

The TCFD logo is rendered in a large, bold, white sans-serif font. It is positioned in the upper left quadrant of the cover, set against a background of a close-up photograph of weathered, greyish-brown wood with prominent, wavy grain patterns. A vertical white line is placed to the right of the letters 'D' and 'F'.

TASK FORCE ON  
CLIMATE-RELATED  
FINANCIAL  
DISCLOSURES

# Climate disclosures for year ended 30 September 2023

Produced by: The Trustee of the Unite Pension Scheme (the “Trustee”)

Date: April 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 Scheme's vulnerability to climate-related risks will help us to mitigate the risks and take advantage of any opportunities.

UK regulations require trustees to meet climate governance requirements and publish an annual report on their pension scheme's climate-related risks. The regulations require trustees to report in a line with the recommendations of the Taskforce on Climate-related Financial Disclosure ("TCFD").

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 lead to more accountability and provide decision-useful information to investors and beneficiaries.

This report has been prepared in accordance with the regulations set out under The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the "Regulations"). It provides an update on how the Scheme aligns with each of the four elements set out in the regulations. The four elements covered in the statement are detailed below:

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

This document is the annual TCFD report for the Scheme for the year ended 30 September 2023. It has been prepared by the Trustee of the Unite Pension Scheme (the "Trustee").

## What is TCFD?

The Financial Stability Board created the Taskforce on Climate-related Financial Disclosure ("TCFD") to develop recommendations on the types of information that entities should disclose to support investors, to assess and price risks related to climate change.

The TCFD has developed a framework to help companies and other organisations, including pension schemes, more effectively disclose climate-related risks and opportunities through their existing reporting processes.



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# Executive summary

To produce this TCFD-aligned report, we have worked with our investment consultant to carefully consider the potential impact climate change could have on the Scheme's investments and how we identify, manage, and mitigate those risks.

We support the recommendations set out by the TCFD on the basis that it will allow the us to more closely assess, monitor and mitigate climate-related risks on behalf of our members. This is our second disclosure under the framework and this statement is expected to evolve over time.

This statement has been prepared in accordance with the Regulations and provides a status update on how the Scheme is currently aligning with each of the four elements set out in the Regulations (and in line with the recommendations of the TCFD).

The following sections summarise our current position with regards to the TCFD recommendations and those set out in the Regulations.

## Summary of findings

### Overview of the Scheme

The Scheme is set up as a Defined Benefit ("DB") Scheme.

The Scheme's DB investment portfolio is diversified across a range of different asset classes including diversified growth funds, equities, illiquids and bonds.

We have been supported by our investment consultant, Aon Investments Limited ("Aon") with the production of our TCFD disclosures report and also the data contained within it.

### Strategy

We have undertaken both a qualitative and quantitative analysis to better understand the climate related risks and opportunities on the different asset classes in which the Scheme invests in. From the qualitative analysis it became apparent to us that over time, there was a general expectation that the impact of both physical and transition risks increases. Alongside this, climate change provided numerous investment opportunities for the different asset classes.

We have also observed that the Scheme has a reasonable degree of resilience relative to climate related risks, which was a key outcome from the quantitative climate scenario analysis based on the five different strategies considered. This was demonstrated under most climate scenarios primarily driven by the high level of diversification in the assets.



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## Risk Management

We have integrated climate related risks into our various documents and processes. For example, we consider climate related risk by seeking advice from our investment consultant when setting the Scheme's asset allocation, when selecting managers and when monitoring their performance, as outlined in our Statement of Investment Principles. In addition to this, we receive data on voting and engagement from our managers annually (as outlined in our Engagement Policy Implementation Statement, which is produced annually).

We have outlined a Risk Management Plan, on pages 25-30, which assists with the ongoing management of climate related risks and opportunities. Alongside this, we undertake periodic training on responsible investment to understand how ESG factors, including climate change, may impact the Scheme's assets and liabilities. Details of training we have undertaken throughout the Scheme year are included in the Governance and Risk Management sections.

## Metrics and Targets

We gathered the carbon metrics data from our investment managers as far as we were able. We collated the data for the total greenhouse gas emissions, carbon footprint, binary target measurement and the implied temperature rise, which is a new addition to the TCFD report following a change in the Regulations over 2022. This metric was chosen following training from our investment consultant. More detail is provided on page 34.

We are keen to understand the carbon emissions in the Scheme's portfolio and note that more data was available during this year of reporting due to the inclusion of scope 3 emissions. This contributed to the overall emissions being higher versus the previous year's reporting. More detail on how the emissions are defined is provided on page 33.

Material investment managers of the Scheme were contacted for carbon metrics information, and we are pleased to note that most of the managers were able to provide full or partial data. We observed that there was variability of data availability for scopes 1, 2 and 3. This varied between investment managers and also across asset classes. More detail on the emissions is provided on page 34.

We hope you enjoy reading this report and understand more about how we are managing climate-related risks and opportunities within the Scheme.

*Chair signature's*

On behalf of the Trustee of the Unite Pension Scheme.



# Governance

Governance is the way the Scheme 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 Scheme-wide decisions, such as those relating to the investment strategy or how it is implemented, funding and the ability of the sponsoring employer to support the Scheme.



# Our Scheme's governance

As the Trustee of the Scheme, we are responsible for overseeing all strategic matters related to the Scheme. 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

Given the importance of ESG considerations and climate-related risks and opportunities, we have not identified one individual to specifically be responsible for our response to climate risks and opportunities. Rather, the Trustee Board has collective responsibility for setting the Scheme's climate change risk framework.

We have discussed and agreed our climate-related beliefs and overarching approach to managing climate change risk. Details are set out in the Statement of Investment Principles, Responsible Investment Policy and the TCFD governance documents including the Climate Mission Statements, which is reviewed annually.

In summary, we believe that:

- The risks associated with climate change can have a materially detrimental impact on the Scheme's investment returns within the timeframe that we are concerned about and, as such, we seek to integrate assessments of climate change risk into our investment decisions.
- Climate-related factors may create investment opportunities. Where possible, and appropriately aligned with our strategic objectives and fiduciary duty, we will seek to capture such opportunities through our investment portfolio.
- The most appropriate time horizons for the Scheme are as follows:
  - Short term: 1-3 years
  - Medium term: 4-9 years
  - Long term: 10-20 years

Climate-related risks and opportunities are assessed over the above time horizons. Where appropriate, we consider transition and physical risks separately.

The Trustee Board receives training – at least on an annual basis but more frequently if required – on climate-related issues to ensure that it has the appropriate degree of knowledge and understanding on these issues to support good decision-making. We expect our advisors to bring important and relevant climate-related issues and developments to our attention in a timely manner and expects our advisors to have the appropriate level of knowledge on climate-related matters.

## Trustee's update

In October 2023, we completed further training on the TCFD statutory guidance.

We have received training and information from our investment consultant in relation to the key changes to the regulations. This included training on the climate metrics to be reported on, and the change to the regulations from 1 October 2022 to include a Portfolio Alignment metric.

The purpose of this training session was to better equip us ahead of the preparation of our second TCFD report and to consider further actions to help protect the Scheme against potential climate-related risks.

The Trustee Board has delegated oversight of the Scheme's climate change risk management framework to the Investment Sub Committee ("ISC") where they relate to investment matters. The ISC is a sub-committee of the Trustee Board and keep the Trustee Board apprised of material climate-related developments on a regular basis (at least annually). We regularly monitor and review progress against the Scheme's climate change risk management approach.

## Role of the Investment Sub Committee

We have delegated the ongoing monitoring, and day-to-day implementation, of the Scheme's climate change risk management framework to the ISC.

