



# TCFD

TASK FORCE ON  
CLIMATE-RELATED  
FINANCIAL  
DISCLOSURES

## Climate disclosures for year ended 31 March 2024

Produced by: The Northern Powergrid Group of the ESPS (“the Group”)

Date: June 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 Group's vulnerability to climate-related risks will help us to 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. In addition, greater transparency around climate-related risks should increase accountability and provide decision-useful information to investors and beneficiaries.

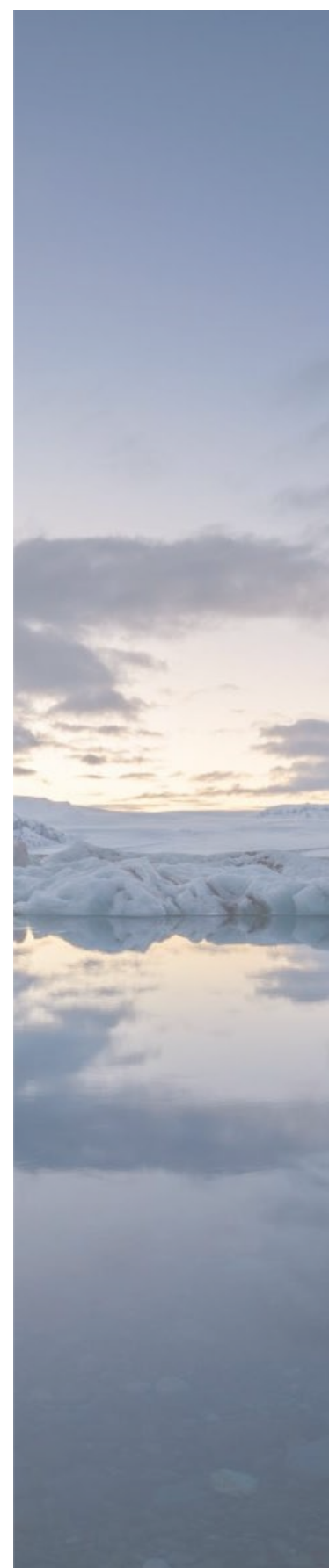
This report has been prepared by the trustees of the Group (the "Group Trustees"). It is the second annual climate-related disclosure for the Group. It relates to the year ending 31 March 2024 and is aligned to the Taskforce for Climate-related Financial Disclosures ("TCFD") framework.

The Group is one of the segregated Groups within the Electricity Supply Pension Scheme (the "ESPS"), which is a UK occupational pension scheme with assets of >£40bn. Each Group has its own trustees who have defined responsibilities in relation to a particular Group, including the setting of investment strategy. There is a separate Scheme Trustee which has defined responsibilities for the whole of the ESPS. In particular, the Scheme Trustees have exclusive responsibility for asset ownership and custody, have administrative control of assets, and implement the investment strategy decisions made by each group's trustees.

This report relates to the Northern Powergrid Group only. The contents of this report have been shared with the Scheme Trustee to help it produce an equivalent report for the ESPS. The four elements covered in the report are:

- 1) Governance:** The Group's governance around climate-related risks and opportunities.
- 2) Strategy:** The potential impacts of climate-related risks and opportunities on the Group'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 Group Trustees in accordance with the regulations set out under The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the "Regulations").



---

# Table of contents

Introduction	2
Executive summary	4
Governance	6
Strategy	10
Risk management	28
Metrics & Targets	34
Appendices	44
Glossary	45
Appendix 1 – An explanation of climate risk categories	47
Appendix 2 – Climate scenario modelling assumptions	49
Appendix 3 – Greenhouse gas emissions in more detail	51

# Executive summary

This report sets out the actions that we, the Group Trustees, have taken to understand the potential impact climate change could have on the Group.

We have worked closely with our investment adviser to identify the climate-related risks and opportunities faced by the Group, and to understand ways we can manage and mitigate those risks.

