Plan's expected funding position, the Trustee sought to consider, via asset and liability modelling, the impact of three scenarios on the Plan. The Trustee chose these scenarios (developed by Ortec Finance and Cambridge Econometrics), after consultation with its investment adviser, for the following reasons:

Transition	Description	Why the Trustee chose it
High Warming	Global net zero carbon emissions not reached by 2050; only existing climate policies are implemented, and temperatures rise significantly.	To explore what could happen to the Plan's finances if carbon emissions continue at current levels and this results in significant physical risks from changes in the global climate that disrupt economic activity.
Limited Action	Policymakers implement limited new climate policies and fall short of meeting the Paris Agreement goals, resulting in a combination of transition and physical risks	To see how the Plan's finances could play out if climate policies did not meet the defined goals and how this would impact the wider economy.
Net Zero Financial Crisis	Global net zero CO2 emissions achieved by 2050 via rapid and effective climate action but financial markets are slower to react and then react abruptly.	To look at the risks and opportunities for the Plan if global net zero carbon emissions is achieved by 2050, but financial markets are volatile as they adjust to a low carbon economy.

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

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

To provide further insight, the Trustee also compared the outputs under each scenario to a "climate uninformed base case", that makes no allowance for either changing physical or transition risks in future. For further details on the climate scenarios and the modelling, see Appendix 3.

The scenarios' key features are summarised on the next page.

Key features of the climate scenarios considered by the Trustee

Scenarios:	***High Warming***	***Limited Action***	***Net Zero Financial Crisis***
Low carbon policies	Continuation of current low carbon policies and technology trends	Moderate steps taken by policymakers to increase climate action including working towards the 2030 targets and net zero commitments. Carbon Capture and Storage also used.	Ambitious low carbon policies, high investment in low carbon technologies and substitution away from fossil fuels to cleaner energy sources and biofuel. Carbon Capture and Storage also used to achieve global net zero by 2050.
Paris Agreement outcome	Paris Agreement goals not met	Paris Agreement goals not met	Global net zero CO2 achieved by 2050; Paris Agreement goals met.
Global warming	Average global warming is about 2°C by 2050 and 4°C by 2100, compared to pre-industrial levels	Average global warming is about 1.8°C by 2050 and 2.8°C by 2100, compared to pre-industrial levels.	Average global warming stabilises at around 1.5°C above pre-industrial levels.
Physical impacts	Severe physical impacts	High physical impacts	Moderate physical impacts.
Impact on GDP	Global GDP is significantly lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be 50% lower than in the climate uninformed scenario.	Global GDP is lower than the climate uninformed scenario in 2100. For example. UK GDP in 2100 predicted to be about 30% lower than in the climate-uninformed scenario.	Global GDP is lower than the climate-uninformed scenario in 2100. For example, UK GDP in 2100 predicted to be about 5% lower than in the climate-uninformed scenario.
Financial market impacts	Physical risks priced in over the period 2026-2030. A second re-pricing occurs in the period 2036-2040 as investors factor in the severe physical risks	Physical risks priced in over the period 2026-2030. A second repricing occurs in the period 2036-2040 as investors factor in the high physical risks.	Abrupt re-pricing of assets causes financial market volatility in 2025

Source: Ortec Finance. Figures quoted are medians.

Climate scenario analysis results

The results of the climate scenario analysis are shown in Appendix 3. The analysis shows that the Plan is expected to be relatively resilient to climate shocks under the scenarios modelled. As such, the modelling of the scenarios does not show a major detrimental impact on the long-term funding position of the Plan. This is supported by the risk-controlled and diversified investment strategy the Plan is running today, as a result of the risk reduction changes made over the past three years, mitigating the potential impact of climate risk over the longer-term.

Under all scenarios modelled, the liabilities are generally expected to increase over the short-to-medium term relative to the base case. This is largely due to assumed higher inflation, due to higher carbon prices and an increase in government investment. Over the longer term, liabilities are expected to fall under all scenarios relative to the base case, as the impacts of climate change reduce global productivity and cause a fall in inflation.

As the Plan hedges a high level of the interest rate and inflation movements in the liabilities, the change in the total value of assets under each scenario generally moves broadly in line with the liabilities. So, over the short-to-medium term, total Plan assets are expected to increase but then decrease over the longer term relative to the base case. This means the net impact on the Plan's funding position from changes in interest rates and inflation is mostly quite small.

The most significant impact on the Plan's funding level relates to the sharper reduction of surplus within the Plan in the late 2030s under the high warming scenario. In this instance, the assets fall in value by more than the liabilities, with the main impact originating from the Plan's allocation to return seeking assets, ie equities and investment grade credit, as credit spreads are expected to widen during these periods causing a fall in the value of credit assets.

In the short term, the Plan is exposed to climate-related shocks due to the higher-risk assets held such as equities, although these risks are mitigated by the relatively low allocation to growth assets, and most of the equity exposure is via pooled funds that have a focus on low carbon investing.

In summary, whilst the scenario analysis showed different impacts of the scenarios, with "net zero financial crisis" and "high warming" having the most impact in the short and long term respectively, none of the scenarios modelled indicated the Plan moving from the current large Technical Provisions surplus into a deficit.

The Trustee recognises that there are many reasons why the outcome might differ from those modelled. Further information on the assumptions used as part of this analysis and the limitations of the analysis can be found in Appendix 3.

Consideration of the sponsor covenant and climate related risks

The Trustee's covenant adviser Cardano updated their assessment of Next PLC in November 2023 and as part of this assessment, whilst they assessed the covenant as strong, they did note that the decarbonisation of the economy could require significant investments over the longer term to adapt the current business models. Their advice also referred to a long period of covenant reliance and suggested the covenant could potentially be challenged by the emergence of ESG factors if the Plan did not transfer to a third party insurer.

Next Plc has itself identified and disclosed transition and physical risks related to climate change that could affect its business performance and reputation, such as regulatory changes, customer preferences, extreme weather events, supply chain disruptions, and increased costs. It has also identified potential opportunities related to climate change that could enhance its competitive advantage and resilience, such as product innovation and energy efficiency. It has implemented a range of measures to manage its climate risks and opportunities, such as improving its energy management system, increasing its use of renewable energy sources, reducing its water consumption and waste generation, and engaged with its suppliers and customers on environmental issues, and investing in carbon reduction projects,

While on balance the scenarios show that funding is quite resilient, given the strength of that funding and the relatively low risk investment strategy being pursued, the Trustee recognises the risk climate challenges can introduce to most businesses and comments from the covenant adviser demonstrate that the textile industry will face significant transition challenges. On balance therefore the Trustee believes that the best climate risk mitigation strategy is likely to buy-in the liabilities.