The ISC seeks to ensure that any investment decisions appropriately consider climate-related risks and opportunities within the context of the Scheme's wider risk and return requirements and are consistent with the climate change policy as set out in the Statement of Investment Principles, Responsible Investment policy, Climate Mission Statement and TCFD documentation. The ISC will incorporate this into future manager selection exercises, and as part of the ongoing monitoring of fund managers. Once the Scheme's climate change risk management framework has been implemented, the ISC will also be responsible for the ongoing monitoring and implementation of the framework.

Once the initial framework has been agreed with us, the expectation is that the ISC will monitor and review progress against the Scheme's climate change risk management approach on an annual basis. The ISC will keep us apprised of any material climate related developments.

The key activities undertaken by the ISC, with the support of our advisors, are:

- ensuring investment proposals consider the impact of climate risks and opportunities.
- seeking investment opportunities which enhance the ESG and climate change focus of the Scheme's portfolio.
- engaging with the Scheme's investment managers to understand how climate risks are considered in their investment approach.
- working with the investment managers to disclose relevant climate-related metrics as set out in the TCFD recommendations.
- ensuring that stewardship activities are being undertaken appropriately on the Scheme's behalf.
- ensuring that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material.

## Trade Union Share Owners

The Union has joined together with a number of other trade union pension funds to form Trade Union Share Owners ("TUSO"). The aim of this group is to collaborate on voting and engagement with companies in order to put trade union values at the heart of our stewardship practices.

TUSO has developed a set of Trade Union Voting and Engagement Guidelines to guide the group's voting and engagement activity. The Trade Union Voting and Engagement Guidelines reflect a trade union perspective on corporate governance.



We contact the Scheme's investment managers and requests that the investment managers vote in line with the TUSO views on certain companies.

## How we work with our advisors

We expect our advisors and investment managers to bring important climate-related issues and developments to our attention in a timely manner. We expect our advisors and investment managers to have the appropriate knowledge on climate-related matters.

**Investment Consultant** – our investment consultant, Aon, provides investment-related strategic and practical support to the ISC and us, as the Trustee, in respect of the management of climate-related risks and opportunities as set out by the recommendations within the TCFD. This includes provision of regular training and updates on climate-related issues, climate change scenario modelling, ESG ratings and advice with respect to mandates and manager selection.

**Scheme Actuary** – the Scheme Actuary, Hilary Salt from First Actuarial, will help us assess the potential impact of climate change risk on the Scheme's funding assumptions where appropriate.

**Covenant Advisor** – our covenant advisor, BTG advisory, helps the us understand the potential impacts of climate change risk on the sponsor covenant.





# Strategy

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

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



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

We have carried out a qualitative risk assessment of the asset classes the Scheme is invested in. From this we identified which climate-related risks and opportunities could have a material impact on the Scheme. This year, we reviewed the risk assessment and have concluded that it remains appropriate for the Scheme because the investment strategy has broadly remained the same. Last year's assessment is included below.

Given the number of asset classes used in the Scheme, we completed this exercise to the best of our ability. To help us with our assessment, we surveyed our investment managers asking them to rate the climate-related risks and opportunities they believe their funds are exposed to. At the time of writing eight managers have been able to provide the information for the risk assessment, one manager provided a limited response and two other managers have been unable to provide the information for the risk assessment.

## Our investments

The Scheme's investment portfolio is diversified across a range of different asset classes including diversified growth funds, equities, illiquids and bonds.

The Scheme's asset allocation as at year end was as follows:

DB section:

Asset Class	Diversified Growth Funds	Equities	Illiquids	Bonds	Cash
Strategic Allocation	8.4%	27.1 %	6.8%	57.5%	0.1%

Source: Aon. As at 30 September 2023. Numbers may not sum up due to rounding.

## How the risk assessment works

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

We have carried out a qualitative risk assessment on each asset class the Scheme is invested in. From this we have identified which the climate-related risks and opportunities could have a material impact on the Scheme.

Given the number of asset classes used in the Scheme, we have completed a best endeavours exercise to analyse the climate-related risks of each asset class. We have completed this analysis having asked our investment managers, which invest the Scheme's assets on our behalf, as to how climate risks and opportunities are incorporated into the current mandates.



### Risk categories

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

**Transition risks** are associated with the transition towards a low-carbon economy. For example, shifts in policy, technology or supply and demand in certain sectors.

**Physical risks** are associated with the physical impacts of climate change on companies' operations. For example, extreme temperatures, floods, storms or wildfires.



### 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

We assessed the climate-related risks and opportunities over multiple time horizons. We decided the most appropriate time horizons for the Scheme are:

- short term: 1-3 years.
- medium term: 4-9 years
- long term: 10-20 years

More details in relation to transitional and physical risks can be found within the Appendix.



## Key conclusions

Diversification across asset classes, sectors and regions is important to manage climate-related physical and transition risks for the Scheme.

Equities, which forms a relatively significant part of the Scheme's assets, are deemed a medium to high-risk area in terms of exposure to climate-related risks (particularly physical risks over longer periods), indicated by the amber and red ratings over all medium to long-term time horizons. Both transition and physical risks are expected to become material over time.

Diversified growth funds (DGF) form a smaller proportion of the Scheme's portfolio, are also exposed to both physical and transitional climate risks. We expect the managers of those funds to manage climate risks actively via the broad discretions and scope that they have in their respective mandates. Please note that the Scheme is gradually disinvesting from its DGF allocation in order to fund illiquid capital calls.

Illiquids, have been identified as a lower risk area, in relation to both the physical and transitional climate risks. A number of the investments under this asset class are explicitly targeting the opportunities that may come from the transition, including renewable energy.

Bonds, which form a significant part of the Scheme's assets, are deemed a low to medium risk area in terms of exposure to climate-related risks. The managers recognise that there is likely to be a higher risk in the long-term.

We have taken proactive steps over the year to mitigate these risks, including:

- close monitoring of stewardship activities carried out by our 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. Some of the Scheme Managers, including but not limited to LGIM, Pictet and Brookfield, have explicitly stated climate-related objectives.

### Trustee update

We noted an improvement in the Scheme's managers being able to provide further detail in relation to the climate risks within their portfolios.

The following managers have been able to provide data to be included within the report for the first time:

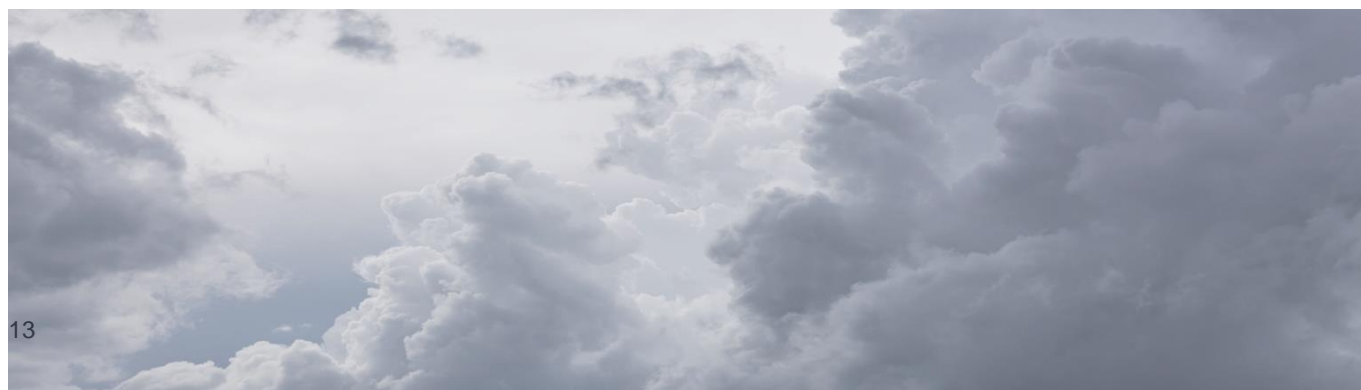
- BlackRock
- Brookfield
- Mirova
- Pictet<sup>1</sup>

Information from Newton is also included in this report, despite its full disinvestment in June 2023.

