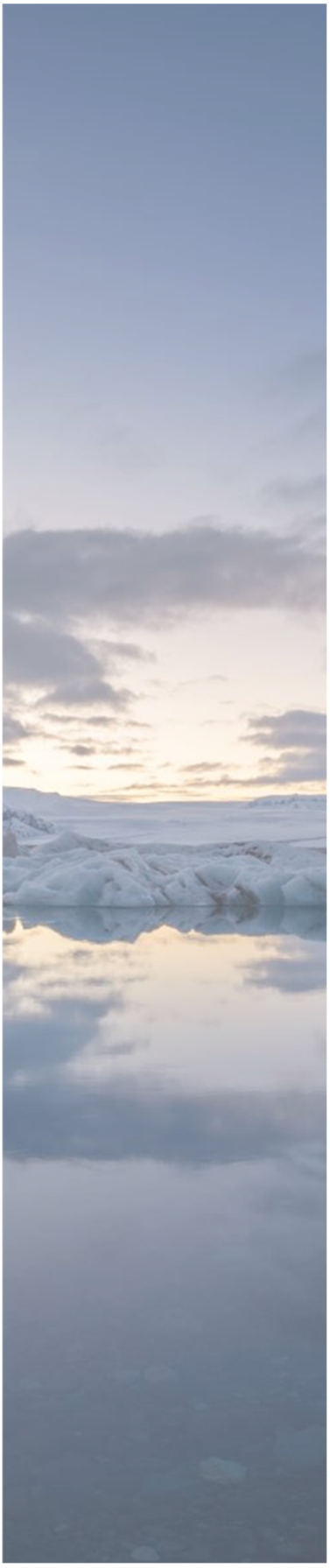
Climate disclosures as at 31 March 2024

Produced by: GE Pension Trustees Limited

Date: September 2024

Introduction



Climate change is affecting the planet, causing extreme weather events, impacting crop production, and threatening Earth's ecosystems. Understanding the impact of climate change and the Plan's vulnerability to climate-related risks will help us mitigate the risks and take advantage of any opportunities.

UK regulations require trustees of pension schemes with more than £1bn in assets to meet certain climate governance requirements and publish an annual report on their scheme's climate-related risks.

Better climate reporting should lead to better-informed decision-making on climate-related risks. And on top of that, greater transparency around climate-related risks should increase accountability and provide decision-useful information to investors and beneficiaries.

This report is the annual climate disclosures for the GE Pension Plan (the "Plan") for the year ended 31 March 2024. The four elements covered in the report are:

1) **Governance:** The Plan's governance around climate-related risks and opportunities.

2) **Strategy:** The potential impacts of climate-related risks and opportunities on the Plan's strategy and financial planning.

3) **Risk Management:** The processes used to identify, assess, and manage climate-related risks.

4) **Metrics and Targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

This report has been prepared by the Trustee (the "Trustee") in accordance with the regulations set out under The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the "Regulations").

Table of contents

Executive summary

This report sets out the actions that the Trustee has taken to understand the potential impact climate change could have on the Plan.

The Trustee has worked closely with its investment adviser to identify the climate-related risks and opportunities faced by the Plan, and to understand ways they can manage and mitigate those risks.

Overview of the Plan

The Plan is set up as a hybrid Plan, which has two sections, a Defined Benefit (DB) Section and a Defined Contribution (DC) Section.

The DB Section invests across a range of assets, which is managed by the Plan's fiduciary provider, State Street Global Advisers ("SSGA"). Within this report, the Trustee considers the impact of climate related risks on those asset classes, the investment strategy and potential impact on the funding of the Plan.

Over the reporting year, the DC assets have been transferred to a Master Trust with Legal & General, which invests in a range of asset classes. Since the transfer, the Trustee is no longer responsible for the Master Trust assets, hence the DC assets have been excluded from this year's report.

The Trustee has been supported by its investment adviser, Aon Investments Limited ("Aon") (DB Structure investment adviser), SSGA (DB Structure fiduciary provider) and Penfida (Covenant adviser) with the production of its TCFD disclosures report and also the data contained within it.

Governance

The Plan has a Defined Benefit (DB) section and a Defined Contribution (DC) section.

- The DB section has an asset portfolio of c.£1,891M which is invested in a range of asset classes including global equity, private equity, infrastructure, property, illiquid credit, multi-asset credit, property debt and hedge funds.
- The DC section is not considered as part of this year's report since the DC assets have been transferred to the Legal & General Master Trust.
- The Trustee is responsible for the oversight of all strategic matters relating to the Plan. This includes approval of the governance and management framework relating to ESG considerations and climate-related risks and opportunities.

Strategy

- The Trustee carried out qualitative analysis of climate related risks and opportunities which showed that the asset classes in which the Plan invests are impacted to some degree by climate-related risks. And over time, the risk exposure is expected to increase.
- The Trustee also identified numerous investment opportunities for the different asset classes.

- The Trustee refreshed the climate scenario analysis following the transfer of assets following the spin off of GE Healthcare and GE Vernova, which occurred during the reporting period. This resulted in material changes to the investment strategy. The analysis showed the Plan has a reasonable degree of resilience relative to climate-related risks. The resilience was primarily driven by the high level of diversification in the assets.

Risk Management

- The Trustee has established a process to identify, assess and manage the climate-related risks and opportunities the Plan is exposed to. This is integrated into the Plan's wider risk management framework.
- The Trustee's Climate Risk Management framework is set out on pages 24-28, which assists with the ongoing management of climate related risks and opportunities.

Metrics and Targets

The Trustee has disclosed information on four climate-related metrics for each of the DB Section of the Plan:

- Total Greenhouse Gas (GHG) Emissions.
- Carbon Footprint.
- Data Coverage.
- Portfolio Alignment.

The Trustee gathered the carbon metrics data from a range of different sources, including the Plan's fiduciary manager, SSGA, MSCI and Aon.

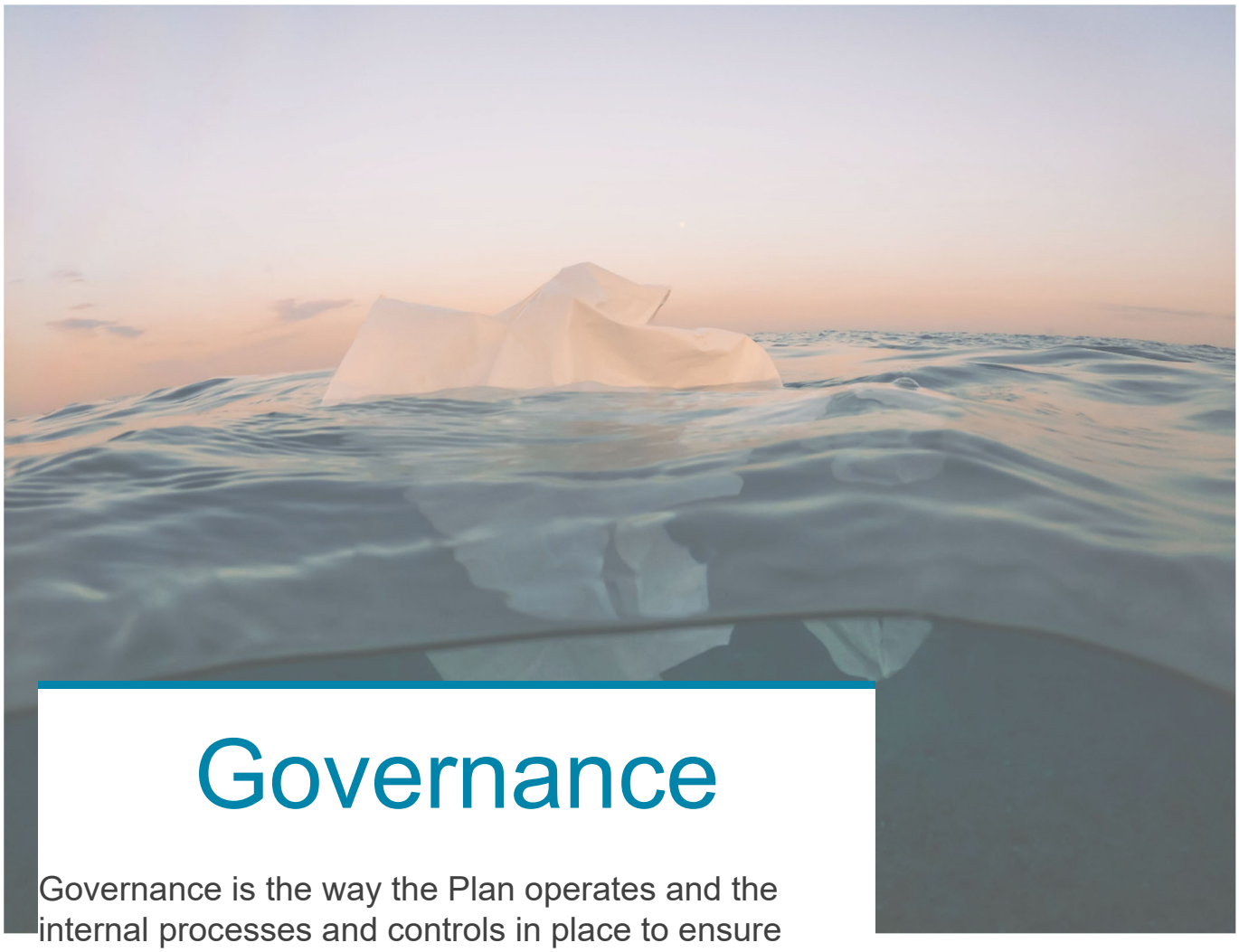
The Trustee has also set the following target for each Section of the Plan:

DB target
The Trustee has set a target for improving the data coverage metric over the next five years (using data as at 31 March 2022 as the baseline). The Trustee will initially focus on data coverage for the Plan, setting specific targets for each respective asset class. Further detail can be found within the Metrics and Targets Pillar.

Following completion of the report, the Trustee was reassured that the various analysis showed that the potential financial impact of climate change on the Plan is not thought to be significant. The Trustee has spent considerable time and effort to monitor the TCFD framework and will continue to monitor the potential impacts of climate change on the Plan. We hope you enjoy reading this report and understanding more about how we are managing climate-related risks and opportunities within the Plan.

Chair's signature

on behalf of the Trustee of the GE Pension Plan.



Governance

Governance is the way the Plan operates and the internal processes and controls in place to ensure appropriate oversight. Those undertaking governance activities are responsible for managing climate-related risks and opportunities. This includes us, as the Trustee, and others making Plan-wide decisions, such as those relating to the Plan's funding and investment strategy.

Trustee's Plan's governance

As the Trustee of the Plan, we are responsible for overseeing all strategic matters related to the Plan. This includes the governance and management frameworks relating to environmental, social and governance ("ESG") considerations and climate-related risks and opportunities.