Risk management

Processes for identifying and assessing climate-related risks

The Trustee has implemented a number of processes and tools for identifying, assessing and managing climate related risks and opportunities for the Plan, and has taken steps to integrate these within the overall risk management of the Plan. Some of the key measures in place are outlined below:

- The Trustee and IC receive climate related training to understand how climate-related risks might affect pension schemes and their investments in general;
- The Trustee undertakes climate scenario analysis which shows how the Plan's assets and liabilities might be affected under a range of climate scenarios;
- The IC reviews its investment adviser's assessments of the Plan's current and prospective investment managers' climate practices, including how they incorporate climate-related factors into their investment processes and how effectively they manage climate related risks;
- The Trustee invested Plan assets into two low-carbon funds to better protect against climate-related risk.
- The Trustee, at least annually, reviews the Plan's risk register to maintain an understanding of the changing risk to the Plan's journey.

In addition, the IC periodically invite managers to attend meetings to provide updates on their approaches to identifying and assessing climate-related risks.

The role of stewardship in managing climate-related risks and opportunities

The Trustee expects the Plan's investment managers to engage with investee companies on climate-related (and other) matters. The Trustee recognises that investment managers' climate competence and practices are crucial for managing the climate-related risks to the Plan's assets, so the Trustee assesses and monitors these on an ongoing basis

In February 2023, the Trustee agreed its stewardship priorities for the Plan, which were climate change, human rights and modern slavery, and corporate transparency. The Trustee has subsequently communicated these stewardship priorities to the managers and will look to review how these priorities are reflected in underlying activities of the managers.

Tools used to identify and assess risks and opportunities

The Trustee has sought to identify and assess climate-related risks and opportunities facing the Plan arising from both the physical impacts of climate change and the transition to a low carbon economy. It has used the following tools to help:

- **Climate scenario analysis** was used to understand the macroeconomic impact of different climate scenarios on the Plan's investment and funding strategy.
- The Trustee's investment adviser has provided reporting for the Plan's portfolios containing various **climate-related metrics**, which help illustrate the current exposure to certain climate transition risks.
- The Trustee, with the help of its advisers, **assess and monitor the Plan's investment managers** to ensure it is adequately managing risks to the Plan's assets, including those relating to the physical and transition risks from climate change. This includes **regular monitoring** of the managers' responsible investment practices with the aid of the investment advisers' assessments.

The Trustee also undertakes training to maintain and deepen its understanding of climate-related risks and opportunities, and hence support its identification and assessment of those faced by the Plan. On an ongoing basis the use of these tools will help the Trustee to identify both current, but also new and emerging climate-related risks and opportunities.

How the assessment of climate-related risks fits into the wider risk management picture

The Trustee has maintains a risk register, which covers the key risks of the Plan's activities. In July 2023, the Trustee reviewed the risk register and ensured that climate considerations were reflected within it. Inclusion within the risk register helps the Trustee to put climate risk into the context of other risks being run, and prioritise mitigation actions according to those risks which pose the most significant potential adverse impact.

The risk register is reviewed regularly to consider if any further risks need adding or amending, to assess any significant priority risks to manage and to ensure regular action is maintained in monitoring and mitigating these risks. The Trustee's current assessment, based on consideration of their impact and likelihood, is that climate-related risks are a source of risk but are one of many risks faced by the Plan, and therefore should continue to be monitored in the context of broader investment risks and opportunities.

How the Trustee helps manage the key risks and opportunities identified

The Trustee has put measures in place to help manage climate-related risks and opportunities. Examples of these are outlined below:

- The Plan invests in a diversified low risk investment strategy to help reduce exposure to risk generally. This also reduces the exposure to climate risks impacting any individual asset class.
- The Trustee has a policy to protect against a high proportion of the interest and inflation risks that could impact the value of the Plan's liabilities. Therefore, any potential impact on interest rates and inflation from climate change (and indeed from other factors) are significantly mitigated.
- The IC, with the help of its advisers invested the Plan's assets within two low-carbon funds, equities, and listed infrastructure to better improve the carbon footprint of the Plan's assets.
- The Trustee has set a target to have 65% and 30% of the Plan's holdings in listed equity and corporate bonds to have set a science-based emissions reduction target ("SBT"), which measures how aligned companies are with a transition to a low-carbon economy, by the end of 2025.

Metrics and targets

The Trustee's choice of metrics

The Trustee has chosen four climate-related metrics to help them monitor climate-related risks and opportunities to the Plan. The Trustee chose to report these metrics as they are ones recommended in the DWP's statutory guidance.

These are listed below and reported overleaf (as far as the Trustee was able to obtain the data).

Metric	High-level methodology
Absolute emissions: Total greenhouse gas emissions[1]	The sum of each company's most recent reported or estimated greenhouse gas emissions attributable to the Plan's investment in the company, where data is available. Emissions are attributed evenly across equity and debt investors. Reported in tonnes of CO_2 equivalent. This methodology was chosen because it is in line with the statutory guidance.
Emissions intensity: Carbon footprint	The total greenhouse gas emissions described above, divided by the value of the invested portfolio in £m, adjusted for data availability. Emissions are attributed evenly across equity and debt investors. Reported in tonnes of CO_2 equivalent per £1m invested. This methodology was chosen because it is in line with the statutory guidance.
Portfolio alignment: Science-based targets (SBT)	The proportion of the portfolio by weight of holdings with science-based targets to reduce their greenhouse gas emissions, demonstrated by a target validated by the Science Based Targets initiative (SBTi)[2] or equivalent. This measures the extent to which the Plan's investments are aligned to the Paris Agreement goal of limiting global average temperature rises to 1.5°C. Reported in percentage terms. The Trustee chose this "binary target" measure because it is the simplest and most robust of the various portfolio alignment metrics available.
Additional climate change metric: Data quality	The proportion of the portfolio for which greenhouse gas emissions data is verified, reported, estimated or unavailable. "Verified" emissions refers to data reported by the emitting company and verified by a third party. "Reported" emissions are reported by the emitting company but not verified. This approach was chosen because it is in line with the statutory guidance. In practice, none of the parties providing data could distinguish verified emissions from unverified emissions, so only "reported" emissions are shown overleaf.