Despite this improvement observed above, JP Morgan and Janus Henderson were not able to provide all the requested data.

<sup>1</sup>The Manager provided a more comprehensive assessment to last year.

For a more detailed risk assessment by asset class please read on.



## Climate-related risk assessment – (fund level)

The Scheme invests across a range of different asset classes and investment managers via pooled and segregated funds. In pooled funds, our ability to influence how each manager incorporates climate related issues is limited. However, we asked our investment managers for details how they were incorporating climate risks and opportunities into the funds and asset classes in which the Scheme invests over the short, medium and long-term.

We received detailed responses from 9 of our investment managers, which is an improvement from the previous TCFD reporting year, where 6 managers provided detailed responses. The results are summarised below.

### Equities – 27.1% of portfolio

#### Emerging Market Equity Fund

##### Physical Risks

	Acute	Chronic
Short	G	G
Medium	A	A
Long	R	R

The Scheme's emerging markets equity manager recognises that there are significant risks associated with climate change. The manager appreciates positive GHG commitments in short term, however, it is more concerned about longer term impact of climate change – notably – Climate Refugee Crisis. An estimated one billion people live on land that is less than 10m above current high tide levels (for 230 million individuals, it's less than 1m) making them especially vulnerable to sea-level rise, extreme weather and other potential consequences of global climate change.

##### Transitional Risks

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

The manager recognises the opportunities available currently within emerging markets to transition to greener economy. However, geopolitical environments can affect the speed of transition based on the landscapes across regions. For example, the energy required to provide decent living standards to all – including to build the infrastructure to reach those that still lack them would require roughly a quarter of projected world energy demand by mid-century, though the share would be larger in regions with the highest poverty levels.

#### Global Equity Fund

*Please note that the Scheme's Global Equity manager, Janus Henderson was not able to provide an overall RAG rating for physical and transitional risks over the different time periods. This was partly due to the passive nature of the fund.*

## Diversified Growth Funds – 8.4% of portfolio

### Real Return Fund

Please note that this fund was terminated during the Scheme year but has been included for information purposes.

#### Physical Risks

	Acute	Chronic
Short	A	G
Medium	A	A
Long	R	R

While emissions may have begun to decrease by this point, given the time lag on temperature changes related to emissions, the risk of acute events continues to increase. Issues of extreme heat and flooding may begin to permeate into companies operating in hot climates or coastal regions. Consumer goods companies may see lower crop yields of water availability that impacts revenues. Holdings, such as supermarkets, may see product prices change or supply issues emerge.

#### Transitional Risks

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

By 2025, the manager expects emerging markets will have caught up with Europe in relation to climate change in decision making. Reputationally, barriers will remain in adopting cleaner products and services, which may impact companies operating in less developed jurisdictions. Over the long term, the manager believes consumer preferences will be more favourable towards clean technologies as adoption levels are significantly higher and costs have come down. In addition, high emitting products using fossil fuels are likely to be significantly impacted.

### Dynamic Diversified Growth Fund

#### Physical Risks

	Acute	Chronic
Short	A	A
Medium	A	A
Long	R	R

The manager has identified moderate acute and chronic physical climate in the short-term, associated with changes in weather events. As these weather events increase in frequency and severity over the long-term, the impact of acute and chronic risks is likely to become more severe. The manager recognises capital flows may tilt away from high emitting companies with business models that are more exposed to climate change.

#### Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	A	A	A	A
Medium	R	A	A	R
Long	R	R	A	R

The manager identified transitional risks in the short-term to be medium, these relate to companies that are adequately unprepared for the transition to a low-carbon economy. As the long-term approaches, the manager believes transitional risks could worsen and has identified high carbon intensity, insufficient preparation for a net zero transition and low reception to investment stewardship engagement as potential transitional risks for companies.

## Illiquids – 6.8% of portfolio

### Global Transition Fund

#### Physical Risks

	Acute	Chronic
Short	N/A	N/A
Medium	A	G
Long	A	G

The manager applied global climate models to assess future physical climate-related risks. Overall, the manager describes a medium acute risk, as flood and wildfire risks are more prevalent for the wind and utility solar assets in the medium and long-term. Regarding chronic risks, the manager found these to be of less significance, but did note that any potential risks could result in lower revenue on days when generation is reduced while assets are offline in periods of extreme heat.

#### Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	N/A	G	G	A
Medium	N/A	G	G	G
Long	N/A	G	A	G

The Illiquids manager has identified transitional risks in the short term to be medium for technology and reputation. These relate to supply chain constraints restricting and impeding development and global events disrupting the supply chain. From a reputational standpoint, there is a risk of a short-term rise in emissions as a result of investing in hard-to-abate transformation businesses. The Manager also identifies market risks to be medium in the long-term, as a result of increased competition in the renewable energy market as investors reallocate capital to clean energy.

### Energy Transition Fund

#### Physical Risks

	Acute	Chronic
Short	G	G
Medium	G	G
Long	G	G

The manager considers there to be a low level of acute and chronic physical-related financial risk associated within changes in temperature and precipitation patterns. The manager recognises that overtime the fund may be exposed to extreme weather events, damaging renewable energy assets and rising sea levels which may pose a threat to assets located in coastal regions. However, these risks identified are still considered to be low.

#### Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	G	G	G	G
Long	G	G	G	G

The manager identified low exposure to transitional risks across all three time periods. Short-term risks associated with technology are perceived to be low as the manager only invests in mature technology projects. As the long-term approaches the fund may benefit from technological innovation in the renewable sectors, leading to lower costs and greater efficiency. Greater access to green finance is also expected to benefit the fund, leading to a low transitional risk associated with markets and technology.



## Global Real Estate Debt Fund

### Physical Risks

	Acute	Chronic
Short	G	G
Medium	N/A	N/A
Long	N/A	N/A

Note: N/A denotes that the risks do not apply to the asset class over the specified time horizons (or at all).

The illiquids manager does not identify any physical risks in the medium and long-term as the fund will not hold any investments in a time period greater than three years. In the short term, the manager identifies no risks, and all investments meet regulatory requirements within the lifetime of the fund.

### Transitional Risks

	Regulatory	Technology	Market	Reputation
Short	G	G	G	G
Medium	N/A	N/A	N/A	N/A
Long	N/A	N/A	N/A	N/A

The manager does not identify any transitional risks in the medium and long-term as the fund will not hold any investments in a time period greater than three years. In the short term, the manager identifies no risks, and all investments meet regulatory requirements within the lifetime of the fund.

## Bonds – 57.5% of portfolio

### Diversified Income Fund and ESG Global Investment Grade Credit Fund

*Please note that the manager has updated their assessment of climate related risks, whereby it has aggregated the RAG ratings over time horizons and across different types of physical and transition risks. The manager was still able to demonstrate a good understanding of physical and transitional risks.*

### Physical Risks

Physical Risks
A

The manager recognises that both acute and chronic risks are more likely to become both increasingly frequent and severe over a longer period. It states that climate models suggest that these impacts will be exacerbated in the very long-term (second half of the century) and could potentially remain moderate in the mid-term (by 2035).

### Transitional Risks

Transitional Risks
A

The manager notes that in the short run, that reputational risks, associated with the energy transition, have become more prominent for the fossil fuel industry in particular. Changing customer behaviour due to the awareness of climate risks is likely to grow over time and increasingly impact “end user” sectors as it relates to energy demand. However, the lack of substitution technologies could serve to mitigate some transition risks across certain key sectors, notably ‘hard to abate’ sectors e.g. cement, steel, shipping, aviation, trucking.

## Absolute Return Bonds

Please note that the manager has stated that their current iteration of firm-level climate risk assessment focused on short-term risks. The manager intends to expand the exercise to longer term risks in the next iteration.