Role of the Trustee Board

The Trustee has discussed and agreed its climate-related beliefs and overarching approach to managing climate change risk. These are set out in the Plan's Statement of Investment Principles ("SIP") and the Responsible Investment ("RI") policy and is reviewed and (re)approved annually by the Board.

The Trustee aims to help improve the long-term future of the global environment through its investment decisions. This is aligned with protecting the best interests of future generations including the Plan's members and their beneficiaries.

Our climate beliefs

- risks associated with climate change may have a materially detrimental impact on the Plan's investment returns and, as such, it has a role to play in helping to tackle climate change.
- climate-related factors may create investment opportunities. Where possible, and appropriately aligned with its strategic objectives The Trustee will seek to capture such opportunities through its investment portfolio where it is appropriately aligned with its strategic objectives and fiduciary duty.
- the most appropriate time horizons for the Plan are as follows:
  - short term: 1 to 3 years
  - medium term: 4 to 10 years
  - long term: 11 to 20 years

The Trustee acknowledges that there are both long and short-term risks associated with climate change and will assess climate-related risks and opportunities over the above time horizons, The Trustee will also seek to consider transition and physical risks separately, where appropriate.

From time to time, the Trustee Board receives training on climate-related issues to ensure that it has the appropriate knowledge and understanding to support good decision-making. The Trustee expects its advisers to bring important and relevant climate-related issues and developments to the Trustee's attention in a timely manner.

Role of the Funding and Investment Committee

The Trustee Board has delegated day-to-day oversight, ongoing monitoring and implementation of the Plan's framework relating to ESG to the Funding and Investment Committee ("the F&IC").

The F&IC monitors and reviews progress against the Plan's climate change risk management approach on a quarterly basis. The F&IC will keep the Trustee Board apprised of any material climate-related developments through regular (typically quarterly) updates.

The key activities undertaken by the F&IC, with the support of the Plan's advisers, are:

- Ensure the investment strategy or any implementation proposals consider the impact of climate risks and opportunities.
- Engage with the fiduciary manager (and underlying managers if required) to understand how climate risks are considered within their investment approach.
- Work with the fiduciary manager (and underlying managers if required) to disclose relevant climate-related metrics as set out in the TCFD recommendations.
- Ensure stewardship activities are being carried out appropriately by the investment managers and the fiduciary manager on the Plan's behalf.

Role of the fiduciary provider

The Trustee Board has agreed that SSGA will help the Trustee understand how they and the underlying managers consider climate change risk in their investment approach and work with the underlying managers to disclose relevant climate-related metrics as set out in the TCFD's recommendations.

Role of the Common Investment Fund

The Plan participates in the GE UK Common Investment Fund ("the CIF") and gains investment exposure through the purchase of units in the CIF, alongside the Plan's other liability matching instruments. The Plan Trustee takes into account the asset allocation strategy within the CIF units when deciding whether to invest in each unit. However, the CIF Trustees and their advisers are responsible for setting the strategy within in each CIF unit.

The Trustee Board has agreed that the CIF will review and facilitate climate risk management and opportunities through economies of scale in the investment strategy and will help deliver simplified climate reporting (to be agreed) to all key stakeholders.

The CIF (together with SSGA) are responsible for the fiduciary management of the Plan's assets. As part of their delegated responsibilities the Trustee expects the CIF, SSGA and the underlying fund managers to:

- Ensure that (where appropriate) underlying asset managers exercise the trustees' voting rights in relation to the Plan's assets.
- Take into account social, environmental, and corporate governance considerations in the selection, retention and realisation of investments; and
- Report to the Trustee on stewardship activities undertaken by underlying asset managers as required.

The Trustees of the CIF are responsible for reviewing whether the managers are meeting the Trustee's expectations and providing an annual update to the Trustee for all delegated responsibilities in this regard.

Role of external advisers

The Trustee expects its advisers and investment managers to bring important climate-related issues and developments to our attention in a timely manner. The Trustee expects its advisers and investment managers to have the appropriate knowledge on climate-related matters.

The Trustee reviews the quality of its advisers' provision of advice and support on climate-related issues. For our investment adviser this is part of the annual review of investment consultant objectives. For our Plan Actuary this is part of our triennial valuation.

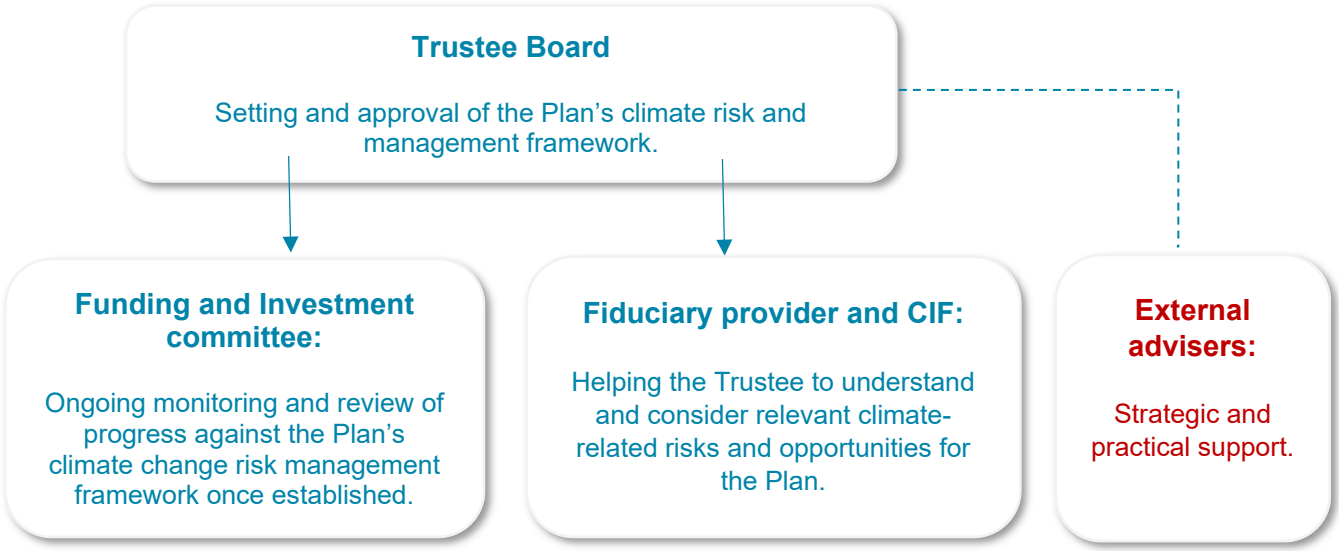
The Trustee has agreed the following roles for its external advisers:

Investment adviser – the Trustee's investment adviser, Aon, provides strategic and practical support to the F&IC and Trustee, in respect of the DB assets respectively. This includes support in respect of the management of climate-related risks and opportunities and ensuring compliance with the recommendations set out by the TCFD. The Trustee's investment adviser is also expected to provide regular training and updates on climate-related issues and climate change scenario modelling to enable the F&IC and Trustee to assess the Plan's exposure to climate-related risks.

Plan Actuary – the plan actuary, Gareth Boyd of WTW, helps the Trustee assess the potential impact of climate change risk on the Plan's funding assumptions.

Covenant adviser – the Trustee's covenant adviser, Penfida, will help the Trustee understand the potential impacts of climate change risk on the sponsor covenant of the principal and participating employers of the Plan.

The organisational structure of the Trustee Board, the F&IC and their supporting external and internal parties is illustrated by the chart below.



Strategy

It is crucial to think strategically about the climate-related risks and opportunities that will impact the Plan if we are to stand a chance of mitigating the effects of climate change.

Assessing the climate-related risks and opportunities the Plan is exposed to is key to understanding the impact climate change could have on the Plan in the future.

What climate-related risks are most likely to impact the Plan?

Each year the Trustee carries out a qualitative risk assessment of the asset classes the Plan is invested in. From this the Trustee identifies which climate-related risks could have a material impact on the Plan. The Trustee also identifies suitable climate-related opportunities.

Given the number of asset classes used in the Plan, the Trustee has completed a best endeavours exercise to analyse the climate-related risks of each asset class.

Trustee's investments

The Plan's DB investment portfolio is diversified across a range of different asset classes including global equities, private equity, fixed interest bonds, multi asset credit, property, and property debt.

The Plan's strategic asset allocation is as follows:

DB section:

Asset Class	Equities	Property	Illiquid Growth	Investment Grade Credit	Non-Investment Grade Credit	Absolute Return	Illiquid Credit	LDI & Cash
Strategic Allocation (%)	5.5%	7.0%	18.0%	3.0%	1.0%	9.0%	9.5%	47.0%

Source: Aon. Latest interim strategic asset allocation as at 03/01/2023.
Note: Figures may not sum to due to rounding.

Trustee's update

In 2022, the F&IC, via SSGA, asked their managers to assess their exposure to climate-related risks for the funds the Plan is invested in. In 2023, SSGA asked the underlying managers to review their risk assessments and update them if necessary. The full updated assessment can be found on page 13 of the report.

How the risk assessment works

Risk categories

In the analysis, the climate-related risks have been categorised into physical and transition risks.

Transition risks are associated with the transition towards a low-carbon economy.

Physical risks are associated with the physical impacts of climate change on companies' operations.

Ratings

The analysis uses a RAG rating system where:

Red denotes a high level of financial exposure to a risk.

Amber denotes a medium level of financial exposure to a risk.

Green denotes a low level of financial exposure to a risk.

Time horizons

The Trustee assessed the climate-related risks and opportunities over multiple time horizons. The Trustee has decided the most appropriate time horizons for the Plan are:

- short term: 1-3 years.
- medium term: 4-10 years
- long term: 11-20 years

When deciding the relevant time horizons, the Trustee has taken into account the liabilities of the Plan and its obligations to pay benefits.

More details about transition and physical risks can be found in the Appendix.

Climate-related risk assessment

Over previous reporting periods, the Trustee carried out a qualitative risk assessment of the asset classes the Plan is invested in. From this, the Trustee identified which climate-related risks could have a material impact on the Plan. The Trustee also considered what climate-related opportunities were relevant to our investments.

During this year's reporting period, the F&IC, via SSGA, asked our managers to provide a refresh of their own assessments of climate-related risks and opportunities associated with the mandates they manage on behalf of the Plan over the short, medium, and long-term, together with their reasoning and rationale for each risk. The table below summarises SSGA's refreshed findings for most material holdings. LDI was excluded since it contains mostly government bonds used to hedge interest rate and inflation risk. Opportunities for the Trustee to engage with and influence governments regarding climate policies are expected to be more limited, compared to engagement with the managers and companies that the Plan invests in via SSGA in other asset classes e.g. global equities.