**Our overarching conclusion from preparing this report is that the portfolio is resilient to climate change and the Group's investment managers are properly allowing for climate-related risks and opportunities.**

## Overview of the Group

The Group's investment portfolio comprises a range of different asset classes including equities, bonds, property, and liability driven investments ("LDI"). Within this report we consider the impact of climate-related risks on those asset classes, the investment strategy, and the funding of the Group.

The Additional Voluntary Contributions ("AVCs") within the Group are small in size compared to the Group's defined benefit liabilities and, therefore, have been deemed to be immaterial for the purposes of this report.

The Group Trustees have been supported by their investment adviser, Aon Investments Limited ("Aon"), in producing this report.

### Governance



- The Group is a Defined Benefit (DB) pension scheme with AVCs.
- The Group has an asset portfolio of £1,098M which is invested across a range of asset classes including equities, alternatives, and liability driven investments ("LDI").
- We, the Group Trustees, are ultimately responsible for the oversight of all strategic matters relating to the Group, including climate-related risks and opportunities.
- We delegate the day-to-day oversight of the Group's climate change risk management to the Funding & Investment Committee ("F&IC").

### Strategy



- Our qualitative analysis of climate-related risks showed that the asset classes in which the Group invests are expected to be impacted to some degree, and that over time the risk exposure is expected to increase.
- We have also identified potential climate-related opportunities for the Group's asset classes.
- We have refreshed the climate scenario analysis which shows that the Group has a good degree of resilience against climate-related risks. The resilience is primarily driven by the high level of diversification in the assets, low risk in the investment strategy, and high levels of liability hedging in place.



## Risk Management

- We have established a process to identify, assess and manage the Group's climate-related risks and opportunities. This is integrated into the Group's wider risk management framework.
- Our Climate Risk Management framework is set out on pages 28-33, which supports the ongoing management of climate-related risks and opportunities. Alongside this, the Group Trustees undertake periodic training on responsible investment to understand how environmental, social and governance (ESG) factors, including climate change, may impact the Group's assets and liabilities. Details of this training over the last Group year are included in the Governance Section and Risk Management Section.



## Metrics and Targets

We have disclosed information on four climate-related metrics for the Group:

- Total Greenhouse Gas (GHG) Emissions.
- Carbon Footprint.
- Data Coverage.
- Portion of the portfolio with either declared net zero or Paris-aligned targets.