### Physical Risks

	Acute	Chronic
Short	A	G
Medium	G	G
Long	G	G

The manager does not consider chronic physical risks to be material over the time period considered, thus stating the financial exposure to these risks as low. In the short term, the manager does identify material financial exposure to acute physical. These acute physical risks can be associated with severe weather events leading to damage and therefore a negative impact on an investments financial value.

### Transitional Risks

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

The manager identifies both regulatory and market risks in the short-term to be medium. This can be explained by the growing regulatory requirements and complexity involved in responding to such regulations. Market risks associated with inadequately managing changes in policy may drive client outflows and result in a negative financial impact in the short-term.

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### Physical Risk

	Acute	Chronic
Short	G	G
Medium	G	G
Long	A	G

The manager notes that in the short-term, acute physical risks aren't expected to have a material financial impact either, in the medium-term acute physical risk exposure is expected to increase. Pathways are expected to diverge significantly in the long term, although all climate future, will entail a worsening of acute physical risk from today. In the long-term, as extreme weather events become more frequent, severe, and unpredictable, they are likely to have a growing impact at a portfolio level. Acute physical risks are likely to become significant in the long-term, with rising sea levels and changes to weather patterns affecting companies' profitability.

### Transitional Risks

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

The manager considers there to be a low likelihood of material financial risk in the short-term. The medium-term is a crucial period for the climate transition. To ensure emissions stay within global budgets for limiting global warming to well-below 2°C, carbon prices will need to continue rising over the long term. Carbon prices are likely to exceed US\$100/tCO<sub>2</sub> by 2050 in both orderly and disorderly transitions, leading to material financial implications. From a market perspective, demand and supply for key raw materials will be mismatched going forward. Critical minerals feeding into low-carbon technologies such as renewables and EV batteries need to scale up supply to meet the potentially explosive growth in demand.

## Bonds Fund

### Physical Risks

	Acute	Chronic
Short	G	G
Medium	G	G
Long	A	G

The manager suggests that both chronic and acute risks are only significant in the long term and are not expected to have a significant financial impact in the short and medium term. In the long-term, the manager believes that as extreme weather events become more frequent and severe the impact of acute risks are likely to become more significant. Furthermore, acute physical risks are likely to become significant, rising sea levels and changes to weather patterns are likely to affect companies' profitability. Companies who fail to adapt to changing conditions may struggle to maintain their labour force or business model.

### Transitional Risks

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

Over the medium and long-term the manager identifies a medium risk in several categories as policy changes shift demand patterns resulting in bond valuations being negatively impacted. Regulatory risk is also viewed as a medium risk in the medium-term as this is a crucial period for the climate transition, as time is running out to stay within global carbon budgets for limiting global warming to well-below 2°C. The Manager notes that those failing to adapt for the scale of technological change in the long-term could suffer significant losses from demand reductions.

### Multi-Asset Credit

*Please note that the Scheme's Multi-Asset Credit manager, JP Morgan was not able to provide an overall RAG rating for physical and transitional risks over the different time periods. The Scheme has disinvested from JP Morgan.*

## Climate-related opportunities

We rely on our investment managers to take into account climate related risks and opportunities applicable for their mandates. Based on the qualitative assessment, our managers identified the following opportunities.

### Equity

Within the **emerging market equity** mandate, the manager identified Chinese and Indian economies with the most climate related opportunities. The manager's long-term investment in China facilitates the financing of the country's decarbonisation goals including the development of green technologies. The manager identified examples of China's A-share listed equities producing electric vehicle and renewable energy, that could be part of a global climate solutions fund. The Indian renewable energy sector is the fourth most attractive renewable energy market in the world. India was ranked fourth in wind power, fifth in solar power and fourth in renewable power installed capacity, as of 2020.

### Diversified Growth Funds

Within the **dynamic diversified growth** mandate the manager believes that biodiversity and natural capital opportunities will allow businesses to provide products or services in a more efficient manner. This thematic investment will seek to allocate to companies whose revenues are linked to mitigating the loss of land, forest and sea diversity. There are further subthemes embedded beneath these, including agricultural innovation, marine ecosystems, innovation, and carbon sequestration.

### Illiquids

Across the illiquid portfolio, some of the managers are directly targeting opportunities arising from the transition to the low carbon economy. Opportunities include renewable energy projects, sustainable transport, and the targeting of sustainability certification to increase rents.

These opportunities are driven by the increased demand for low-carbon products and services due to greater electrification across all sectors to meet decarbonisation targets and a greater focus on energy security and low-cost, affordable energy.

Within the **real estate debt fund**, the manager engages with borrowers to examine the extent to which they are positioned to take advantage of the opportunities presented by the transition to a low carbon economy. This also includes the targeting of sustainability certification to demand higher rents. The manager also has a Green Loan Framework to proactively unlock those investments which are well positioned in the low carbon economy, and therefore more likely to experience value creation.

### Bonds

Whilst not the principal driver or main objective of the **diversified income fund**, climate risks are a consideration in all investments. This fund has c.8.9% allocation to green bonds as at 30 September 2023.

The **ESG GIGC**, strongly considers climate risks in all investments. This fund has c.32.8% of green bond holdings as at 30 September 2023.

As part of the **absolute return bonds mandate**, the manager identifies three opportunities to invest in alignment with the transition to a low carbon economy, including investing in climate solutions, investing in companies across sectors with leading transition plans and engaging with laggards across sectors which can gain from a robust climate strategy.



# How resilient is the Scheme to climate change?

Last year we carried out climate change scenario analysis to better understand the impact climate change could have on the Schemes assets and liabilities.

The analysis considers a range of climate change scenarios. Each scenario considers what may happen to the Scheme when transitioning to a low carbon economy under different temperature-related environmental conditions. These scenarios were developed by our investment consultant, Aon, and are based on detailed assumptions. They are only illustrative and are subject to considerable uncertainty.

The climate scenarios intend to illustrate the climate-related risks the Scheme 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, but this is not the only risk that the Scheme faces. Other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

The analysis undertaken looks at five climate change scenarios.

We established a “base case” scenario against which the five climate change scenarios are compared.

## Trustee update

We note that the Regulations require that there may be circumstances which 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.

The latest analysis is based on assumptions and the Scheme’s strategic asset allocation as at 30 June 2021. Aon has reviewed the scenario analysis from last year and in our view the analysis remains appropriate for this year.

We chose the following scenarios because we believe they provide a reasonable range of possible climate change outcomes.

**Five scenarios + base case**



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.



Considers the impact of climate change if no further action is taken to reduce greenhouse gas ("GHG") emissions leading to significant global warming.



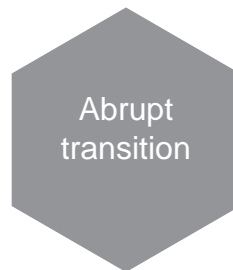
Explores the impact if limited action is taken and insufficient consideration is given to sustainable long term policies to manage global warming effectively.

Temperature rise by 2100  
Reach net-zero by  
Introduction of  
environmental regulation

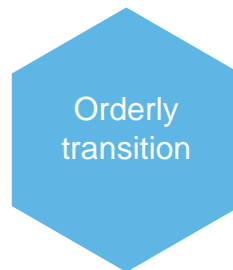
2°C – 2.4°C  
2050  
-

>4°C  
After 2050  
None

3°C - 4°C  
After 2050  
Late and aggressive



Explores the impact of delayed action on climate change for five years with governments eventually forced to address greenhouse gas emissions due to increasing extreme weather events.



Considers the impact of immediate and coordinated action to tackle climate change using carbon taxes and environmental regulation.



Shows how rapid advancement of green technology, private innovation and tiered environmental regulation and greenhouse gas taxes could achieve a smooth transition to a low carbon world.