	Asset Class	Listed Equity	Private Equity	Fixed interest bonds	Multi-asset credit	Illiquid Credit	Property Debt	Infrastructure risks	Liabilities	Covenant
	% strategic allocation of total DB Plan assets as at 03/01/2023	5.5	16.0	3.0	1.0	9.5	7.0	2.0	N/A	N/A
Physical risks	Short term	Low	Low	Low	Low	Low	Low	Low	Low	Low to Medium
	Medium term	Medium	Low	Low to Medium	Medium	Medium	Medium	Medium	Low to Medium	Low to Medium
	Long term	High	Medium	High	Medium	Medium	Medium	High	Medium	Low to Medium
Transition risks	Short term	Low to Medium	Low	Low to Medium	Medium	Low	Low	Low to Medium	Low	Low to Medium
	Medium term	Medium to High	Low to Medium	Medium to High	Medium to High	Medium	Medium	Medium	Low to Medium	Low to Medium
	Long term	High	Medium	High	Medium	Medium to High	Medium to High	Low to Medium	Medium	Low to Medium
	Impact	Medium	Low	Medium	Medium	Medium	Medium	Low	Low to Medium	Low to Medium

Source: SSGA, managers.

Trustee's update

Over the year, SSGA has refreshed the assessment of the climate-related risks and opportunities relevant to the Plan's asset classes, which is summarised in the table above. The table reflects that there have been small changes in the target allocations of illiquid credit and property debt compared to the analysis last year.

Climate-related risk assessment

Key conclusions

In line with our conclusions last year, diversification across asset classes, sectors and regions is important to manage climate-related physical and transition risks for the Plan.

Listed equities, are deemed a high-risk area in terms of exposure to climate-related risks and transitional risks, indicated by the amber and red ratings over the medium and long-term time horizons. Overall, across asset classes, transitional risks are more prevalent in the short-term whereas physical risks are more likely to be material over the longer-term time horizons. The Trustee has taken proactive steps over the year to mitigate these risks, including:

- close monitoring of stewardship activities carried out by its investment managers (to ensure they are appropriately engaging with investee companies on the management of climate risks);
- utilising actively managed strategies where appropriate (allowing greater scope to select investments whilst accounting for climate-related risks and opportunities); and
- integrating climate considerations into all fund reviews and selections, including the appointment of managers with specific sustainability and climate objectives.

Fixed Interest Bonds, Multi-Asset Credit and Illiquid Credit also remain a high-risk area, particularly in relation to transitional climate risks. The static nature of property related investments presents a risk to the Plan, particularly if they are in geographical regions that are vulnerable to climate change and changes in weather patterns. The Trustee recognises the long-term risks posed by climate change and will continue to take the necessary steps to mitigate these risks.

Please see the Appendix for a detailed assessment for each asset class.

Covenant risk assessment

The Trustee asked its covenant adviser to carry out an assessment of the potential impact on the sponsor covenant of climate related risks, in the context of the climate related scenarios considered in the Trustee's analysis of the Plan's assets and liabilities (which is described in more detail later on in this report).

In line with guidance from the Department of Work and Pensions, the Trustee has not undertaken detailed scenario analysis since it was undertaken to support the Trustee's conclusions in 2022. The Trustee will monitor the effects of the demerger on the covenant strength on an ongoing basis.

Based on the covenant assessment over the reporting period, the Trustee views the exposure of the covenant to climate change related risks to be low to medium in the context of the Plan's strong funding position and journey plan (i.e. timeframe of exposure to covenant risk) based on the climate change scenarios considered, as well as ongoing sustainability efforts of the sponsor.

Summary of potential impact of the climate change scenarios considered

Climate Change Scenario	Short term impact (1 - 3 years)	Medium term impact (3 - 10 years)	Long term impact (10 - 20 years)	Overall
Base Case	Low to Medium	Medium	Medium	**Low to Medium**
No transition	Low	Low	Low	**Low**
Disorderly transition	Low	Medium	Medium	**Low to Medium**
Orderly transition	Low to Medium	Medium	Medium	**Low to Medium**

In light of the GE Vernova spin-off in April 2024, the covenant adviser has considered the covenant's climate change risk in relation to the GE Aerospace business. The Trustee notes both risks and opportunities resulting from the impact of climate change and associated potential policy changes.

Climate related risks in the context of the scenarios considered

Scenario	Short term impact (1-3 years)	Medium term impact (4-10 years)	Long term impact (10-20 years)
Base Case *Uncoordinated / Fragmented*	• Given the length of time required to develop new aero engines, it is unlikely that a significantly more efficient engine will come to market in the short term • GE Aviation may however benefit from certain existing engines being the most efficient in their class • Anticipation of technological advancement may lead to customers delaying new engine orders	• Rapid technological advancement driven by regulation and customer preferences could lead to: - Shorter engine life cycles resulting in an increase in R&D costs (with uncertain payoffs) - Increased risk of obsolescence of older engines which could result in a material reduction in their value and the profitability of service contracts	• We would expect a similar covenant impact as in the medium term

	• Possible economic scenarios (e.g. COVID-19) may lead to lower passenger flight hours impacting deliveries and shop visits. This might also be caused by changes in travel patterns in response to customer attitudes to climate change	- Greater competitive intensity should GE not be a technological leader • Some possible governmental support in development of new technology may reduce cost burden • "Robust growth" in global economy over intermediate term could lead to increased demand for OEM and Service contracts, assuming GE is able to maintain technological relevance	
No transition	• We view no material covenant impact in the short term	• Economic damage towards the end of the period and extreme weather events could negatively impact the airline industry, reducing flight volumes due to increasingly common weather events and lower GDP growth	• We would expect a similar covenant impact as in the medium term
Disorderly transition *Late and aggressive*	• Assuming a "business as usual" approach, we view no material covenant impact in the short term, although growing public awareness may dampen the demand for air travel. Furthermore, increasingly extreme weather events may impact air travel and supply chains	• Economic damage towards the end of the period and extreme weather events could negatively impact the airline industry, reducing flight volumes due to increasingly common weather events and lower GDP growth	• Aggressive government action to tackle climate change and lower GDP growth may result in reduced air traffic volume and therefore demand for new engines • Materially increased R&D to develop alternative / greener engine technology in short order leading to cash flow pressure
Orderly transition *Coordinated*	• Aggressive government action to tackle climate change could include policies that seek to discourage air travel and promote less emission-intensive alternatives, resulting in reduced traffic volumes, engine utilisation (less Service revenue) and demand for new engines • For example, in April 2021, the French Government banned domestic short haul flights where train alternatives exist and take less than 2.5 hours • Increased R&D investment required at a time where revenue is impacted could put pressure on cash flows	• As one of the world's leading aircraft engine manufacturers, GE Aviation would be in a good position to benefit from increased investment in renewable energy technologies • In June 2021, CFM (GE JV with Safran) announced its RISE (Revolutionary Innovation for Sustainable Engines) Program which aims to develop engine technology that produces 20% fewer CO2 emissions than the most efficient jet engines today using conventional jet fuel • Assuming that GE is able to maintain technological relevance as an industry leader, GE Aviation could benefit from the long-term growth and green transition	• We would expect a similar covenant impact as in the medium term

Climate-related opportunities

The Trustee has also identified some climate-related opportunities across broad themes as follows:

Cleaner energy

Green power generation,
clean technology innovation,
sustainable biofuels

Environmental resources

Water,
agriculture,
waste management

Energy and materials efficiency

Advanced materials,
building efficiency,
power grid efficiency

Environmental services

Environmental protection,
business services

Regarding specific opportunities in the Plan's investment strategy, the Trustee relies on SSGA to take into account of climate related opportunities (as well as risks) applicable for its mandates. Based on the qualitative assessment undertaken last year, which the Trustee has reviewed again this year, the Trustee has concluded that the following opportunities presented below remain appropriate to the Plan's investments.

Listed Equity vs Private Equity

In general, the climate-related opportunities are marginally higher for listed equity. This is mostly a reflection of the higher risks. Versus peers, listed companies have more opportunity to distinguish themselves in areas such as:

- Use of more efficient production and distribution processes (resource efficiency);
- Use of lower-emission sources of energy (energy source);
- Ability to diversify business activity (products and services);
- Access to new markets (markets);
- Participation in renewable energy programs and energy-efficient measures (resilience).

Fixed interest Bonds vs Multi-Asset Credit vs Illiquid Credit

Opportunities are somewhat limited. In the future, there is some potential for companies to increase their credit rating via climate-related action. This will lower their cost of capital and provide upside to bondholders; however, upside is limited to 100% of par value upon maturity. In general, the opportunities are greater for multi-asset credit and illiquid credit (when compared to fixed interest bonds) due to a broader investment universe and a mandate to be opportunistic. Owing to illiquid credit's longer maturities and lower trading volumes, it is ideal for directly financing green infrastructure and

impact projects. While the potential for climate related opportunities is also there for multi-asset credit, the approach is typically more indirect such as investing in green bonds.

Property Debt

Over the short term, there are opportunities related to increased value of physical assets that show energy efficiency and future proofing. Over the medium to long-term, there are opportunities related to:

- Enhanced resilience of portfolio asset, through adoption of low carbon technology and energy efficiency measures.
- Development of 'green' assets that lead the market response to satisfy occupier expectations of a sustainable space (e.g. electric vehicle charging points and rainwater harvesting). For property debt, sustainability-linked loans may be a potential investment opportunity, where the loan incentivises borrowers to achieve meaningful, predetermined sustainability objectives.
- Premium rental income from tenants to occupy efficient/green space.
- Greater resilience to changing weather patterns and an ability to continue operating under more extreme conditions.

Infrastructure Risks

In the short-run, investing in and developing renewable energy infrastructure and upgrading existing infrastructure to improve energy efficiency can result in enhanced valuation which presents an opportunity for infrastructure investors. Infrastructure can capitalise on migration to renewables and energy efficiency trend via increased valuations of assets incorporating the same. Over the medium to long-term, there are opportunities related to:

- Incorporating climate resilience within the portfolio and developing climate-resilient infrastructure becomes vital as impacts of climate change become more pronounced in future. Investments in climate resilient infrastructure can provide long-term opportunities.
- Green or sustainable infrastructure development (e.g. electric vehicle charging infrastructure and carbon capture storage technologies) to capitalise on the evolving market expectations of a sustainable space.

How resilient is the Plan to climate change?

In 2022, the Trustee carried out climate change scenario analysis to better understand the impact climate change could have on the Plan's assets and liabilities. This year, the Trustee has decided to carry out a qualitative climate change scenario analysis to reflect the changes to the Plan's investment strategy following the spin-off of the Healthcare and Vernova business.

The new analysis looks at three climate change scenarios. We chose these scenarios because we believe that they provide a reasonable range of possible climate change outcomes. The climate scenarios are compared to our "base case" scenario.

Each climate scenario considers what may happen to the Plan's assets when transitioning to a low carbon economy under different temperature-related environmental conditions. This analysis was conducted by Aon and is based on detailed assumptions. The analysis is only illustrative and is subject to considerable uncertainty.