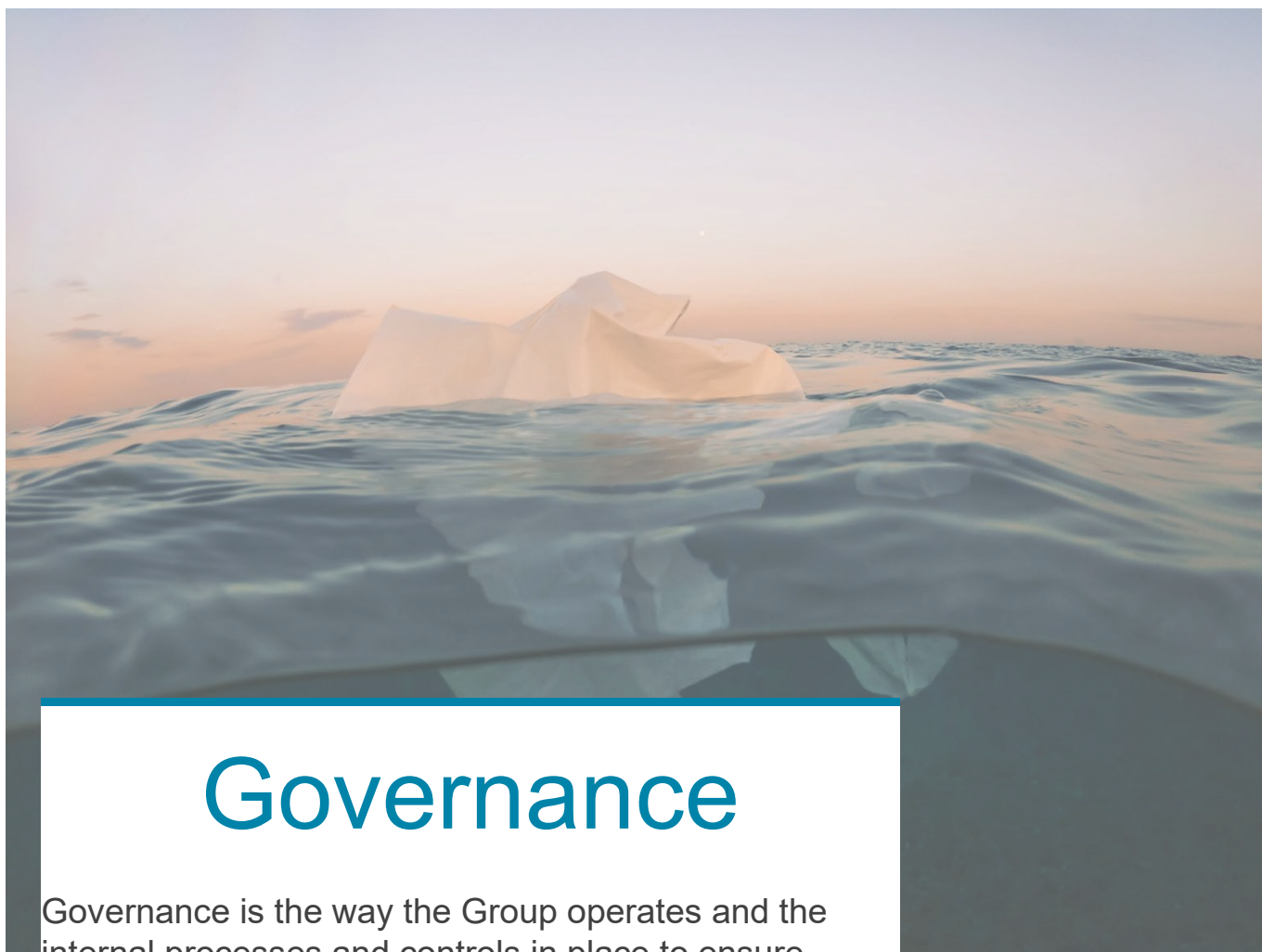
The Group Trustees have set a target for the Group to increase data coverage across the portfolio to 90% by 2028 for scope 1, 2 and 3 emissions. The Group Trustees are pleased to see an improvement in coverage since last year. More information can be found in the Metrics and Targets section of the report set out on pages 34 - 41.

We hope you enjoy reading this report and understanding more about how we are managing climate-related risks and opportunities within the Group. Please see the Glossary at the end of this report for more information on some of the terms we have used.

### *Chair's signature*

on behalf of the Group Trustees of the Northern Powergrid Group of the ESPS.





# Governance

Governance is the way the Group 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 Group Trustees and others making Group-wide decisions, such as those relating to the investment strategy, funding, and the ability of the sponsoring employer to support the Group.



# Our Group's governance

As Group Trustees, we are responsible for overseeing all strategic matters related to the Group. This includes the governance and management frameworks relating to ESG considerations and climate-related risks and opportunities.

The Group Trustees' agreed climate-related beliefs and approach to managing climate change risk are set out in the Group's Statement of Investment Principles ("SIP"), which is reviewed annually.

## Our climate beliefs

We believe that the risks associated with climate change could have a materially detrimental impact on the Group's investment returns.

We also believe that climate-related factors may create investment opportunities. We will seek to capture such opportunities through our investment portfolio where it is appropriately aligned with our strategic objectives and fiduciary duty.

Climate-related risks and opportunities are integrated into our risk management framework so we can maintain oversight of the climate-related risks and opportunities that are relevant to the Group.

We receive training on an annual basis (or more frequently if required) on climate-related issues to ensure that we have the appropriate knowledge and understanding to support good decision-making.

We are ultimately responsible for oversight of all strategic matters related to the Group and for making Group wide decisions. This includes approval of the governance and management framework relating to ESG considerations and climate-related risks and opportunities.