Temperature rise by 2100  
Reach net-zero by  
Introduction of  
environmental regulation

1.5°C - 2°C  
2050  
Aggressive

1.3°C - 2°C  
2050  
Coordinated

<1.5°C  
2045  
High coordination

## Impact Assessment

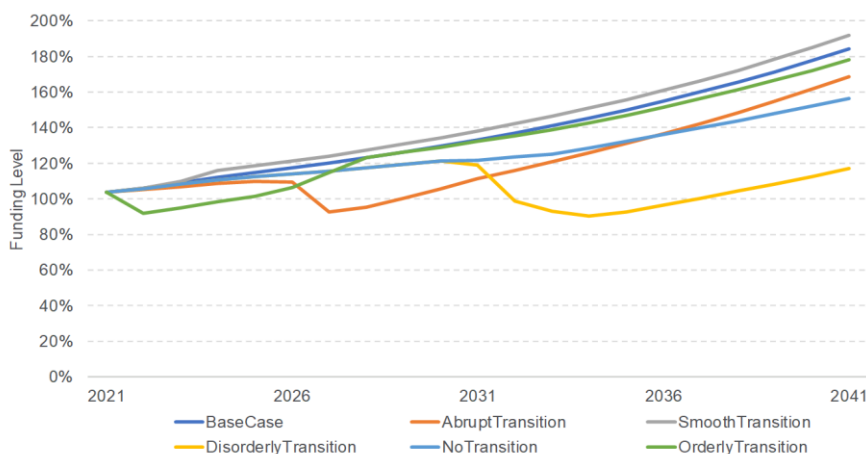
We have undertaken the climate scenario analysis based on the allocation which is outlined below.

Asset Class	Strategic weighting (%)
Equities	29
DGF	13
Illiquids	6
Bonds	37
LDI	15

The impact assessment shows that the Scheme's investment strategy exhibits reasonable resilience under all five climate scenarios presented below. This is due to the high level of diversification across asset classes and relatively high levels of hedging against changes in interest rates and inflation expectations.

### Long Term Funding Level Projections

Funding level projection



Source: Aon. Scenario projections as at 30 June 2021.

Under all scenarios considered, the Scheme is expected to be fully funded in the medium term, however under the Disorderly Transition there is a large loss of surplus relative to the Base Case by the end of the 20-year period.

The Scheme is exposed to climate change risk due to its relatively high allocation to equities. This is compounded by inflation risks, which result in poor outcomes under high inflation scenarios.

The two factors above are particularly pronounced under the Disorderly Transition scenario, with a large loss of surplus relative to the Base Case by the end of the 20-year period.

Recovery after the initial shock is also muted under the Orderly Transition scenario, which is due to high inflation and poor equity performance in early years. This prevents recovery above the Base Case after 20 years, even though growth asset returns have largely recovered by then.

#### What does the chart show?

The chart shows what might happen to the Scheme's funding level under each climate scenario up to 20 years into the future. Each line represents a different scenario. The actual funding experience is likely to be different in reality.

The funding level is a measure of how much surplus assets (or deficit) the Scheme has above the cost of the pension liabilities.

Depending on the scenario, the funding level increases more or less. Under some scenarios the funding level experiences sudden falls.

## Modelling Assumptions

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

## Business, strategy, and financial planning

We recognise the importance of climate change and the risk it poses to the Scheme. We take climate-related risks into account in determining our investment strategy, and any forthcoming strategy reviews.

Another key risk identified from the analysis is the volatility of the funding level. Under the Disorderly scenario, there was little impact on the funding level in the short to medium term, followed by a sudden fall in funding when significant coordinated action is taken to limit the impacts of climate change. Any deterioration of the funding level will place a strain on the sponsor covenant, if they must make up a bigger shortfall through deficit contributions.

We therefore recognise that climate change may have an impact on the sponsor covenant. We monitor the covenant on a regular basis, with the support of our covenant advisor, maintaining a regular dialogue with the participating employers.



# Risk management

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

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.



# Our process for identifying and assessing climate-related risks

We have established a process to identify, assess and manage the climate-related risks that are relevant to the Scheme. This is part of the Scheme's wider risk management framework and is how we monitor the most significant risks to the Scheme in our efforts to achieve appropriate outcomes for members.

## Trustee 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.



### Qualitative assessment

The first element is a qualitative assessment of climate-related risks and opportunities which is prepared by our investment consultant and reviewed by us.



### Quantitative analysis

The second element is quantitative in nature and is delivered by means of climate change scenario analysis, which is provided by our investment consultant and reviewed by us.

Together these elements give us a clear picture of the climate-related risks that the Scheme 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 we have identified as relevant to the Scheme.

When prioritising the management of risks, we assess the materiality of climate-related risks relative to the impact and likelihood of other risks to the Scheme. This helps us focus on the risks that pose the most significant impact.



# Our process for managing climate related risks

We recognise the long-term risks posed by climate change and have taken steps to integrate climate-related risks into the Scheme's risk management framework.

We have developed a risk management framework to manage climate-related risk and opportunities. The risk management framework clearly sets out on who is involved, what is done and how often. We have delegated a number of key tasks to different committees but retain the final approval responsibility. The processes for managing climate-related risks and opportunities are summarised in the tables below.

## Governance

Activity	Delegated responsibility	Advisor / supplier support	Frequency of review
Climate change governance framework ( <i>this document</i> )	ISC	Aon	Annual
Publish TCFD report and implementation statement	ISC	Aon	Annual
Add / review climate risks and activity on key Scheme documentation	ISC	Aon	Ongoing
Engage with the investment managers to understand how climate risks are considered in their investment approach, and stewardship activities are being undertaken appropriately	ISC	Aon, Investment managers	Ongoing
Trustee training	Trustee Board	Aon	Annual
Ensure investment proposals explicitly consider the impact of climate risks and opportunities, and seek investment opportunities	ISC	Aon	Ongoing
Ensure that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material	ISC	Scheme Actuary, Covenant Advisor	Triennial

### Trustee update

We monitor the above activities as part of our climate related risks and opportunities management. We have delegated responsibilities to all activities, with the exception of Trustee training, to the ISC. Details of the training we have received are set out in the Governance section within the report.

We continue to monitor progress of the ISC, receiving regular updates (at least annually) from the ISC and querying information as and when required.

## Strategy

Activity	Delegated responsibility	Advisor / supplier support	Frequency of review
Identify climate-related risks and opportunities (over agreed time periods) for investment & funding strategy	ISC	Aon	Ongoing
Scenario analysis - annual review	Trustee Board	Aon	Annual
Scenario analysis - refresh modelling (when applicable)	Trustee Board	Aon	Triennial
Actuarial valuation	ISC	Scheme Actuary	Triennial

### Trustee update

Climate-related risks and opportunities are included in the Scheme's wider risk management framework, which is overseen by the ISC on an annual basis. The ISC refreshed its risk and opportunities analysis, asking each material manager for details how these are assessed. The conclusion of this is included in the Strategy Pillar.

Alongside this, we have reviewed the appropriateness of the climate change scenario analysis carried out within the Scheme's initial TCFD disclosures and we are comfortable that the analysis remains relevant for the current reporting year.

## Risk management

Activity	Delegated responsibility	Advisor / supplier support	Frequency of review
Covenant	Trustee Board	Covenant Advisor	Annual
Include consideration of climate-related risks in the Scheme's other risk processes and documents, such as the risk register and the SIP, and regularly review these	Trustee Board	Advisors	One-off, ongoing thereafter

### Trustee update

We have processes in place for identifying and assessing climate-related risks as part of the annual TCFD process. Climate risk management is integrated into the ongoing risk management activities of the Scheme via the Scheme's climate risk management plan.

We delegate responsibility to the ISC to review the underlying investment managers and how ESG is integrated within their decision-making processes, including climate change.