The Trustee notes that the analysis that has been carried out, provides a representation of climate change scenarios at an asset class level, and is not directly specific to the assets held directly by the Fund.

The climate scenarios intend to illustrate the climate-related risks the Plan is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the investment portfolio.

Other relevant issues such as governance, costs, and implementation (including manager selection and due diligence) must be considered when making changes to the investment strategy.

Investment risk is captured in the deviance from the base case scenario, but this is not the only risk that Plan faces. Other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

Trustee's update

Under the Regulations, climate scenario analysis must be carried out at least every 3 years, with an annual review in interim years. Circumstances which may require the climate scenario analysis to be re-done. This may be as a result of, but not limited to:

- a significant/material change to the investment and/or funding strategy; or
- the availability of new or improved scenarios or modelling capabilities or events that might reasonably be thought to impact key assumptions underlying scenarios.

Following the transfer of some of the Plan's assets post spin, the Trustee reviewed the scenario analysis completed as at 31 March 2021 and decided to refresh the scenario analysis via a qualitative assessment of climate risks on the Plan's new investment strategy.

Details of the climate scenarios we chose to analyse are set out in the table below.

Scenario	Reach net zero by	Degree warming vs pre-industrial levels by 2100	Introduction of environmental regulation	Scenario description
Base Case	2050	+1.5ºC – +2.4ºC	Uncoordinated	Emission reductions start now and continue in a measured way in line with the objectives of the Paris Agreement and the UK government's legally binding commitment to reduce emissions in the UK to net zero by 2050.
No Transition	After 2050	+4ºC	None	No further action is taken to reduce greenhouse gas ("GHG") emissions leading to significant global warming.
Disorderly Transition	After 2050	<3ºC	Late and Aggressive	The world economy remains oriented towards improving near-term economic prospects, with companies and governments taking a "business as usual" approach. Eventually, market participants begin to fully grasp the implications of climate change and there is a growing realisation that current levels of action are inadequate. Market values price in high levels of economic damage and the irreversible loss.
Orderly Transition	2050	1.3ºC – 2ºC	Coordinated	Increased public awareness of climate change risks galvanises opinion and leads to governments undertaking widespread action globally to aggressively mitigate and adapt to climate change. A high global greenhouse gas tax and carbon cap is introduced.

Source: Aon.

DB Section – Impact on the funding level

Key conclusions

Overall, the Trustee is comfortable with the level of resilience exhibited by the investment portfolio, and we are not planning to make any changes to the investment strategy as a result of this analysis.

The Plan's investment portfolio shows good resilience to climate-related risks in three out of four climate scenarios modelled. This can be explained by the low-risk investment strategy used by the Plan, the high level of diversification across different asset classes, geographic regions, and market sectors. Also, the Plan invests in assets which provide a level of protection against changes in interest rates and inflation expectations.

In the Disorderly Transition scenario, the Plan experiences a sharp fall in its funding level due to the sudden implementation of regulations to tackle climate change. It is the Plan's allocation to equities which is the main driver of this fall in funding level.

While there are steps the Plan could take to reduce climate risk going forward, the current funding position gives us the option to retain the current investment strategy, at least over the near term.

Included below are descriptions of the potential impact of each of our chosen climate scenarios on the Plan by asset class.

The table below describes the impact of each scenario on the asset classes held by the Plan over the short-, medium- and long-term time horizons.

	Summary of the Scenario	Summary of the impact to the Plan
No Transition Scenario Temperature rise +4ºC Reach net-zero After 2050 Environmental regulation None	**In the short term:** No action is taken to combat climate change. **In the medium term:** No action is taken to combat climate change. **In the long term:** Climate change headwinds grow and act as a drag on economic growth and risk asset returns. Impacts from physical risks become more severe and irreversible by 2100.	Equities: Adverse effects from climate change become progressively worse, acting as an increasing drag on returns. Credit and bonds: Average spot rates are expected to increase and expected nominal returns on credit instruments are forecasted to fall. Gilts: Yields remain at low levels as worsening effects from climate change act as a drag on growth long term. Return on gilts will move in the opposite direction to yields. Property and property debt: "Business as usual approach" continues to support the valuation of real estate assets in the short term but over time impacts from physical risks gradually become more severe negatively affecting property and property related assets. Private equity and infrastructure: Risk premia remains attractive in short term, however, starts to tail off as the decarbonisation opportunities become more expensive over time. Hedge funds: Annualised returns remain stable, however over the medium and long-time horizon the returns decline considerably.

		Funding level: Increasing effects from climate change and greater uncertainty over the future outlook causes a growing drag on growth. This is expected to negatively affect the funding level of the Plan.
Disorderly Scenario Temperature rise <3°C Reach net-zero After 2050 Environmental regulation Late and Aggressive	Summary of the Scenario **In the short term:** Insufficient consideration given to long-term policies and there is no action taken to combat climate change **In the medium term:** Late but coordinated action is taken to tackle climate change. The late timing means it is less effective and more costly to implement. Adverse impacts from climate change leads to a drag on risk assets **In the long term:** After the costly implementation to tackle climate change and the resulting drag on risky assets, the transition to clean technologies and green regulation begins to boost economic growth when considering the very long term. However, the late and disorderly climate transition means that physical climate risks remain prominent over the very long term.	Summary of the impact to the Plan Equities: Market participants eventually price in high levels of adverse effects resulting from climate change, causing equity returns to drop substantially. Credit and bonds: Expected nominal returns on credit instruments will fluctuate but is expected to increase over time, suggesting higher associated risk attached to the Disorderly transition. Gilts: Yields gradually decrease due to the weak economic backdrop. Return on gilts will move in the opposite direction to yields. Property and property debt: Volatility of returns is present which leads to a large performance drop over medium-term horizon. Private equity and infrastructure: Similarly, these asset classes experience significant price drop which may prove difficult to recover within the timescale the Plan is concerned. Hedge funds: The returns are very volatile which a large dip expected in the medium term with some recovery over longer term time horizon, although this may be outside of the time bounds the Plan is concerned with. Funding level: Disorderly transition is anticipated to have the worst outcome for the Plan's funding level. Due to the nature of the economic impact, a large shock to asset returns will take place in later years which will negatively impact the Plan's funding.
Orderly Scenario Temperature rise 1.3°C – 2°C Reach net-zero 2050 Environmental regulation Coordinated	Summary of the Scenario **In the short term:** Immediate coordinated global action is taken to tackle climate change. Risky assets perform poorly. **In the medium term:** The rapid transition to clean technologies and green regulation begins to boost economic growth. **In the long term:** The rapid transition to clean technologies and green regulation begins to boost economic growth. This represents the fastest transition to a green economy, combined with limited physical impacts from climate change despite the large initial transition cost.	Summary of the impact to the Plan Equities: suffer from higher costs of regulation initially, but higher growth prospects boost returns longer term. Credit and bonds: expected to suffer from initial costs in the short term, but to a lesser extent than equities. The returns are expected to pick up in later years. Gilts: Nominal yields pushed higher in the short-term as central banks hike rates in order to constrain inflation. Returns on gilts will move in the opposite direction to yields. Property and property debt: Returns improve over medium- and long-term horizon due to the more efficient real estate assets, which translates in better valuations for property and property related securities. Private equity and infrastructure: The conditions are favourable for these asset classes over medium- to longer-term horizons, which benefit from embedded efficiency from transitioning to a low carbon economy. Hedge funds: Returns rebound after an initial period of volatility. More opportunity to get exposure to strategies that are insulated against climate related risks. Funding level: Expected to reduce initially followed by a period of recovery. The short-term risk faced by the Plan is as a result of poor growth asset performance in early years having a pronounced negative impact on asset returns.

Source: Aon. *Effective date of the qualitative impact assessment is 31 December 2023.*
The asset class and funding level fund impact summaries apply to all the time horizons set out on the left-hand column of the table above.

Modelling limitations

Please refer to the Appendix for further details in relation to the assumptions used for the scenario analysis and its limitations.

Risk management

We must have processes to identify, assess and manage the climate-related risks that are relevant to the Plan and these must be integrated into the overall risk management of the Plan.

Reporting on our risk management processes provides context for how we think about and address the most significant risks to our efforts to achieve appropriate outcomes for members.

Trustee's process for identifying and assessing climate-related risks

The Trustee has established a process to identify, assess and manage the climate-related risks that are relevant to the Plan. This is part of the Plan's wider risk management framework and is how the Trustee monitors the most significant risks to the Plan, as part of the Trustee's efforts to achieve appropriate outcomes for members.

Qualitative assessment

A qualitative assessment of climate-related risks and opportunities which is prepared by the Trustee's investment adviser in conjunction with SSGA and reviewed by the Trustee.

Quantitative analysis

Climate scenario analysis, which is provided by the Trustee's investment adviser and reviewed by the Trustee.

Trustee's update

This process of identifying and assessing climate related risks has been reviewed in the process of producing this TCFD report and we believe it is still suitable.

Together these give the Trustee a clear picture of the climate-related risks that the Plan is exposed to. Where appropriate, we distinguish between transition and physical risks. And all risks and opportunities are assessed with reference to the time horizons that the Trustee has identified as relevant to the Plan.

When prioritising the management of risks, the Trustee assesses the materiality of climate-related risks relative to the impact and likelihood of other risks to the Plan. This helps the Trustee focus on the risks that pose the most significant impact.

Trustee's climate risk management framework

The Trustee recognises the long-term risks posed by climate change and has taken steps to integrate climate-related risks into the Plan's risk management processes.

The Trustee has developed the following risk management plan, to help with its ongoing management of climate-related risk and opportunities. The risk management framework gives clear understanding on who is involved, what is done and how often. The Trustee has delegated a number of key tasks to the F&IC but retains the final approval responsibility. The processes for managing climate-related risks and opportunities are summarised in the tables below.

Governance

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Climate change governance framework *(this document)*	F&IC	Aon / SSGA	Annual
Publish TCFD report and implementation statement	F&IC	Aon / SSGA	Annual
Add / review climate risks and activity on key Plan documentation (risk register, work plan)	F&IC	Aon / SSGA	Ongoing
ESG beliefs (including climate change)	F&IC	Aon / SSGA	Triennial
Trustee training	F&IC	Aon / SSGA	Ongoing
Review SIP	Trustee	Aon / SSGA	Annual

Trustee update

The Trustee monitors the above activities as part of its climate related risks and opportunities management. The Trustee has delegated responsibility of all activities in this pillar to the F&IC.

The Trustee has monitored progress of the F&IC and its respective implementation of the climate change governance framework through the year, receiving regular updates from the F&IC and querying information as and when required.