[1] More information about greenhouse gas emissions is provided in Appendix 2, including their classification into Scopes 1, 2 and 3. The Trustee has shown only Scopes 1 and 2 this year, given significant data gaps in scope 3 information from investment managers. Scope 3 will be added into next year's report.
[2] Science-Based Targets initiative.

The data has been calculated using portfolio holdings as at 30 December 2022 except where otherwise stated. At that date, the total assets of the Plan were valued at £655m. Data has only been included in the table below where information on the Plan's assets was available.

The data was sourced from public databases for government bonds and from MSCI, a leading provider of climate-related data for investors, for non-government bonds and listed equities. For the other mandates, metrics were requested from the investment managers.

Further information about the methodologies used to calculate the metrics, including key judgements, assumptions, data inputs and treatment of data gaps is provided in Appendix 4.

Climate related metrics obtained for the Plan

Portfolio	Manager	Plan's assets at 31 Dec 2022	Total % coverage (Scope 1 and 2)	1. Total emissions (tonnes CO_2e)[1]	2. Carbon footprint (tonnes CO_2e per £m invested)[1]	3. Portfolio alignment (% assets with SBTi targets)	4. Data quality (% reported / estimated / unavailable)[1]	Source
Low carbon equities	**Legal & General**	£45m / 7%	96	**1,215**	28	53	**96 / 0 / 4**	Manager
Global equites	**Legal & General**	£27m / 4%	98	**2,106**	80	52	**98 / 0 / 2**	Manager
Listed Infrastructure	**Patrizia**	£49m / 7%	100	**14,112**	288	49	**100 / 0 / 0**	Manager
Property	**abrdn**	£32m / 5%	78	**424**	17	90	**78 / 0 / 22**	Manager
Property	**Legal & General**	£47m / 7%	*L&G has stated it is unable to provide data for this fund. Allocation was fully redeemed in June 2023, so this is not a concern*					
Equity-linked bonds	**Columbia* Threadneedle**	£50m / 8%	100	**6,800**	136	100	**100 / 0 / 0**	LCP calculation[2]
Corporate bonds	**Legal & General**	£58m / 9%	27	**3,538**	226	14	**27 / 0 / 73**	Manager
Government bonds	**Legal & General**	£284m / 43%	100	**51,404**	181	100	**100 / 0 / 0**	LCP calculation[2]
Buy-in	**Just Group****	£63m / 10%	*Just unable to provide data. We are working with them to obtain data in future.*					

**Data coverage for the underlying equity is <40%, which is below the level at which CT are prepared to report. This data therefore only includes the fixed income proportion of the funds calculated by LCP.* ** Just Group has published some emissions data in its TCFD report, but it is not able to provide metrics that the Trustee require for inclusion in the Plan's TCFD report for the bulk annuity business at the time of writing.

Notes regarding the metrics

- Figures relate only to the assets for which data is available and only cover scope 1 and 2. Total emissions are for the Plan's assets, not the whole pooled fund where one is used. For property scope 1 and 2 emissions are close to zero, and therefore for this asset class we have made an exception and reported scope 3 emissions as well. The other managers did not provide scope 3 emissions data and reporting scope 3 data is not required in the first year of TCFD reporting.
- Gilts metrics are calculated on a different basis to other mandates shown. Total greenhouse gas emissions have been calculated as {"value of your investment in gilts" divided by "value of the UK's public debt"} multiplied by "total greenhouse gas emissions produced in the UK" using publicly available data sources. The carbon footprint has been calculated as "total greenhouse gas emissions produced in the UK" divided by "value of the UK's public debt". This is a measure of the UK's reliance on greenhouse emissions.

Conclusions from assessment of the metrics

The Trustee considered the metrics collected for each of the asset classes in the portfolio (detailed on page 17), with the following highlights:

- **Equities:** Equities emissions coverage and data quality is high, although the carbon footprint differs between the three portfolios (noting that for one of the portfolios, carbon emissions is very low). The IC, on behalf of the Trustee, will engage with the managers with an aim to improve the percentage of assets with SBTi alignment target as per the proposed target for the Plan.
- **Property:** It is difficult for the Trustee to make a full assessment of the climate risk and opportunities within the portfolios since one of the investment managers was unable to provide data. The Trustee also request a full redemption of their property fund units in 2022 (final proceeds received in January 2024). As a result of this redemption, the overall Plan footprint will be reduced.
- **Corporate bonds:** Data coverage for the Plan's corporate bond holding is low. The corporate bonds also had a high carbon footprint and a very low proportion of companies committing to a Science Based Target Initiative (SBTi), net zero alignment for as long as this holding is maintained. As a result, the Trustee agreed a priority to engage with L&G with an aim to improve data availability and increase the percentage of assets with an SBTi alignment target.
- **Buy-in:** The Plan's buy-in provider Just was unable to provide data for publication. As a result, the Trustee has engaged with the provider to understand the reasons for this and to improve this availability.

Climate change data gaps

Data was available for mandates comprising almost all of the exposure of the Plan's assets that the Trustee sought to collect, as at 31 December 2022 (or nearest available date).Most of the Plan's investment managers are seeking to improve their climate-related reporting, by increasing the number of metrics they report and seeking to fill the data gaps. The Trustee therefore expects data coverage and quality to improve over time. The Trustee is working with its advisers and the asset managers to improve coverage over time.

The Trustee's chosen target

The Trustee has set the following target:

Target	Coverage at reference point	Reference base year
The Plan's target for the listed equity and corporate bond assets SBT levels to increase to at least 65% and 30% respectively by end 2025.	SBT baseline level for the Plan's listed equity (including Patrizia) was 51% and corporate bonds was 14%.	31 December 2022

This target was chosen as the metric is forward-looking and focussed on the transition that needs to occur in the future in order to achieve net zero aims globally.

Achieving the above target will improve the Plan's assets' alignment with a 1.5°C pathway which is expected to help manage climate-related risks to the Plan by:

- Reducing exposure to climate transition risks in the shorter-term by keeping up with/slightly ahead of a general market trend; and

- Supporting collective action to meet the Paris Agreement goals, hence reducing longer-term systemic risks from the physical effects of climate change.

The Trustee chose to base the target around the Plan's listed equity and corporate bond assets as they form a significant part of the investment strategy collectively and this is where most of the more comprehensive climate data exists.