## Metrics and Targets

Activity	Delegated responsibility	Advisor / supplier support	Frequency of review
Agree/review approach for metrics	Trustee Board	Aon	Annual
Agree/review target	Trustee Board	Aon	Annual
Obtain data for agreed metrics	Trustee Board	Aon / Investment Managers	Annual

### Trustee update

We, supported by our investment consultant, collect metric data on an annual basis, in order to understand the current state of the portfolio regarding its emissions, data quality and portfolio alignment metric. This data is evaluated to produce a metrics related target.

Metrics have been collected in line with industry practice. We have agreed an additional metric for reporting, as per changes to the Regulations over 2022. In addition, we have reviewed our target, which have been set previously, and considered any refinements required to this. More details can be found in the metrics and targets section.

## Assessing our managers

To assess our managers, we asked them 10 questions designed by the Pensions Climate Risk Industry Group<sup>1</sup> to help trustees to assess their investment managers' capabilities to manage climate-related risks. The questions cover a range of issues including the managers' approach to climate management, whether they produce their own TCFD reporting, their ability to conduct climate scenario analysis, their engagement policies, and their ability to provide carbon emissions data.

The table below summarises the responses from the Scheme's investment managers.

### Trustee update

We noted an improvement in our managers being able to provide further detail in relation to demonstrating their capabilities to manage climate-related risks.

The following managers provided data for the first time:

- Mirova
- Brookfield

We have included information from Newton, despite full disinvestment in June 2023.

<sup>1</sup> Aligning your pension scheme with the Taskforce on Climate-Related Financial Disclosures recommendations - GOV.UK ([www.gov.uk](http://www.gov.uk))

Manager	TCFD aligned climate reports	Climate-related risks analysis	Industry initiatives	Carbon reporting	Temperature alignment
BlackRock	✓	✓	✓	✓	-
Brookfield	✓	✓	✓	✓	-
Henderson	✓	✓	✓	✓	In Progress
JP Morgan	✓	✓	✓	-	-
LGIM	✓	✓	✓	✓	✓
Mirova	✓	✓	✓	✓	✓
Neuberger	✓	✓	✓	✓	-
Newton	✓	✓	✓	✓	-
Nuveen	-	✓	✓	✓	✓
Pictet	✓	-	✓	✓	✓
PIMCO	In Progress	✓	✓	✓	-

Source: Managers.

## Key Conclusions

Overall, we have seen an increase in climate risk disclosures from our investment managers. Some of the key highlights include:

- This year we received responses from all 11 investment managers and last year we received responses from 9 managers. This rise in responses can be explained by the Scheme having two additional managers within the reporting year.
- Most managers report in line with TCFD disclosures and have produced a TCFD report. Only three managers have produced TCFD reports previously, and this has now increased to nine managers.
- Previously, only one manager explicitly had a temperature alignment goal, however this has increased to four managers. A further one additional manager is currently in progress with committing to this.
- Progress is still needed with managers aligning their strategies towards an explicit temperature alignment goal; however, most managers have committed towards the Paris Agreement goals and net zero.

We will continue to engage with managers to understand the future changes to the management of the Scheme's assets, including the integration of climate-related risk analysis, improvements in carbon reporting and temperature alignment and the associated timescales involved with these.



# Metrics & Targets

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



# Trustee's climate-related metrics

Our investment consultant, Aon, collected information from the Scheme's managers on their greenhouse gas emissions. Aon collated this information to calculate climate-related metrics for the Scheme's portfolio.

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 our own operations – from the goods it purchases to the disposal of the products it sells

Last year, we reported on Scopes 1 and 2 emissions only. This year we are required to report Scope 3 emissions as well. 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 our first year of TCFD reporting, we decided what metrics to annually report on. These are described below. This year we reviewed the metrics, and we believe they continue to be suitable for us to report against. We have also selected an additional portfolio alignment metric to report on which is a portion of portfolio SBTi aligned.



### Total Greenhouse Gas emissions

The total greenhouse gas (GHG) emissions associated with the portfolio. It is an absolute measure of carbon output from the Scheme's investments and is measured in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e).

This year we were able to obtain scopes 1&2 and scope 3 emissions from the managers separately.



### 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 (tCO<sub>2</sub>e/£m).

This year we were able to obtain scopes 1&2 and scope 3 emissions from the managers separately.



### Data quality

A measure of the proportion of the portfolio that we have 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.






### Portion of portfolio SBTi aligned

A metric which gives the alignment of the Fund'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 percentage of underlying portfolio investments with declared net-zero or Paris-aligned targets that have been verified by the Science based Target initiative (SBTi).

In the table below are the climate-related metrics for the Scheme's 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.

### The carbon metrics

	Year	% of assets	 Data Quality (%)		 Total GHG emissions (tCO <sub>2</sub> e)		 Carbon footprint (tCO <sub>2</sub> e/£m)	
			Scopes 1 & 2	Scope 3	Scopes 1 & 2	Scope 3	Scopes 1 & 2	Scope 3
Equities	2023	27.1	89.6	89.3	15,918	118,515	72.4	540.7
	2022	29.0	93.0	n/a	31,799	n/a	100.2	n/a
Diversified Growth Funds	2023	8.4	70.4	70.0	2,146	21,178	40.0	396.5
	2022	17.0	56.0	n/a	13,590	n/a	74.5	n/a
Illiquids	2023	6.8	13.6	96.5	30	9,657	3.6	161.3
	2022	3.0	-	83.6	-	368	-	16.4
Bonds	2023	37.8	60.7	50.5	13,503	78,331	65.0	452.8
	2022	36.0	71.0	-	42,073	-	76.6	-
LDI	2023	19.7	99.6	-	14,438	n/a	81.3	n/a
	2022	15.0	100.0	0.0	15,500	n/a	94.1	n/a

Source: Investment managers / Aon. Data as at 30 September 2023 unless specified otherwise. Where the data was provided in USD or EUR terms, Aon converted it to GBP terms using the appropriate FX rate as at 30 September 2023.

Scope 3 emissions are not available for 2022 because this is the first year of reporting Scope 3 emissions.

- Cash was excluded from carbon data analysis due to the nature of asset class and on the materiality basis.
- Brookfield and Mirova provided data as at 31 December 2022 and Neuberger provided data as at 30 June 2023.
- Mirova was unable to split the emissions by Scopes 1&2 and 3, the data is shown for Scopes 1, 2 & 3 combined.
- Nuveen provided emissions data for Scope 3 only.
- JP Morgan was unable to provide Scope 3 data.
- Please note that Newton was fully divested in June 2023, but for information we have included carbon related data for the fund. Newton – Real Return Fund: Scope 1&2 carbon footprint 41.1 (tCO<sub>2</sub>e/£m); Scope 3 carbon footprint 530.0 (tCO<sub>2</sub>e/£m); Data Quality (39.1%).

## Notes on the metrics calculations

### The carbon metrics

Aon calculated the carbon metrics for the Scheme based on the information provided by the managers. The table below shows the broad approach used for calculating each metric.

Metric	Approach
<b>Carbon footprint</b>	The investment manager provided the carbon footprint metrics for the funds.
<b>Total GHG emissions</b>	Using the carbon footprint, we calculated the Scheme's proportion of each investment fund's emissions by calculating <i>carbon footprint x £m Scheme assets invested in the fund x data quality</i>
<b>Data quality</b>	The investment managers provided data quality.

### Comments

2023 emissions have been calculated accounting for the data quality, whereby the carbon emissions are attributed to the proportion of the portfolio for which the data was available for. 2022 emissions were calculated on the assumption that the carbon data provided by the managers was applicable to 100% of the investments in the fund. The improved calculation over 2023 results in a more accurate method of measuring carbon emissions on the portfolio.