Strategy

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify climate-related risks and opportunities (over agreed time periods) for investment & funding strategy	F&IC	SSGA	Annual
Climate scenario analysis - annual review for the continuing suitability of the results	F&IC	Aon / Penfida	Annual
Climate scenario analysis - refresh modelling	F&IC	Aon / Penfida	Triennial
Actuarial valuation	F&IC	WTW	Triennial

Trustee update

The FI&C has spent dedicated time through the year to analyse climate related risks and opportunities for the Plan's various asset classes in which it invests.

Alongside this, the Trustee has also reviewed the appropriateness of climate related risks, opportunities and climate scenario analysis carried out last year. The Trustee is comfortable that the risk and opportunities analysis remains the same for the current reporting period. The climate scenario analysis for the DB Section has been refreshed following the spin-off of the Plan's assets over the year. Further information can be found in the strategy section of the report.

Risk management

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify, assess and manage key climate-related risks	F&IC	Aon / SSGA	Triennial

Trustee update

The Trustee reviews its process of identifying and assessing climate related risks as part of the annual TCFD process in order to evaluate their continued suitability. This is integrated into the ongoing activities of the Plan.

The Trustee delegates to its fiduciary manager, SSGA, the review of the underlying managers' responsible investment policies; details of how ESG is integrated within their decision-making process, including climate change; and details of outstanding ESG issues within portfolios. This is driven by the Plan completing its Engagement Policy Implementation Statement, where the Trustee collects data from its managers in relation to their voting and engagement policies. It also asks for details on how these have been implemented in practice, including key themes for engagement, including climate change.

Metrics and Targets

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Agree/review approach for metrics	F&IC	Aon / SSGA	Annual
Agree/review target	F&IC	Aon / SSGA	Annual
Obtain data for agreed metrics	F&IC	Aon / SSGA	Annual

Trustee update

The Trustee collects metrics data on an annual basis, in order to understand the current state of the portfolio regarding its emissions, data coverage and portfolio alignment metric. This data is evaluated in order to produce a metrics related target, whereby in this instance the Trustee has elected for the data coverage.

Metrics data has been collected in line with industry practice and supported by the F&IC and its advisers. The Trustee has reviewed the target, which was set previously, and any refinements required to this. More details can be found in the metrics and targets section of this report.

Metrics & Targets

Metrics help to inform the Trustee's understanding and monitoring of the Plan's climate-related risks. Quantitative measures of the Plan's climate-related risks, in the form of both greenhouse gas emissions and non-emissions-based metrics, help the Trustee to identify, manage and track the Plan's exposure to the financial risks and opportunities climate change will bring.

The Trustee's climate-related metrics

The Trustee uses some quantitative measures to help it understand and monitor the Plan's exposure to climate-related risks. Measuring greenhouse gas emissions related to our assets is an effective method for the Trustee to assess its exposure to climate change.

The Trustee's investment adviser, Aon, worked alongside SSGA to gather the Plan's climate-related metrics. SSGA collected data from the Plan's underlying managers regarding greenhouse gas emissions, which was then shared with Aon to calculate the climate-related metrics for the Plan's portfolio.

Measuring greenhouse gas emissions

Greenhouse gases are produced by burning fossil fuels, meat and dairy farming, and some industrial processes. When greenhouse gases are released into the atmosphere, they trap heat in the atmosphere causing global warming, contributing to climate change.

Greenhouse gases are categorised into three types or 'scopes' by the Greenhouse Gas Protocol, the world's most used greenhouse gas accounting standard.

Scope 1

All direct emissions from the activities of an organisation which are under their control; these typically include emissions from their own buildings, facilities, and vehicles

Scope 2

These are the indirect emissions from the generation of electricity purchased and used by an organisation

Scope 3

All other indirect emissions linked to the wider supply chain and activities of the organisation from outside its own operations – from the goods it purchases to the disposal of the products it sells

Scope 3 emissions are often the largest proportion of an organisation's emissions, but they are also the hardest to measure. The complexity and global nature of an organisation's value chain make it hard to collect accurate data.

For more explanation about GHG emissions, please see the Appendix.

Our climate-related metrics

In the first year of TCFD reporting, the Trustee decided what metrics to annually report on. These are described below. This year, the Trustee reviewed the metrics and believe they continue to be suitable to report against – more granular detail is provided overleaf.

Total Greenhouse Gas emissions

The total GHG emissions associated with the portfolio. It is an absolute measure of carbon output from the Plan's investments and is measured in tonnes of carbon dioxide equivalent (tCO2e).

This year the Trustee was able to obtain scope 1&2 and scope 3 emissions separately for some of the Plan's managers.

Carbon footprint

Carbon footprint is an intensity measure of emissions that takes the total GHG emissions and weights it to take account of the size of the investment made. It is measured in tonnes of carbon dioxide equivalent per million pounds invested (tCO2e/£m).

This year the Trustee was able to obtain scope 1&2 and scope 3 emissions separately for some of the Plan's managers.

Data coverage

A measure of the proportion of the portfolio that the Trustee has high quality data for (i.e., data which is based on verified, reported, or reasonably estimated emissions, versus that which is unavailable). This has been selected on the basis that it provides a consistent and comparable measure of the level of confidence in the data.

This year the Trustee did not need to make any estimation as the data was directly provided by the managers. Please note some managers used estimates of their data, details of which are not shared as part of this document.

Portion of the portfolio that has SBTi-aligned targets

A metric which shows how much of the Plan's assets are aligned with a climate change goal of limiting the increase in the global average temperature to 1.5˚C above pre-industrial levels.

It is measured as the percentage of underlying portfolio investments with a declared net-zero or Paris-aligned target or are already net-zero or Paris-aligned.

Implied Temperature rise[1]

Implied temperature rise is a forward-looking metric that considers the pledges, commitments and business strategy changes that underlying investee companies/issuers have made. It provides a prediction of the potential temperature rise over the rest of the century based on the activities of those companies and issuers as a temperature score.

This metric gives the alignment of the Plan's assets with the climate change goal of limiting the increase in the global average temperature to 1.5˚C above pre-industrial levels. It is measured as the potential global temperature rise associated with the GHG emissions from a portfolio, expressed in degrees Celsius.

[1] *Please note DWP guidance states that the trustee should not be aggregating the ITR unless the same methodology has been used across the scheme's investments. Aon has relied on the individual manager data, hence the consistency of methodology cannot be guaranteed. Statutory guidance: Governance and reporting of climate change risk: guidance for trustees of occupational schemes - GOV.UK (www.gov.uk)*

In the table below are the climate-related metrics for the Plan's DB assets. The metrics are shown separately for the Liability Driven Investments ("LDI") and the other investments because the methodology used for each are different so aggregating the metrics would not make sense.

Comparability with last year's report

Note that in last year's TCFD report the GHG emissions for the Plan's public investments in 2023 were sourced from Aon's third-party license agreement with the MSCI. In this year's reporting these figures have been readjusted in line with continuing changes in industry best practice and refinements in the methodology adopted this year, to allow for consistency and comparability of the data on a year-on-year basis. Also, the Plan no longer invests in Global Passive Equities following the spin-off of the Healthcare and Vernova business, therefore no carbon metrics have been reported for this asset class this year.

The carbon metrics

			Scopes 1 & 2			Scope 3		
Asset class	**Year**	**Asset Allocation (%)**	**Data Coverage (%)**	**Total GHG emissions (tCO_2e)**	**Carbon footprint (tCO2e/£m)**	**Data Coverage (%)**	**Total GHG emissions (tCO_2e)**	**Carbon footprint (tCO2e/£m)**
Global Active Equities[1]	2024	8.0%	97.3%	7,255	49.4	97.3%	69,421	472.3
	2023	4.7%	96.9%	9,058	80.7	96.4%	63,908	572.2
Multi-asset credit	2024	0.9%	52.1%	1,142	124.0	52.1%	5,249	569.8
	2023	0.9%	51.8%	1,666	151.4	51.8%	11,249	1,022.1
Fixed Interest Bonds	2024	2.0%	40.2%	1,152	76.0	40.2%	5,752	379.7
	2023	2.7%	44.0%	3,029	104.1	42.6%	16,792	596.1
Private Equity	2024	17.2%	22.6%	8,578	116.3	0%	-	-
	2023	22.0%	8.7%	12,729	123.9	-	-	-
Illiquid Credit[2]	2024	6.6%	44.6%	15,847	286.8	41.8%	3,093	59.7
	2023	4.7%	25.1%	2,348	58.8	18.6%	929	23.3
Index-Linked Property[3]	2024	8.0%	0%	-	-	98.5%	2,665	18.0
	2023	6.4%	27.8%	2,655	17.0	-	-	-
Property Debt[4]	2024	8.3%	6.1%	412	43.1	1.1%	78	46.2
	2023	6.1%	-	-	-	-	-	-
Property[4]	2024	1.0%	98.4%	379	19.9	98.4	3,093	162.8
	2023	5.0%	-	-	-	-	-	-
LDI[5]	2024	40.3%	100%	227,394	170.2	-	-	-
	2023	35.1%	98.5%	140,814	162.5	-	-	-
Cash and other assets	2024	3.8%	-	-	-	-	-	-
	2023	3.3%	-	-	-	-	-	-

Source: MSCI, SSGA, Investment managers / Aon. Data as at 31/03/2024 unless specified otherwise.
Notes:

1. *Carbon metrics relating to derivative investments have been excluded. The DWP notes that methodologies for calculating metrics in relation to certain asset classes, particularly derivatives (such as repo and interest rate and inflation swaps), are not yet established. At this time, trustees are not expected to be able to readily calculate emissions associated with derivatives.*
2. *One illiquid credit manager has reported a significant increase in carbon footprint compared to the previous year's figure. They state that this is due to the companies that have disclosed data this year being significantly higher emitters compared to last year's ones.*
3. *The sole manager that has provided data for index-linked property has confirmed that all their emissions are for scope 3 emissions only. Last year they were reported as scopes 1 and 2 which explains the change in the table. Furthermore, the data coverage used last year didn't include estimated data, therefore the higher coverage this year reflects this change.*
4. *Property and property debt weren't included in the above analysis last year since the relevant investment managers were unable to provide the data last year.*
5. *Data Coverage for the LDI portfolio has been assumed to be 100% given the UK economy's emissions are used as a proxy for gilt's emissions. Therefore, we are estimating 100% of the data, leading to 100% data coverage. The LDI emissions have been calculated from the following sources:*
    - *UK national emissions as at 31 Dec 2022 from the Emissions Database for Global Atmospheric Research. The 2023 figure is currently unavailable.*
    - *PPP-adjusted GDP as at 31 Dec 2022 from the Organization for Economic Cooperation and Development. The 2023 figure is currently unavailable.*

Commentary

As per last year, LDI emissions this year is the largest contributor to the Plan's total GHG emissions. This is due to LDI investments forming a large proportion of the total assets. This year, the methodology for calculation the LDI has been updated in line with the latest industry recommendations. The LDI portfolio contains mainly UK government bonds and carbon metrics for UK government bonds are based on the total GHG emissions for the whole of the UK. By contrast, carbon emissions for equities, for example, are based on the emissions associated with the underlying companies invested in, which are typically smaller than the whole UK economy. This means the carbon metrics for LDI are higher than other assets.