Initial performance against the target

The climate reporting carried out for the Plan during the year included an assessment of the current alignment with the above target. Broadly 51% and 14% of the Plan's listed equity and investment grade corporate bonds that were analysed in this report have set SBTi targets as at 30 December 2022, based on information provided by the Plan's asset managers and held on the MSCI database about SBTi-validated targets.

The Trustee, with the assistance of its investment adviser, will continue to work with the Plan's managers to improve the proportion of portfolio companies that have set SBTi aligned climate targets, including better understanding of the steps they are taking to engage with portfolio companies.

Steps taken to achieve the target

The investment adviser encourages the use of effective voting (where applicable) and engagement with portfolio companies to encourage achievement of net zero. The investment adviser continues to engage with managers on this topic and will encourage them to use their influence with portfolio companies to increase the use of SBT.

Appendix 1 – Other parties' and advisers' roles

We have included a list of the key advisers in-place supporting the Trustee over the year below:

- **Actuarial adviser** – Mercer
- **Strategic Investment Consultant** – Lane Clark & Peacock LLP (LCP)
- **Covenant adviser** – Cardano
- **Legal advisers** – Gowling WLG LLP

The roles of these advisers, as described in the Statement on Governance of Climate Change Risks and Opportunities, are laid out below.

In broad terms, the Plan's investment adviser is responsible, as requested by the Trustee or IC, for:

- providing training and other updates to the Trustee and IC on relevant climate-related matters;
- helping the Trustee to formulate its investment beliefs in relation to climate change and reflecting these in the Plan's investment policies and strategy;
- advising how climate-related risks and opportunities might affect the different asset classes in which the Plan might invest over the short, medium and long term, and the implications for the Plan's investment strategy and journey plan;
- advising the IC on the appropriateness and effectiveness of the Plan's investment managers' processes, expertise and resources for managing climate-related risks and opportunities, given the Trustee's investment objectives and beliefs, and engaging with the managers to improve their climate-related integration over time;
- advising on the inclusion of climate change in the Plan's governance arrangements and risk register, working with the Trustee, the IC and the other advisers as appropriate;
- undertaking scenario analysis which illustrates how the Plan may be affected under different climate pathways, assisting the Trustee with interpretation and use of the results, and advising on when it might be appropriate to update the analysis;
- assisting the IC in identifying, monitoring and using suitable climate-related metrics and targets in relation to the Plan's investments, including liaising with the Plan's investment managers regarding provision of the metrics;
- leading on the preparation of the Trustee's TCFD reporting, working with the Trustee, the IC and the other advisers as appropriate.

In addition to the investment roles and responsibilities identified above, the Trustee expect its **other advisers** to support its approach to monitoring risks and opportunities relating to climate factors as follows:

- The Trustee's **covenant adviser** will help the Trustee form a view of the impact of climate factors on the covenant supporting the Plan over the short-, medium- and long-term.
- The Trustee's **actuarial adviser** will help the Trustee form a view of the impact of climate factors on the Plan's funding strategy over the short-, medium- and long-term.
- The Trustee's **legal adviser** will advise the Trustee of its legal obligations in relation to taking account of climate factors and any associated reporting obligations.

In broad terms, the Plan's **investment managers** are responsible for:

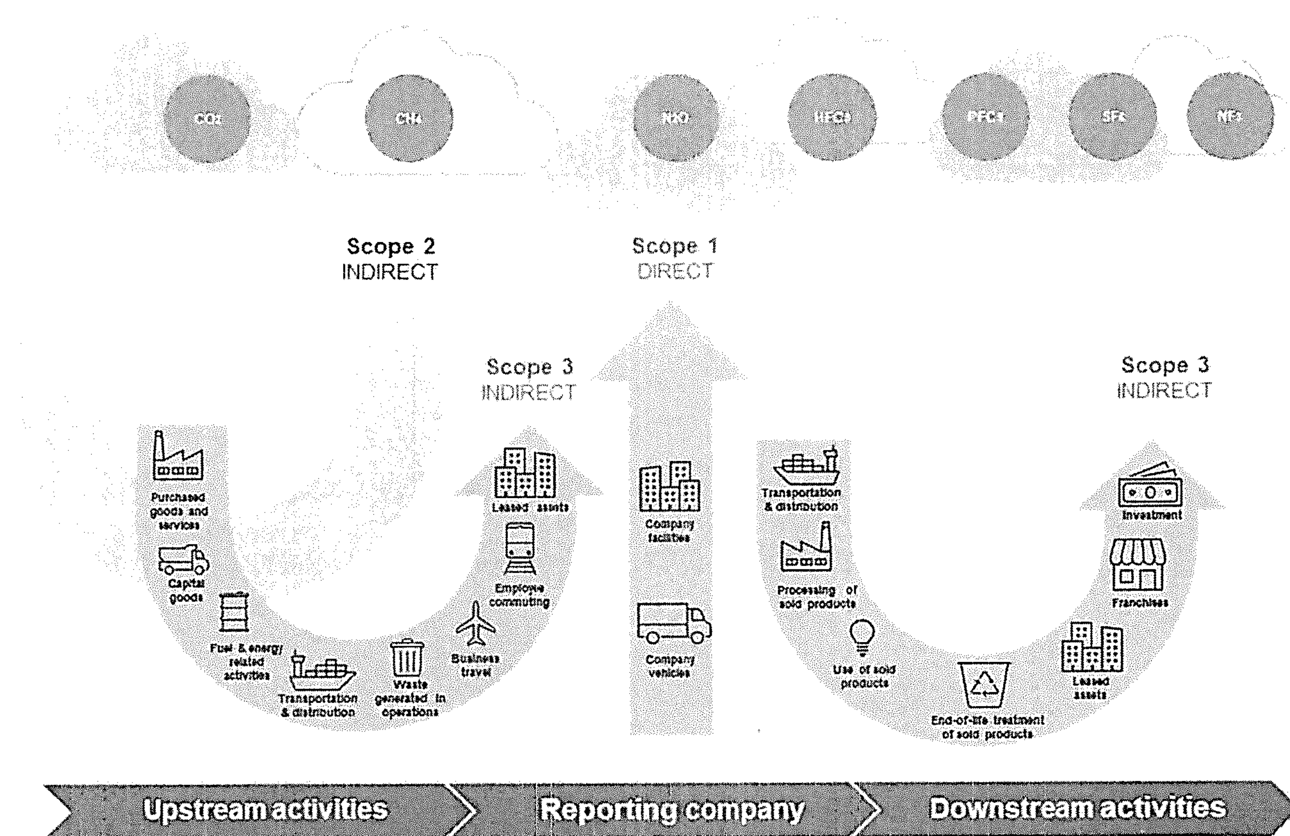
- identifying, assessing and managing climate-related risks and opportunities in relation to the Plan's investments, in line with the investment management arrangements agreed with the Trustee and/or IC;
- exercising rights (including voting rights) attaching to the Plan's investments, and undertaking engagement activities in respect of those investments, in relation to climate-related risks and opportunities in a way that seeks to improve long-term financial outcomes for Plan members;
- reporting on stewardship activities and outcomes in relation to the Plan's investments, wherever feasible;
- providing information to the Plan's investment adviser on climate-related metrics in relation to the Plan's investments, as agreed from time to time, and using its influence with investee companies and other parties to improve the quality and availability of these metrics over time.