Over 2023 we have observed an improvement in data availability for illiquid investments, which is a welcome observation since this asset class has historically observed limited data availability. Scope 1&2 emissions have fallen for equities and diversified growth fund assets due to divestments that occurred during the reporting year. The fall in scope 1&2 emissions for equities, diversified growth funds, as well as bonds, is also attributable to the change in methodology described in the paragraph above. LDI scope 1&2 emissions have broadly remained the same. Bonds scope 1&2 emissions fell mainly due to the accounting for the data quality metric.

Most managers were able to provide scope 3 emissions, which is a new addition to the previous year report. However, we recognise that the scope 3 emissions reporting needs to improve further.

### Portion of portfolio SBTi aligned

Asset class	% of assets	Year	Portion of portfolio SBTi aligned (%)
LDI	19.7	2023	0.3
Equities	27.1	2023	6.2
Diversified Growth Funds	8.4	2023	15.7
Illiquids	6.8	2023	n/a
Bonds	37.8	2023	20.0

Source: Investment managers / Aon. Data as at 30 September 2023 unless specified otherwise. Brookfield and Mirova provided data as at 31 December 2022 and Neuberger provided data as at 30 June 2023.

*Please note that Newton was fully divested in June 2023, however, the Manager confirmed that the portion of the portfolio SBTi aligned was 72.0%.*




## Commentary

Aon obtained this information from our investment managers and aggregated the results based on the portion of assets invested in each fund.

Aon does not make any estimates for missing data.

## Detailed breakdown

The table below shows a more detailed breakdown of the emissions from each asset class in the Scheme's portfolio (where available).

Asset class	% of assets	 Data Quality (%)		 Total GHG emissions (tCO <sub>2</sub> e)		 Carbon footprint (tCO <sub>2</sub> e/£m)	
		Scopes 1 & 2	Scope 3	Scopes 1 & 2	Scope 3	Scopes 1 & 2	Scope 3
<b>Equities</b>	<b>27.1</b>	<b>89.6</b>	<b>89.3</b>	<b>15,918</b>	<b>118,515</b>	<b>72.4</b>	<b>540.7</b>
<i>Neuberger Berman Emerging Market Equities*</i>							
Janus Henderson Passive Global Equities	27.1	89.6	89.3	15,914	118,513	54.9	408.8
<b>Diversified Growth</b>	<b>8.4</b>	<b>70.4</b>	<b>70.0</b>	<b>2,146</b>	<b>21,178</b>	<b>40.0</b>	<b>396.5</b>
BlackRock Dynamic Diversified Growth Fund	8.4	70.4	70.0	2,146	21,178	40.0	396.5
<b>Illiquid</b>	<b>6.8</b>	<b>13.6</b>	<b>96.5</b>	<b>30</b>	<b>9,657</b>	<b>3.6</b>	<b>161.3</b>
Brookfield Global Transition Fund I	3.0	64.0	100	30	6,860	3.6	522.4
Mirova Energy Transition Fund V	2.3	-	89.9	-	2,490	-	130.2
Nuveen Global Real Estate Debt Partners Funds II	1.5	-	100	-	306	-	11.1
<b>Bonds</b>	<b>37.8</b>	<b>60.7</b>	<b>50.5</b>	<b>13,503</b>	<b>78,331</b>	<b>65.0</b>	<b>452.8</b>
PIMCO Global ESG Bonds	9.9	92.9	92.3	2,130	12,453	25.5	150.1
PIMCO Diversified Income	7.7	70.7	72.7	8,261	53,545	149.0	939.1
Pictet Absolute Return	10.2	8.5	8.47	214	248	27.0	32.0
LGIM Core Plus	8.9	76.0	31.4	2,871	12,085	47.1	479.9
JPM Multi-Asset Credit	0.1	11.30	-	27	-	175.8	-
<b>LDI</b>	<b>19.7</b>	<b>99.6</b>	<b>-</b>	<b>14,497</b>	<b>-</b>	<b>81.3</b>	<b>-</b>
LGIM Bespoke LDI	19.7	99.6	-	14,497	-	81.3	-

Source: Investment managers / Aon. Data as at 30 September 2023 unless specified otherwise.

Where the data was provided in USD or EUR terms, Aon converted it to GBP terms using the appropriate FX rate as at 30 September 2023.

\*Neuberger Berman equity mandate had immaterial amount of assets as at 30 September 2023 and hence has been excluded from the table above, albeit, the associated small amounts of total emissions have been captured as part of Equity asset class.

- Cash was excluded from carbon data analysis due to the nature of asset class and on the materiality basis.
- Brookfield Global and Mirova provided data as at 31 December 2022 and Neuberger provided data as at 30 June 2023.
- Nuveen has all been provided emissions data for Scope 3 only.
- Mirova was unable to split the emissions by Scopes 1&2 and 3, the data is shown for Scopes 1, 2 & 3 combined.
- JP Morgan was unable to provide Scope 3 data.

## Notes on the metrics data

Our investment consultant, Aon, collected information from all the Scheme's investment managers on their greenhouse gas emissions. Aon collated this information to calculate the following climate-related metrics for the Scheme portfolio of assets.

### Availability of data

Please note that the information below excludes data provided for the Newton Real Return Fund, as a result of the fund's full disinvestment in June 2023.

- 8 managers provided scopes 1, 2 and 3 GHG emissions.
- 1 manager was unable to provide a split for scopes 1,2 and 3 GHG emissions
- 1 manager provided scope 1 and 2 data only.
- 1 manager provided scope 3 data only.
- 2 managers were unable to provide portion of portfolio SBTi aligned (%)
- 3 managers were unable to provide us with the data at 30 September 2023

Aon does not make any estimates for missing data.

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

We expect that in the future better information will be available from managers and this improvement will be reflected in the coming years' reporting. We plan to engage with our managers that were unable to supply emissions data to communicate our expectations for future reporting.

### How we collected the data

Our investment consultant, Aon, collected the carbon emissions data from our managers on our behalf using the industry standard Carbon Emissions Template ("CET")<sup>1</sup>. 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.



# Looking to the future

## Our climate-related target

Climate-related targets help us track our efforts to manage the Scheme's climate-change risk exposure.

### Data Quality Target

We have set a target for improving the data quality metric / reducing carbon emissions. Without meaningful data from the investment managers, it is very hard for us to measure our climate risk exposure. So, it is important to set a target to improve the quality of GHG emissions data from the managers.

Please note that this year we have shown data quality and carbon footprint for the portion of the portfolio excluding LDI and LDI portfolio separately. This is due to the differing methodology used for calculating LDI metrics, so aggregating the metrics with the rest of the portfolio could be misleading.



Based on the observation of data quality summarised in the previous section, we have agreed to the following data quality target for the Scheme's assets below.

**We have agreed to continue improving data quality and coverage by the end of 2024.**

This will allow future targets to be considered to reduce carbon footprint and aligns to the aspirational we have set. We will achieve this by:

- Engagement with managers who were unable to provide data.
- Ensure managers are providing consistent data.

### Data Quality 2022

**75.4%**  
(Scope 1&2)

**n/a**  
(Scope 3)

### Data Quality 2023

**67.5%**  
(Scope 1&2, excluding LDI)

**69.6%**  
(Scope 3, excluding LDI)

**99.6%**  
(Scope 1&2, LDI specific)

**n/a**  
(Scope 3, LDI specific)

## Carbon Footprint Target

We have agreed to the following carbon footprint target in our Missions Statement.