Overall, the GHG emissions and carbon footprints have fallen for most asset classes, with fixed interest bonds seeing the biggest improvement. Although, there has been a considerable increase in the carbon footprint and emissions of the illiquid credit assets. As mentioned in the footnotes this is due to a change in the reporting of a specific manager. However, given this asset class accounts for a small percentage of the Plan's overall assets, we are comfortable that the impact on the portfolio overall is not material.

Generally, the Trustee has observed an improvement in data coverage reported this year. This increase was primarily driven by the asset classes private equity, illiquid credit, and index-linked property. The Trustee notes that despite this increase, data coverage still remains low for some of these asset classes, but this is observed to be an industry-wide issue at the current time.

Portfolio Alignment Metrics

Asset class	Year	Asset Allocation (%)	Implied Temperature Rise (ºC)	Portion of Portfolio SBTi aligned (%)
Global Active Equities	2024	8.0%	2.4	34.6%
	2023	4.7%	2.5	41.1%
Multi-asset credit	2024	0.9%	3.0	11.2%
	2023	0.9%	3.3	12.2%
Fixed Interest Bonds	2024	2.0%	1.7	32.2%
	2023	2.7%	1.7	29.4%
Private Equity	2024	17.2%	-	-
	2023	22.0%	-	-
Illiquid Credit	2024	6.6%	2.2	0.6%
	2023	4.7%	-	-
Index-Linked Property	2024	8.0%	2.5	-
		6.4%	-	-
Property Debt	2024	8.3%	-	-
	2023	6.1%	-	-
Property	2024	1.0%	1.5	98.4%
	2023	5.0%	-	-
LDI*	2024	40.3%	Not Applicable	
	2023	35.1%		
Cash and other assets	2024	3.8%	-	-
	2023	3.3%	-	-

Source: MSCI, SSGA, Investment managers / Aon. Data as at 31/03/2024 unless specified otherwise.
**SBTi alignment is not applicable to LDI. Last year, the Trustee reported a value for SBTi alignment obtained from MSCI but given the change in methodology for LDI data following industry best practice, this has now been removed.*
DWP guidance states that the trustee should not be aggregating the ITR unless the same methodology has been used across the scheme's investments. Aon has relied on the individual manager data, hence the consistency of methodology cannot be guaranteed. Statutory guidance: Governance and reporting of climate change risk: guidance for trustees of occupational schemes - GOV.UK (www.gov.uk)

Methodology for Data Collection

There is no industry-wide standard for calculating some of these metrics yet and different managers may use different methods and assumptions. These issues are common across the industry and highlight the importance of climate reporting to improve transparency. We expect that in the future better information will be available from managers as the industry aligns to expectations and best practice standards.

The carbon metrics

SSGA collected the carbon metrics from the Plan's managers on behalf of Plan's investment adviser, Aon. The Plan's carbon related metrics were calculated by Aon and aggregated by an asset class basis. The methodology used for this aggregation does not make any assumptions about the carbon emissions for assets for which data was unavailable. The aggregation methodology is as set out below:

G = A x C x F
G = Total GHG expressed as (tCO2e).
A = Assets expressed in £ Millions.
C = Data Coverage expressed as a decimal between 0 and 1.
F = Carbon Footprint expressed as (tCO2e/£M invested).

The methodology used follows the industry-standard best-practice established within the Carbon Emissions Template ("CET")[2].

When collecting the data, the Trustee noted the following:

The Carbon Emissions Template ("CET")

Our investment adviser, Aon, collected the carbon emissions data from our managers on our behalf using the industry standard CET Template. The CET was developed by a joint industry initiative of the Pension and Life Savings Association, the Association of British Insurers, and Investment Association Working Group. The CET provides a standardised set of data to help pension schemes meet their obligations under the Climate Change Governance and Reporting Regulations, and associated DWP Statutory Guidance.

Asset Class	Approach
Global Equity	Carbon metrics data was obtained through running the portfolio holdings which were provided by SSGA through MSCI.
Multi-Asset Credit	
Fixed Income	
LDI	2023 emissions associated with LDI has been calculated from the following sources: Physical-synthetic split as at 31 March 2024 from Insight. UK national emissions as at 31 December 2022 from the Emissions Database for Global Atmospheric Research. The 2023 figure is currently unavailable. PPP-adjusted GDP as at 31 December 2022 from the Organization for Economic Cooperation and Development. The 2023 figure is currently unavailable.
Private Equity	Carbon metrics data was provided by the underlying managers. Aon applied respective carbon footprint figures to the Plan's invested capital to infer the Plan's total carbon emissions.
Illiquid Credit	
Index-Linked Property	
Property Debt	
Property	

[2] https://www.plsa.co.uk/Policy-and-Research/Document-library/Carbon-Emissions-Template

Other notes:

1. *Where carbon data was supplied in USD or EUR terms, Aon converted it to GBP terms as at 31 March 2024 FX rate.*
2. *LDI carbon data in the previous year was obtained through running portfolio holdings which were provided by SSGA through MSCI. There is currently no industry agreed standard for calculating LDI emissions. However, Aon calculates this based on the UK data to ensure consistency across managers and reporting.*
3. *Carbon data was not received for the following asset class: Infrastructure.*
4. *Hedge funds and cash were excluded from carbon data analysis on a materiality basis.*

Portion of portfolio SBTi aligned

Aon calculated the portion of portfolio SBTi aligned for the Plan based on the information obtained from MSCI for the Plan's public investments and from managers for private investments. The results were aggregated based on the portion of assets invested in each fund.

Aon does not make any estimates for missing data. The Plan's metric only represents the portion of the portfolio for which the data is available. Currently, there is no standard approach for calculating SBTi alignment for government bonds. Hence there is no SBTi alignment measure for the LDI assets.

Implied temperature rise

SSGA requested the implied temperature rise of each fund from the Plan's investment managers and Aon summarised the results based on the portion of assets invested in each fund.

DWP guidance[3] states that the trustee should not aggregate the ITR unless the same methodology has been used across the Plan's investments. The Trustee has relied on the individual manager data; hence the consistency of methodology cannot be guaranteed.

[3] Statutory guidance: Governance and reporting of climate change risk: guidance for trustees of occupational schemes - GOV.UK (www.gov.uk)

Data observations

The Trustee's investment adviser, Aon, requested data via SSGA for the Plan's private markets managers where Aon was unable to obtain carbon data from MSCI. Aon collated this information to calculate the climate-related metrics for the Plan's portfolio of assets.

Carbon emissions data was split out by scope 1&2 and scope 3 separately, consistent with last year's report.

Availability of data

- 6 managers provided scopes 1, 2 and 3 GHG emissions.
- 8 managers provided scopes 1 and 2 GHG emissions only.
- 1 manager provided scope 3 GHG emissions only.
- 3 managers provided limited carbon data that could not be used for TCFD reporting purposes.
- 20 managers did not provide any information. Whilst this is disappointing, this is an industry-wide issue and can be expected given the nature of these funds.
- 3 managers provided implied temperature data. There has been an improvement in the number of managers that have provided the ITR.
- This year the Plan's illiquid credit and property managers provided SBTi alignment data, whereas last year this data was not available from any of the Plan's private markets managers.

Aon does not make any estimates for missing data.

Because not all the Plan's managers were able to provide all the requested data, the reported emissions metrics do not include all the Plan's GHG emissions. And so, the metrics show the Plan's GHG emissions to be lower than they really are.

The Trustee expects that in the future better information will be available from managers (driven in part through continued engagement via SSGA) and this improvement will be reflected in the coming years' reporting.

Trustee's update

The Trustee is satisfied with the improvement in the data for this year's reporting and expects this to continue in the coming years' reporting.

The Trustee will continue to engage with its managers, through SSGA, to help the Trustee understand its climate related risks through the reporting of carbon metrics.

Looking to the future
The Trustee's climate-related target

Climate-related targets help the Trustee track its efforts to manage the Plan's climate-change risk exposure.

In 2022, the Trustee agreed to report against a target for improving the data coverage metric. Without meaningful emissions data from the Plan's investment managers, it is very hard for the Trustee to measure the Plan's climate-related risk exposure. So, it is important to set a target to improve the coverage of GHG emissions data from the underlying investment managers.

Trustee's update

Each year the Trustee reviews the suitability of the target it has set. Based on the data collected and the metrics calculated this year, the Trustee believes the target continues to be suitable.

DB Section

2022 Target

Based on the observation of data coverage in the first TCFD report, the Trustee agreed to set the following data coverage target for the Plan's DB assets, split by asset class over the next five years (using data as at 31 March 2022 as the baseline):

The Trustee has set a target for improving the data coverage metric over the next 5 years, to improve the quality of Scope 1 & 2 GHG emissions data from managers. The Trustee will initially focus on coverage of data, with the targets outlined in the table below.

2024 Update

In the third year of reporting, there has been an improvement in the quality of data provided by the Plan's managers, where some managers have been able to provide data for the first time.

Based on the observation of data coverage summarised in the previous section, the Trustee has summarised its progress against its target for the past 2 years in the table below.

Asset Class	Actual coverage (as at 31 March 2022)	Actual coverage (as at 31 March 2023)	Actual coverage (as at 31 March 2024)	Target coverage (as at 31 March 2027)
Active Equity	95.8%	96.9%	97.3%	100%
Multi-Asset Credit	30.5%	51.8%	52.1%	75%
Fixed Income	28.5%	44.0%	40.2%	75%
LDI	86.6%	98.5%	100.0%	100.0%
Private Equity	28.5%	8.7%	22.6%	65%
Illiquid Credit	n/a	25.1%	44.6%	65%
Index-linked property	n/a	27.8%	98.5%	65%

Notes in relation to the target data coverage:

- The data coverage targets have been set to collate carbon emission data across scopes 1 and 2. The Trustee aspires to incorporate scope 3 emissions within the Plan's data coverage target going forward once scope 3 data coverage has improved. At the time of writing the target is therefore focussed on prioritising the data coverage of the Plan's scope 1 and 2 emissions.
- Given the Plan no longer invests in Global Passive Equities, the Trustee has no longer set a data coverage target for this asset class.
- Data coverage has improved for most asset classes especially for private managers, where the proportion of managers that have reported data since last year has increased significantly.
- Data Coverage for the LDI portfolio this year has been assumed to be 100% given the UK economy's emissions are used as a proxy for the emissions associated with gilts. Therefore, we are estimating 100% of the data, leading to 100% data coverage.
- The Trustee recognises the varying degree in data coverage for index-linked property across the reporting years. This significant difference is attributed to the varying methods of data reporting between the two reporting years. In the Plan's second year of reporting, the data for this asset class was provided for scopes 1 and 2, however in the Plan's third year of reporting the sole manager in which the Plan invests in has confirmed these are emissions are classified as scope 3 only. Furthermore, the data coverage used last year didn't include estimated data, resulting in higher coverage this year. The Trustee may therefore wish to consider setting a new target for this asset class next year given that the current target has already been surpassed. Albeit in terms of materiality this asset class comprises only a small percentage of the portfolio overall.
- The Trustee will continue to monitor the data for the Plan's investments in property and property debt for an additional year before establishing a set target for data coverage.