Appendix 2 – Greenhouse gas emissions explained

In the metrics section of the report, the emissions metrics relate to seven greenhouse gases – carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). The figures are shown as "CO_2 equivalent" (CO_2e) which is the amount of carbon dioxide that would be equivalent to the excess energy being stored by, and heating, the earth due to the presence in the atmosphere of these seven greenhouse gases.

The metrics related to greenhouse gas emissions are split into the following three categories: Scope 1, 2 and 3. These categories describe how directly the emissions are related to an entity's operations. Scope 3 emissions often form the largest share of an entity's total emissions, but are also the ones that the entity has least control over.

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



Source: GHG Protocol

Appendix 3 – More details on climate scenario analysis

Results from the Plan's climate scenario analysis

The following charts show the expected approximate impact on the progression of the Plan's funding position over time under the three climate change scenarios modelled, relative to the climate uninformed base case (ie no impact on markets from climate change).

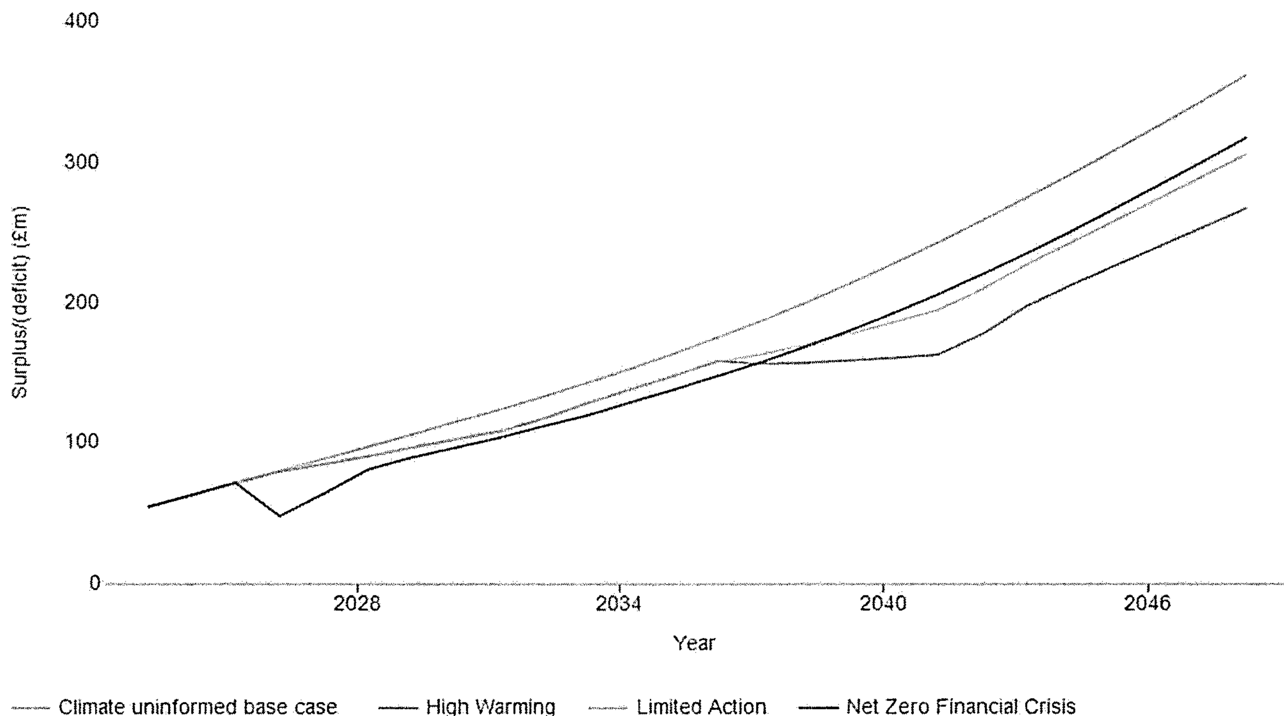
The scenario analysis was conducted on the non-insured Technical Provisions funding position, and assets invested as per the following investment strategy as the notional existing target allocation (excluding property since a redemption request had been submitted for this allocation).

Asset class	Allocation (%)
Global equities	10
Listed infrastructure	7
Corporate bonds	33
Index-linked and fixed interest gilts	50