**Identify and implement measures which lead to reductions to the Scheme's carbon footprint by 2024**

Use 2022 as a benchmark

### 2022 carbon footprint

**81.6**

(Scope 1&2 Tonnes CO<sub>2</sub>e/£m invested)

**n/a**

(Scope 3 Tonnes CO<sub>2</sub>e/£m invested)

### 2023 carbon footprint

**64.5**

(Scope 1&2 Tonnes CO<sub>2</sub>e/£m invested, excluding LDI)

**450.4**

(Scope 3 Tonnes CO<sub>2</sub>e/£m invested, excluding LDI)

**81.3**

(LDI specific Scope 1&2 Tonnes CO<sub>2</sub>e/£m invested)

**n/a**

(LDI specific Scope 3 Tonnes CO<sub>2</sub>e/£m invested)

## Key Observations

As a result of the collection of data for the second-year reporting period, the data coverage has reduced, and the scope 1&2 carbon footprint has remained broadly the same. This can be explained by multiple divestments in the bond and equity portfolios over the Scheme year.

Scope 3 carbon data became available this reporting period and will also be monitored over the upcoming years.

Due to an increase in the number of managers being able to provide emissions data, given no strategy changes over the reporting period, we expect to see data quality improve further over the coming years in line with the wider industry.

We believe that the targets set above remain appropriate and we will assess them next year when 2024 data is available.

## What are we doing to reach the target?

To reach our target we are considering reducing the carbon footprint of individual mandates whilst looking to retain a similar risk and return profile.

The Scheme's performance against the target will be measured and reported on every year. Over time, this will show the Scheme'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.<sup>2</sup> 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.<sup>3</sup>
- 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.<sup>4</sup>
- 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.<sup>5</sup>
- 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.<sup>6</sup>
- 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.<sup>7</sup>

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<sup>2</sup> A. Cadbury, [Report of the Committee on the Financial Aspects of Corporate Governance](#), London, 1992.

<sup>3</sup> OECD, [G20/OECD Principles of Corporate Governance](#), OECD Publishing, Paris, 2015.

<sup>4</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>5</sup> Please refer to the link in reference number 10.

<sup>6</sup> Please refer to the link in reference number 10.

<sup>7</sup> Please refer to the link in reference number 10.

**Greenhouse gas emissions scope levels<sup>8</sup>** 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.<sup>9</sup>

**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).<sup>10</sup>

**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.<sup>11</sup>

**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.<sup>12</sup>

<sup>8</sup> World Resources Institute and World Business Council for Sustainable Development, [The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard \(Revised Edition\)](#), March 2004.

<sup>9</sup> PCC, [Climate Change 2014 Mitigation of Climate Change](#), Cambridge University Press, 2014.

<sup>10</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>11</sup> Please refer to the link in reference number 16.

<sup>12</sup> Energy Saving Trust, [What is net zero and how can we get there? - Energy Saving Trust](#), October 2021



## Appendix – Climate scenario modelling assumptions

The purpose of the climate scenario modelling is to consider the impact of climate-related risks on the Plan's assets and liabilities over the long-term.

The purpose of the model is to consider the different climate change scenarios and the approximate impact on the asset (and liability) values over the long-term from 30 June 2021.

Aon's model uses a deterministic projection of assets and liabilities, using standard actuarial techniques to discount and project expected cashflows.

- i. It models the full yield curve as this allows for an accurate treatment of the liabilities and realistic modelling of the future distribution of interest rates and inflation. It also allows us to truly assess the sensitivities of the assets and liabilities to changes in interest and inflation rates.
- ii. The parameters in the model vary deterministically with the different scenarios.

The liability update and projections are considered appropriate for the analysis. However, they are approximate, and a full actuarial valuation carried out at the same date may produce a materially different result. The liability update and projections are not formal actuarial advice and do not contain all the information you need to make a decision on the contributions payable or investment strategy.

The model intends to illustrate the climate-related risks the Scheme is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the portfolio allocation. 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 only captured in the deviance from the Base Case, but this is not the only risk that the Scheme faces; other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

The model has been set up to capture recent market conditions and views; the model may propose different solutions for the same strategy under different market conditions.

## Data used

The model uses the following inputs, as provided by the investment consultant and the Scheme's actuarial advisors.

- Technical Provisions as at 30 June 2021: £1,087.6m
- Assets as at 30 June 2021: £1,129.0m

Deficit contributions have been allowed for and assumed to be £10M per annum paid monthly over calendar years 2022, 2023 and 2024.

The liabilities have been modelled as a mixture of fixed-interest zero-coupon gilts and index linked zero-coupon gilts of appropriate duration, which are annually rebalanced to maintain duration. The approach used to model the LDI assets is consistent with the liabilities, so no allowance is made in the modelling for CPI or LPI increases.

# 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

#### Examples

- Extreme heat
- Extreme rainfall
- Floods
- Droughts
- Storms (e.g., hurricanes)

### Chronic

#### Examples

- Water stress
- Sea level rises
- Land degradation
- Variability in temperature
- 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<sup>13</sup> 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<sub>2</sub>e). This enables the different gases to be compared on a like-for-like bases, relative to one unit of carbon dioxide.

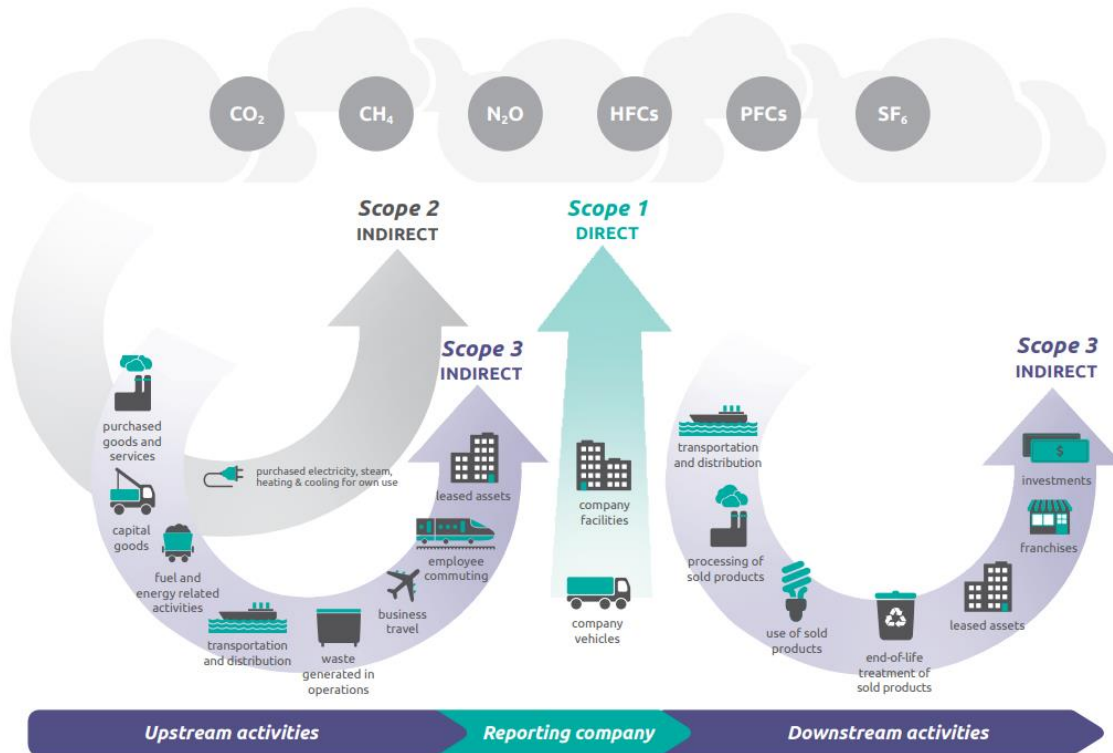
## Six main greenhouse gases identified by the Kyoto Protocol

					
Carbon dioxide	Methane	Nitrous oxide	Hydro-fluorocarbons	Per-fluorocarbons	Sulphur hexafluoride
CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	SF <sub>6</sub>

<sup>13</sup> [https://unfccc.int/kyoto\\_protocol](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