Suitability of target for DB Section

The Trustee believes the original target, which focuses on improving the data coverage metric for carbon emissions data across scopes 1 and 2 by 2027, remains suitable.

The Trustee is actively monitoring scope 3 data coverage and will evaluate the appropriateness of establishing a scope 3 data coverage target in future reporting years.

The Plan's performance against the target will continue to be measured and reported on every year. Over time, this will show the Plan's progress against the target.

Appendices

Glossary

Governance	refers to the system by which an organisation is directed and controlled in the interests of shareholders and other stakeholders.[4] Governance involves a set of relationships between an organisation's management, its board, its shareholders, and other stakeholders. Governance provides the structure and processes through which the objectives of the organisation are set, progress against performance is monitored, and results are evaluated.[5]
Strategy	refers to an organisation's desired future state. An organisation's strategy establishes a foundation against which it can monitor and measure its progress in reaching that desired state. Strategy formulation generally involves establishing the purpose and scope of the organisation's activities and the nature of its businesses, taking into account the risks and opportunities it faces and the environment in which it operates.[6]
Risk management	refers to a set of processes that are carried out by an organisation's board and management to support the achievement of the organisation's objectives by addressing its risks and managing the combined potential impact of those risks.[7]
Climate-related risk	refers to the potential negative impacts of climate change on an organisation. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events (e.g., cyclones, droughts, floods, and fires). They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g., sea level rise). Climate-related risks can also be associated with the transition to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses, and reputational considerations.[8]
Climate-related opportunity	refers to the potential positive impacts related to climate change on an organisation. Efforts to mitigate and adapt to climate change can produce opportunities for organisations, such as through resource efficiency and cost savings, the adoption and utilization of low-emission energy sources, the development of new products and services, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market, and industry in which an organisation operates.[9]

[4] A. Cadbury, Report of the Committee on the Financial Aspects of Corporate Governance, London, 1992.
[5] OECD, G20/OECD Principles of Corporate Governance, OECD Publishing, Paris, 2015.
[6] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
[7] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
[8] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
[9] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

Greenhouse gas emissions scope levels[10]	Greenhouse gases are categorised into three types or 'scopes' by the Greenhouse Gas Protocol, the world's most used greenhouse gas accounting standard. Scope 1 refers to all direct GHG emissions. Scope 2 refers to indirect GHG emissions from consumption of purchased electricity, heat, or steam. Scope 3 refers to other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 emissions could include: the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses), outsourced activities, and waste disposal.[11]
Value chain	refers to the upstream and downstream life cycle of a product, process, or service, including material sourcing, production, consumption, and disposal/recycling. Upstream activities include operations that relate to the initial stages of producing a good or service (e.g., material sourcing, material processing, supplier activities). Downstream activities include operations that relate to processing the materials into a finished product and delivering it to the end user (e.g., transportation, distribution, and consumption).[12]
Climate scenario analysis	is a process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty. In the case of climate change, for example, scenarios allow an organisation to explore and develop an understanding of how the physical and transition risks of climate change may impact its businesses, strategies, and financial performance over time.[13]
Net zero	means achieving a balance between the greenhouse gases emitted into the atmosphere, and those removed from it. This balance – or net zero – will happen when the amount of greenhouse gases add to the atmosphere is no more than the amount removed.[14]

[10] World Resources Institute and World Business Council for Sustainable Development, The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004.
[11] PCC, Climate Change 2014 Mitigation of Climate Change, Cambridge University Press, 2014.
[12] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
[13] TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
[14] Energy Saving Trust, What is net zero and how can we get there? - Energy Saving Trust, October 2021

Appendix – An explanation of climate risk categories

Climate-related risks are categorised into physical and transition risks. Below are examples of transition and physical risks.

Transition risks

Transition risks are those related to the ability of an organisation to adapt to the changes required to reduce greenhouse gas emissions and transition to renewable energy. Within transition risks, there are four key areas: policy and legal, technological innovation, market changes, and reputational risk.

Policy and legal

Examples

Increased pricing of GHG emissions

Enhanced emissions-reporting obligations

Regulation of existing products and services

Potential financial impacts

Increased operating costs (e.g. higher compliance costs, increased insurance premiums)

Write-offs, asset impairment and early retirement of existing assets due to policy changes

Technology

Examples

Cost to transition to lower emissions technology

Unsuccessful investments in new technologies

Potential financial impacts

Write-offs and early retirement of existing assets

Capital investments in technology development

Costs to adopt new practices and processes

Market

Examples

Changing customer behaviour

Uncertainty in market signals

Increased cost of raw materials

Potential financial impacts

Reduced demand for goods and services due to shift in consumer preferences.

Abrupt and unexpected increases in energy costs.

Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations).

Reputational

Examples

Stigmatisation of sector

Increased stakeholder concern or negative stakeholder feedback

Potential financial impacts

Reduced revenue from decreased demand for goods and services.

Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions)

Reduced revenue from negative impacts on workforce management and planning

Physical Risks

Physical risks refer to the physical impacts of climate change on a firm's operations. They directly impact a firm's ability to perform its function due to climate disruption. They fall into two subcategories: acute and chronic. Acute risks are extreme climate events such as flooding and wildfires, and chronic risks are trends over time such as an increase in temperature or ocean acidification.

Acute	Chronic
Examples	**Examples**
Extreme heat	Water stress
Extreme rainfall	Sea level rises
Floods	Land degradation
Droughts	Variability in temperature
Storms (e.g., hurricanes)	Variability in precipitation

Appendix – Climate-related risk assessment – in detail

Given the number of asset classes in which the Plan invests, the Trustee has completed a best endeavours exercise to analyse the climate-related risks of each asset class. The Plan invests across a range of different asset classes and investment managers via pooled funds. As such, the Trustee's ability to influence how each manager incorporates climate related issues is limited. However, the Trustee's fiduciary provider, SSGA, assessed financially material climate-related risks and opportunities for the Plan, associated with the underlying investment managers' mandates.

Listed Equity – 5.5% of portfolio

	Physical risks	
	Acute	Chronic
Short	G	G
Medium	A	A
Long	R	R

	Transition risks			
	Regulatory	Technology	Market	Reputation
Short	G	G	G	A
Medium	R	A	A	A
Long	R	R	R	R

Physical risks
SSGA does not see any material physical risks in the short-term. Over the long-term, SSGA believes this is likely to become more significant. It identifies physical location and geographical exposures as important drivers of physical risk. The severity of these physical risks is likely to become more significant as time passes.

Transition risks
SSGA does not see any transitional risks in the short-term relating to Regulation, Technology, and the Market. However, it does see reputational damage as a medium risk in the short-term due to the increasing pressure from investors and regulatory requirements for public companies. Over the longer-term this is seen as a high risk as public companies are more likely to attract negative headlines in the financial and popular press.

Private Equity – 16.0% of portfolio

	Physical risks	
	Acute	Chronic
Short	G	G
Medium	G	G
Long	A	A

	Transition risks			
	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	A	G	G	A
Long	A	A	A	A

Physical risks
SSGA has identified no material physical climate associated risks in the short to medium-term. Private companies may potentially have lower climate risks relative to their public counterparts in the same sector. These sectors include energy and utilities which are more asset-light, hence less likely to be left with stranded assets. SSGA recognises that these risks are more significant as they approach the long-term.

Transition risks
SSGA considers there to be no material transitional risks in the short-term. These risks are also considered to be minimal as time passes. SSGA believes private companies are faced with fewer regulatory disclosure requirements and hence lower policy and legal risks to climate change. However, it does identify regulatory and reputational risks as material as we approach the longer-term

Fixed Interest Bond – 3.0% of portfolio

	Physical risks	
	Acute	Chronic
Short	G	G
Medium	G	A
Long	R	R

	Transition risks			
	Regulatory	Technology	Market	Reputation
Short	A	G	A	A
Medium	R	A	A	A
Long	R	R	R	R

Physical risks
SSGA believes there to be no short-term physical risks and believes as the Plan approaches the medium to long-term these risks will become more apparent. However, due to Fixed Interest Bonds long duration and high exposure to sectors with physical assets such as having a 18.6% exposure to utilities, as the Plan approaches the long-term where the impact of extreme weather events become more frequent and severe the impact of these physical risks is likely to become more significant.

Transition risks
SSGA considers the transitional risks to be medium in the short-term. It realises these risks will become more significant as the Plan approaches the medium to long-term, arising from sector concentration in utilities and reputational damage to the increasing pressure from investors and regulators in the long-term.

Multi-Asset Credit – 1.0% of portfolio

	Physical risks	
	Acute	Chronic
Short	G	G
Medium	A	A
Long	A	A

	Transition risks			
	Regulatory	Technology	Market	Reputation
Short	G	G	R	R
Medium	R	A	A	A
Long	A	A	A	A

Physical risks
SSGA has identified no material physical climate associated risks in the short-term. When approaching the longer-term, SSGA considers these risks to become more significant. Multi-Asset Credit features in climate-sensitive sectors such as energy (5.1%), materials (2.0%) and industrials (7.1%). SSGA believes that as extreme weather events become more frequent and severe the impact of these physical risks is likely to become more significant and cause business interruptions.

Transition risks
SSGA does not see any transitional risks in the short-term relating to Regulation and Technology. SSGA identifies short-term market and reputational risk to be high due to a significant exposure to below-investment grade bonds which are price sensitive and usually less liquid. As time passes, these transitional risks are considered to be a medium risk which reflects the Plan's multi-asset credit investment strategy to tactically rotate among bonds and subsectors of the credit universe.

Illiquid Credit – 9.5% of portfolio

Physical risks	Acute	Chronic
Short	G	G
Medium	A	A
Long	A	A

Transition risks	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	A	A	A	A
Long	R	A	R	R

Physical risks
SSGA does not identify any material physical climate associated risks in the short-term. This can be attributed to the relatively low exposure to climate-sensitive sectors and longer durations. Illiquid investments, in general tend to have a longer lock-up period. Taking the above factors into account, illiquid credit will be exposed to medium level physical climate associated risks in the medium to longer term.

Transition risks
SSGA does not see any transitional risks in the short-term for illiquid credit portfolios. As illiquid credit has lower exposure to climate-sensitive sectors the transitional risks are presented as medium in the medium-term. As the Plan approaches the longer-term these risks become more severe due to the long holding period of these illiquid assets.