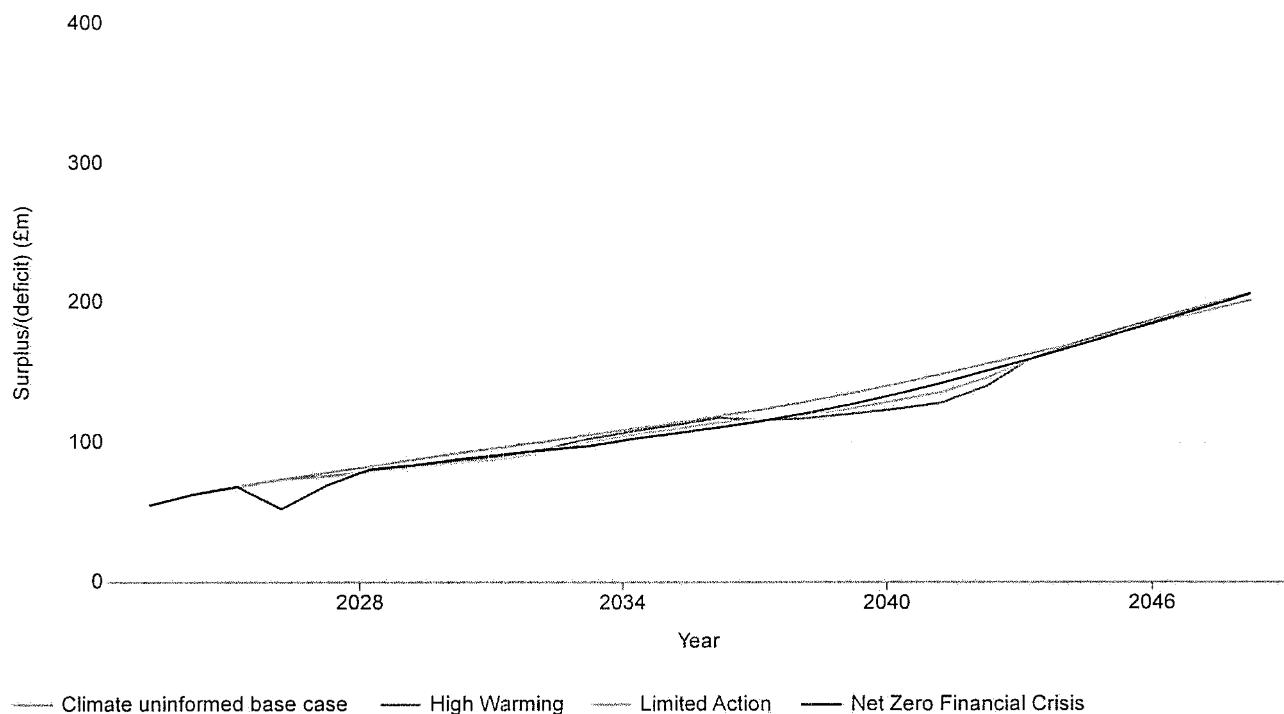
Scenario analysis was also conducted on the assumption that the investment strategy will be significantly de-risked in 2024, with the non-insured assets being invested 50% in corporate bonds and 50% in gilts (providing full matching of the Technical Provisions with respect to changes in interest rates and inflation expectations).

The effective date of the analysis is 31 December 2022 with the initial position allowing for actual market conditions at 31 March 2023. The Plan's funding position reflects the gap between the value placed on the Plan's assets and the value placed on its liabilities over time. To calculate the funding position at each point, the impact of each climate scenario has separately been applied to the assets and liabilities, before the two figures are compared.

Projection of surplus (deficit) for the existing strategy under the climate scenarios



Projection of surplus (deficit) for the de-risked investment strategy under the climate scenarios



Modelling approach

- The scenario analysis is based on a model developed by Ortec Finance and Cambridge Econometrics. The outputs were then applied to the Plan's assets and liabilities by LCP. The three climate scenarios are projected year by year, over the next 40 years.

- ClimateMAPS uses a top-down approach that consistently models climate impacts on both assets and liabilities, enabling the resilience of the Plan's funding strategy to be considered. The model output is supported by in-depth narratives that bring the scenarios to life, in order to help the Trustee's understanding of climate-related risks and opportunities.
- ClimateMAPS uses Cambridge Econometrics' macroeconomic model, which integrates a range of social and environmental processes, including carbon emissions and the energy transition. It is one of the most comprehensive models of the global economy and is widely used for policy assessment, forecasting and research purposes. The outputs from this macroeconomic modelling – primarily the impacts on country/regional GDP – are then translated into impacts on financial markets by Ortec Finance using assumed relationships between the macroeconomic and financial parameters.
- Ortec Finance runs the projections many times using stochastic modelling to illustrate the wide range of climate impacts that may be possible, under each scenario's climate pathway. LCP takes the median (ie the middle outcome) of this range of impacts, for each relevant financial parameter, and adjusts it to improve its alignment with LCP's standard financial assumptions.
- LCP then uses these adjusted median impacts to project the assets and liabilities of the Plan to illustrate how the different scenarios could affect its funding level. The modelling summarised in this report used scenarios based on the latest scientific and macro-economic data at 31 December 2022, calibrated to market conditions at 31 March 2023.
- The modelling is based on the Plan Actuary's, Mercer's, financial update as at 30 June 2023. The Technical Provisions basis used in Mercer's figures is a discount rate of gilts plus 0.40% pa to 2027 and gilts plus 0.25% pa thereafter. There are no deficit contributions as the Plan has a surplus on a Technical Provisions basis.
- The Trustee notes that the three climate scenarios chosen are intended to be plausible, not "worst case", and the modelling is based on median outcomes. It therefore illustrates how the centre of the "funnel of doubt" surrounding the Plan's funding projections might be affected by climate change. It does not consider tail risks within that funnel, nor does it consider how the funnel might be widened by the additional uncertainties arising from climate change. In addition, only three scenarios out of infinitely many have been considered. Other scenarios could give better or worse outcomes for the Plan.

Modelling limitations

- As this is a "top-down" approach, investment market impacts were modelled as the average projected impacts for each asset class, ie assuming that the Plan's investments are affected by climate risk in-line with the market-average portfolio for the asset class. This contrasts with a "bottom up" approach that would model the impact on each individual investment held in the Plan's investment portfolio. As such, it does not require extensive scheme-specific data and so the Trustee was able to consider the potential impacts of the three climate scenarios for all of the Plan's assets.
- In practice, the Plan's investment portfolio may not experience climate impacts in-line with the market average. The Trustee considers, on an ongoing basis, how the Plan's climate risk exposure differs from the market average using climate metrics (which are compared with an appropriate market benchmark) and its periodic responsible investment review which considers the investment managers' climate approaches.
- The asset and liability projections shown reflect the Plan's current strategic journey plan. No allowance is made for changes that might be made to the funding or investment strategy as the climate pathways unfold, nor the action to be taken in response to the Plan achieving its long-term funding target.
- Like most modelling of this type, the modelling does not allow for all potential climate-related impacts and therefore is quite likely to underestimate some climate-related risks. For example, tipping points (which could cause runaway physical climate impacts) are not modelled and no allowance is made for knock-on effects, such as climate-related migration and conflicts. In addition, the model presumes that the UK government will remain solvent, thereby making no allowance for credit risk on government bonds. However, in a scenario where global warming exceeds 4°C, this assumption may no longer be valid.
- Medians from Ortec Finance's model outputs are used to project forward assets and liabilities, which means the results reflect the model's "middle outcomes" for investment markets under the three scenarios. Allowing for market volatility would result in better or worse model outputs than shown. Investment markets may be more volatile in future as a result of physical and transition risks from climate change, and this is not illustrated in the modelling shown.
- Uncertainty in climate modelling is inevitable. ClimateMAPS, like most modelling of this type, does not allow for all climate-related impacts and therefore, in aggregate, is quite likely to underestimate the potential impacts of climate-related risks, especially for the High Warming scenario.

Appendix 4 – Further information on climate-related metrics

This appendix provides more detail on the metrics reported in the Metrics and Targets Section.

Listed equities, synthetic equities, and corporate bonds

Notes for data sourced from MSCI

Emissions are attributed to investors using "enterprise value including cash" (ie EVIC, the value of equity plus outstanding debt plus cash).

The total GHG emissions figures omit any companies for which data was not available. For example, if the portfolio was worth £200m and emissions data was available for 70% of the portfolio by value, the total GHG emissions figure shown relates to £140m of assets and the portfolio's carbon footprint equals total GHG emissions divided by 140. In other words, no assumption is made about the emissions for companies without data.

The science-based targets metric equals the % of portfolio by weight of companies that have a near-term carbon emissions reduction target that has been validated by the Science Based Targets initiative (SBTi). The MSCI database does not distinguish between companies which do not have an SBTi target and companies for which MSCI does not check the SBTi status, so the coverage for this metric is equal to the % of the portfolio with an SBTI target.

Emissions data coverage and quality

Where coverage of the portfolio analysed is less than 100%, this is because the MSCI database:

- Does not cover some holdings (eg cash, sovereign bonds, bonds that have recently matured, shares in companies no longer listed when the analysis was undertaken);
- Does not hold emissions data for some portfolio companies because the company does not report it and MSCI does not estimate it; and/or
- Does not hold EVIC data for some portfolio companies, so emissions cannot be attributed between equity and debt investors.

The last of these reasons is usually the main explanation for the fairly low coverage of bond portfolios.

The MSCI database records whether emissions data is reported or estimated, and which estimation method has been used, but not whether companies' reported emissions have been independently verified. Our investment consultant has asked MSCI to introduce this distinction. Where emissions data is estimated, MSCI uses one of three methods.

- For electric utilities, MSCI's estimate of Scope 1 emissions is of direct emissions due to power generation, calculated using power generation fuel-mix data.
- For companies not involved in power generation, which have previously reported emissions data, MSCI starts with a company-specific carbon intensity model.
- For other companies, MSCI uses an industry segment-specific carbon intensity model, which is based on the estimated carbon intensities for 1,000+ industry segments.

MSCI is a leading provider of climate-related data, so we would expect the coverage to compare favourably with other data sources. Our investment consultant is engaging with MSCI to encourage them to improve EVIC coverage for debt issuers and to distinguish between companies which do not have an SBTi target and companies for which it does not check the SBTi status.

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UK government bonds

GHG emissions for government bonds (gilts) are calculated on a different basis from the other asset classes, so cannot be compared with the other emissions figures shown.

The emissions figures were calculated by the Trustee's investment adviser using publicly available data sources. As suggested in the statutory guidance, Scope 1+2 emissions have been interpreted as the production-based emissions of the country.

In line with guidance from the Partnership for Carbon Accounting Financials (PCAF) issued in December 2022, emissions intensity has been calculated as:

$$\frac{UK\ GHG\ emissions}{PPP - adjusted\ GDP\ for\ the\ UK}$$

GHG emissions have then been calculated as:

$$Emissions\ intensity\ x\ value\ of\ the\ Scheme's\ investment\ in\ gilts.$$

PPP - PPP is a theory of long-term equilibrium in exchange rates based on relative prices. For example, if the price of a basket of goods in the UK is £100 and the same basket costs $200 in the USA, then the PPP exchange rate would be £1:$2. The PPP rate and the actual market exchange rate can differ.

GDP - the value of all goods and services produced in a country over a given period, typically a year.

Appendix 5 – Glossary

Actuarial valuation – an actuarial valuation is an accounting exercise performed to estimate future liabilities arising out of benefits that are payable to members of a DB pension scheme, typically once every three years. In the actuarial valuation exercise, a liability payout at a future date is estimated using various assumptions such as discounting rate and salary growth rate.

Alignment – in a climate change context, alignment is the process of bringing greenhouse gas emissions in line with 1.5°C temperature rise targets. It can be applied to individual companies, investment portfolios and the global economy.

Asset class – a group of securities which exhibit broadly similar characteristics. Examples include equities and bonds.

Bond – a bond is a security issued to investors by companies, governments, and other organisations. In exchange for an upfront payment, an investor normally expects to receive a series of regular interest payments plus, at maturity, a final lump sum payment, typically equal to the amount invested originally, or this amount increased by reference to some index.

Buy-in – DB pension scheme trustee may choose to "buy-in" some of their scheme's expected future benefit payments by purchasing a bulk (ie one covering many individuals) annuity contract with an insurance company. This allows the trustee to reduce their scheme's risk by acquiring an asset (the annuity contract) whose cash flows are designed to meet ie "match" a specified set of benefit payments under the pension scheme. The contract is held by the trustee and responsibility for the benefit payments remains with the trustee. Common uses of buy-in arrangements have been to cover the payments associated with current pensioners or a subset of those members. Contracts to meet payments to members who are yet to become pensioners can also be purchased.

Buy-out – DB pension scheme trustee may choose to "buy-out" some or all of their scheme's expected future benefit payments by purchasing a bulk (ie one covering many individuals) annuity contract from an insurance company. The insurer then becomes responsible for meeting pension benefits due to scheme members (effected by allocating to each scheme member an individual annuity contract). Following a full buy-out, (ie one covering all scheme members) and having discharged all of the trustee's liabilities, the pension scheme would normally be wound up.

Carbon emissions –These refer to the release of carbon dioxide, or greenhouse gases more generally, into the atmosphere, for example from the burning of fossil fuels for power or transport purposes.

Carbon footprint – In an investment context, the total carbon dioxide or greenhouse gas emissions generated per amount invested (eg in £m) by an investment fund. Related definitions are used to apply the term to organisations, countries and individuals

Climate change mitigation – steps taken to limit climate change by reducing greenhouse gas emissions, for example by shifting to renewable sources of energy – such as solar and wind – and by using less energy and using it more efficiently.