Property Debt – 7.0% of portfolio

Physical risks	Acute	Chronic
Short	G	G
Medium	A	A
Long	A	A

Transition risks	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	A	A	A	A
Long	R	A	R	R

Physical risks
SSGA considers there to be limited exposure to climate-related physical risks in the short-term. This is mainly due to the asset class primarily providing financing for physical assets. Over the medium to long-term, SSGA believes that property debt can get impacted at different levels as extreme weather events become more frequent and severe. The longer-term physical risks include extreme weather events, increasing costs due to adaptation and mitigation, heat stress and water stress both of which may increase operating costs.

Transition risks
SSGA does not see any transitional risks in the short-term. However, as time passes it does see regulatory and market risk becoming more widespread as well as reputational damage becoming more severe. This is due to the increasing pressure from investors and regulators if climate policy is not addressed sufficiently. It also reflects the long-term potential changes in tenant preferences, rising cost of materials and the costs of transitioning to new technology.

Infrastructure – 2.0% of portfolio

Physical risks	Acute	Chronic
Short	G	G
Medium	A	A
Long	R	R

Transition risks	Regulatory	Technology	Market	Reputation
Short	A	A	G	G
Medium	A	A	A	A
Long	G	G	A	A

Physical risk

SSGA believes infrastructure asset's exposure to physical risks are dependent on a variety of factors such as asset type, location, and lifespan of assets. No physical climate associated risks have been identified in the short-term. As the Plan approaches the medium to long-term, the SSGA believes these risks will become more severe with weather events becoming more frequent and severe, such as rising sea levels. The impact of these physical risks is likely to reduce profitability and revenue and possibly lead to stranded assets, therefore potentially having large financial impacts at the global infrastructure portfolio level. SSGA also highlights the interdependent nature across infrastructure assets, which may potentially magnify the effects of any single natural disaster.

Transition risks

SSGA considers infrastructure assets to be more exposed to transition risks compared to other asset classes, assuming a 2-degree transition pathway. In the short-term no transitional risks have been identified in relation to Market and Reputation. Transitional risks are considered to be medium in the short-term relating to Regulation and Technology. As more stringent climate change policy and investment in technology come into effect, it may pose serious "stranded asset risk" and is likely to reduce the value of some assets that are less advanced or unable to adapt. However, as the Plan approaches the long-term horizon, the increased pressure from regulators and policy are expected to be net positive for infrastructure with policy changes driving significant economic transformation globally and therefore potentially having positive financial impacts at the global infrastructure portfolio level.

Appendix – Climate scenario modelling assumptions

Please note that the summary of the impact to the Plan above has been assessed based on Aon's risk and return assumptions as at 31 December 2023. The assessment was qualitative in nature and considered the long-term exposure of the Plan to climate-related risks and the pattern of asset returns over the long-term. No liability was modelled during this assessment.

The qualitative analysis intends to illustrate the climate-related risks the Plan is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the portfolio allocation.

i. Other relevant issues such as governance, costs, and implementation (including manager selection and due diligence) must be considered when making changes to the investment strategy.
ii. Climate-related risks are considered on an asset class level, and do not consider the specific geographical locations which will have a strong influence on the climate-related risk the Plan is exposed to.

Investment risk is only captured in the deviance from the Base Case, but this is not the only risk that the Plan faces; other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks. The analysis has been set up to capture recent market conditions and views; the analysis may propose different solutions for the same strategy under different market conditions.

Appendix – An explanation of climate risk categories

Climate-related risks are categorised into physical and transitional risks. Below are examples of transition and physical risks.

Transition risks

Transition risks are those related the ability of an organisation to adapt to the changes required to reduce greenhouse gas emissions and transition to renewable energy. Within transition risks, there are four key areas: policy and legal, technological innovation, market changes, and reputational risk.

Policy and legal

Examples

Increased pricing of GHG emissions

Enhanced emissions-reporting obligations

Regulation of existing products and services

Potential financial impacts

Increased operating costs (e.g. higher compliance costs, increased insurance premiums)

Write-offs, asset impairment and early retirement of existing assets due to policy changes

Technology

Examples

Cost to transition to lower emissions technology

Unsuccessful investments in new technologies

Potential financial impacts

Write-offs and early retirement of existing assets

Capital investments in technology development

Costs to adopt new practices and processes

Market

Examples

Changing customer behaviour

Uncertainty in market signals

Increased cost of raw materials

Potential financial impacts

Reduced demand for goods and services due to shift in consumer preferences.

Abrupt and unexpected increases in energy costs.

Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations).

Reputational

Examples

Stigmatisation of sector

Increased stakeholder concern or negative stakeholder feedback

Potential financial impacts

Reduced revenue from decreased demand for goods and services.

Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions)

Reduced revenue from negative impacts on workforce management and planning

Physical Risks

Physical risks refer to the physical impacts of climate change on a firm's operations. They directly impact a firm's ability to perform its function due to climate disruption. They fall into two subcategories: acute and chronic; acute referring to extreme climate events such as flooding and wildfires, and chronic referring to trends over time such as an increase in temperature or ocean acidification.

Acute	Chronic
Examples	**Examples**
Extreme heat	Water stress
Extreme rainfall	Sea level rises
Floods	Land degradation
Droughts	Variability in temperature
Storms (e.g., hurricanes)	Variability in precipitation

Appendix – Greenhouse gas emissions in more detail

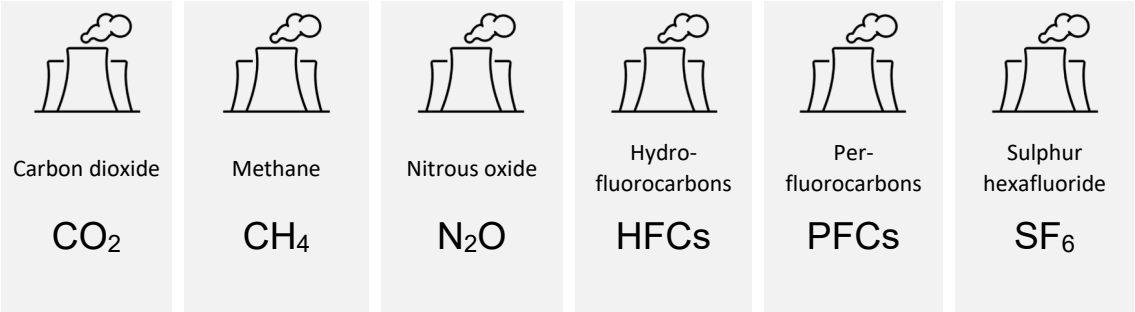
Greenhouse gases in the atmosphere, including water vapour, carbon dioxide, methane, and nitrous oxide, keep the Earth's surface and atmosphere warm because they absorb sunlight and re-emit it as heat in all directions including back down to Earth. Adding more greenhouse gases to the atmosphere makes it even more effective at preventing heat from leaving the Earth's atmosphere.

Greenhouse gases are vital because they act like a blanket around the Earth making it the climate habitable. The problem is that human activity is making the blanket "thicker". For example, when we burn coal, oil, and natural gas we send huge amounts of carbon dioxide into the air. When we destroy forests, the carbon stored in the trees escapes to the atmosphere. Other basic activities, such as raising cattle and planting rice, emit methane, nitrous oxide, and other greenhouse gases.

The amount of greenhouse gases in the atmosphere has significantly increased since the Industrial Revolution. The Kyoto Protocol[15] identifies six greenhouse gases which human activity is largely responsible for emitting. Of these six gases, human-made carbon dioxide is the biggest contributor to global warming.

Each greenhouse gas has a different global warming potential and persists for a different length of time in the atmosphere. Therefore, emissions are expressed as a carbon dioxide equivalent (CO_2e). This enables the different gases to be compared on a like-for-like bases, relative to one unit of carbon dioxide.

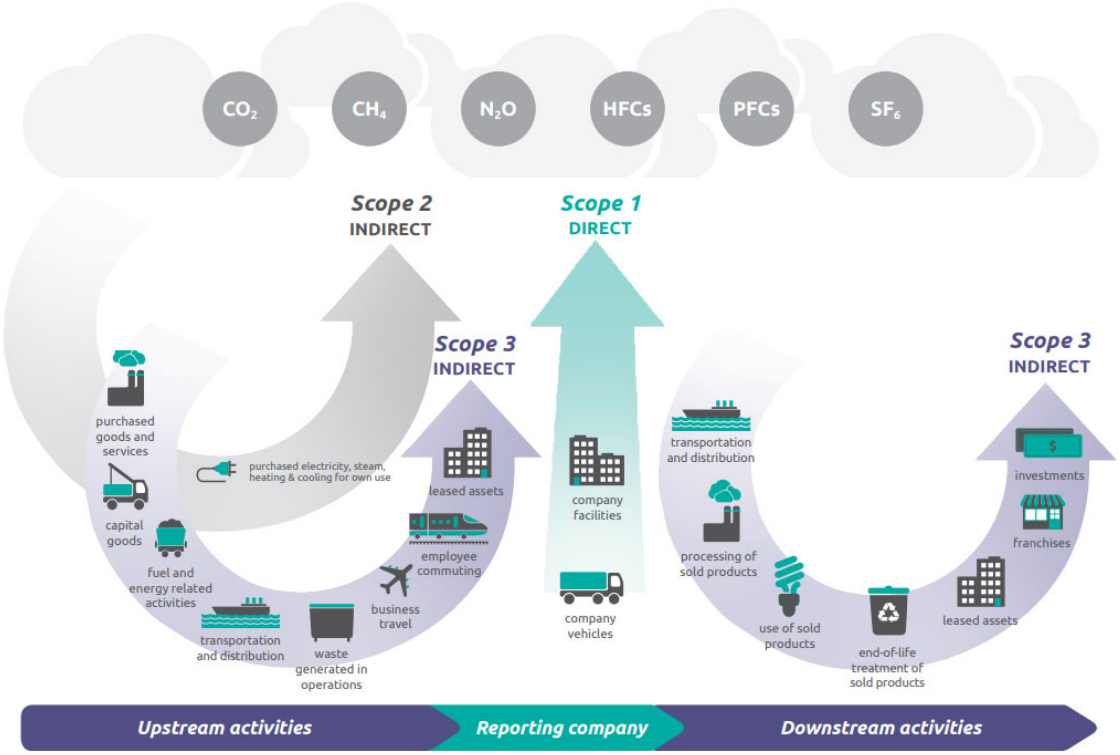
Six main greenhouse gases identified by the Kyoto Protocol



[15] https://unfccc.int/kyoto_protocol

Greenhouse gases are categorised into three types or ‘scopes’ by the Greenhouse Gas Protocol, the world’s most used greenhouse gas accounting standard.

Overview of GHG Protocol scopes and emissions across the value chain



Source: Greenhouse Gas Protocol, Corporate value chain (scope 3) Accounting and Reporting Standard, 2011