Covenant – the ability and willingness of the sponsor to make up any shortfall between a DB scheme's assets and the agreed funding target.

Credit – long-term debt issued by a company, also known as corporate bonds. Corporate bonds carry different levels of credit risk which is indicated by their rating and credit spread.

Defined Benefit (DB) – a pension scheme in which the primary pension benefit payable to a member is based on a defined formula, frequently linked to salary. The sponsor bears the risk that the value of the investments held under the scheme fall short of the amount needed to meet the benefits.

Debt – money borrowed by a company or government which normally must be repaid at a specified point in the future.

Environmental, social and governance (ESG) – an umbrella term that encompasses a wide range of factors that may have been overlooked in traditional investment approaches. Environmental considerations might include physical resource management, pollution prevention and greenhouse gas emissions. Social factors are likely to include workplace diversity, health and safety, and the company's impact on its local community. Governance-related matters include executive compensation, board accountability and shareholder rights.

Equity – through purchase on either the primary market or the secondary market, company equity gives the purchaser part-ownership in that company and hence a share of its profits, typically received through the payment of dividends. Equity also entitles the holder to vote at shareholder meetings. Note that equity holders are entitled to dividends only after other obligations, such as interest payments to debt holders, are first paid. Unlike debt, equity is not normally contractually repayable.

Fossil fuels – fuels made from decomposing plants and animals, which are found in the Earth's crust. They contain carbon and hydrogen, which can be burned for energy. Coal, oil, and natural gas are examples of fossil fuels.

Funding position – a comparison of the value of assets with the value of liabilities for a DB pension scheme.

Gilts – bonds issued by the UK government. They are called gilts as the bond certificates originally had a gilt edge to indicate their high quality and thus very low probability of default

Greenhouse gas (GHG) emissions (scopes 1, 2 and 3) – gases that have been and continue to be released into the Earth's atmosphere. Greenhouse gases trap radiation from the sun which subsequently heats the planet's surface (giving rise to the "greenhouse effect"). Carbon dioxide and methane are two of the most important greenhouse gases. See also Appendix 1.

Gross Domestic Product (GDP) – this is the value of all goods and services produced in a country over a given period, typically a year.

Investment mandate – see pooled mandate and segregated mandate

Integrated risk management – Integrated risk management is an approach used by DB pension scheme trustees to identify, manage, and monitor the wide range of risks (relating to investment, funding, and covenant) which might impact the chances of meeting their scheme's overall objectives.

Liabilities – obligations to make a payment in the future. An example of a liability is the pension benefit 'promise' made to DB pension scheme members, such as the series of cash payments made to members in retirement. The more distant the liability payment, the more difficult it often is to predict what it will actually be and hence what assets need to be held to meet it.

Net zero – this describes the situation in which total greenhouse gas emissions released into the atmosphere are equal to those removed. This can be considered at different levels, eg company, investor, country or global.

Paris Agreement – the Paris Agreement is an international treaty on climate change, adopted in 2015. It covers climate change mitigation, adaptation, and finance. Its primary goal is to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels.

Physical risk – these are climate-related risks that arise from changes in the climate itself. They include risks from more extreme storms and flooding, as well as rising temperatures and changing rainfall pattens.

Pooled mandate – a feature of a collective investment vehicle whereby an investor's money is aggregated (ie "pooled") with that of other investors to purchase assets. Investors are allotted a share of those assets in proportion to their contribution. Ownership is represented by the number of "units" allocated – eg if the asset pool is worth £1m and there are 1m units then each unit is worth £1. Pooled funds offer smaller investors an easy way to gain exposure to a wide range of investments, both within markets (eg by buying units in a UK equity fund) as well as across markets (eg by buying units in both a UK equity fund and a UK corporate bond fund).

Portfolio alignment metric – this measures how aligned a portfolio is with a transition to a world targeting a particular climate outcome, such as limiting temperature rises to well below 2°C, preferably to 1.5°C, as per the Paris Agreement. Assessments using these metrics consider companies' and governments' greenhouse gas (GHG) emissions reduction plans and likelihood of meeting them, rather than current, or the latest reported, GHG emissions.

Purchasing Power Parity (PPP) – the PPP is a theory of long-term equilibrium in exchange rates based on relative prices. For example, if the price of a basket of goods in the UK is £100 and the same basket costs $200 in the USA, then the PPP exchange rate would be £1:$2. The PPP rate and the actual market exchange rate can differ.

Responsible Investment (RI) – the process by which environmental, social and governance (ESG) issues are incorporated into the investment analysis and decision-making process, and into the oversight of investments companies through stewardship activities. It is motivated by financial considerations aiming to improve risk-adjusted returns.

Science-based targets – targets to reduce greenhouse gas emissions that are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement.

Science-Based Targets initiative (SBTi) – an organisation that sets standards and provides validation for science-based targets set by companies and investors.

Scenario analysis – a tool for examining and evaluating different ways in which the future may unfold.

Scope 1, 2 and 3 – a classification of greenhouse gas emissions. See Appendix 1.

Segregated mandate – a segregated investment approach ensures that an investor's investments are held separately from those of other investors. This approach offers great flexibility – for example, the investor can stipulate the precise investment objective to be followed and can dictate which securities can or cannot be held.

Stakeholder – an individual or group that has an interest in any decision or activity of an organisation. The stakeholders of a company include its employees, customers, suppliers, and shareholders.

Statutory obligations – statutory obligations are those obligations that do not arise out of a contract, but are imposed by law.

Stewardship – stewardship is the responsible allocation, management, and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society. It is often implemented via engagement with investee companies and exercising voting rights.

Stranded assets – assets that have suffered an unanticipated loss of value before the end of their expected useful economic life. The term is most often applied to fossil fuel investments in the context of climate policy, where legislative and market developments may result in assets being worth less than the value recorded on company balance sheets.

Sustainable investing – an approach in which an assessment of the environmental and social sustainability a company's products and practices is a key driver in the investment decision. ESG analysis therefore forms a cornerstone of the investment selection process.

Taskforce on Climate-related Financial Disclosures (TCFD) – a group of senior preparers and users of financial disclosures from G20 countries, established by the international Financial Stability Board in 2015. The TCFD has developed a set of recommendations for climate-related financial risk disclosures for use by companies, financial institutions and other organisations to inform investors and other parties about the climate-related risks they face.

Transition risk – these are climate-related risks that arise from the transition to a low-carbon economy and can include changes in regulation, technology, and consumer demand.