## Group Trustees' update

During the year to 31 March 2024, the Group Trustees discussed stewardship priorities on which they will focus with their managers.

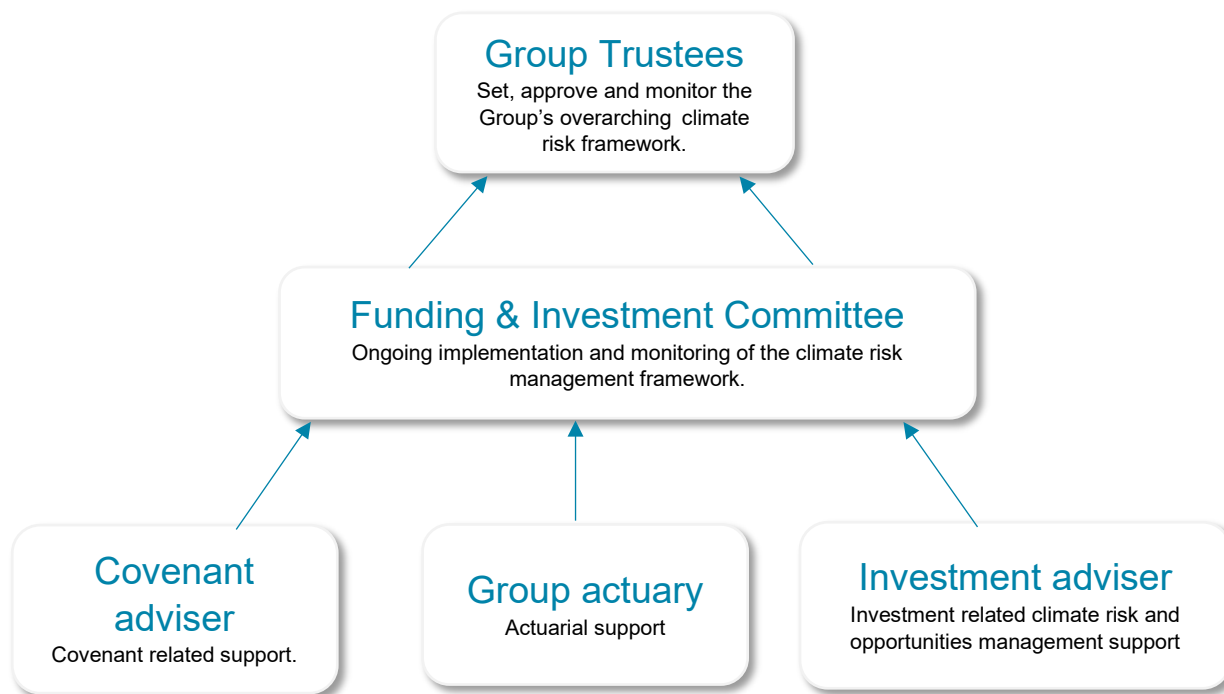
This was in light of the updated guidance from the DWP regarding how it expects trustees to approach stewardship, and including consideration of financially material climate factors and non-financial factors.

In relation to stewardship themes, no specific priorities beyond climate change have been identified and the Group's asset managers are aware of the Group Trustees' stewardship policy and priorities.

The Group Trustees also had training to understand the ESG risk profile of their portfolio and the ESG ratings of each underlying manager provided by Aon.



We delegate the oversight of the Group’s climate change risk management and investment matters to the F&IC. This committee keeps the Group Trustees updated on material climate-related developments on a regular basis (at least annually).



## Role of the F&IC

The F&IC seeks to ensure that investment decisions include consideration of climate-related risks and opportunities within the context of the Group’s wider risk and return requirements and are consistent with the climate change policy as set out in the SIP.

The F&IC regularly monitors and reviews progress against the Group’s climate change risk management objectives. The F&IC keeps the Group Trustees apprised of any material climate-related developments.

Implementation is detailed later in this report, but key activities delegated to the F&IC include:

- Ensuring investment proposals explicitly consider the impact of climate risks and opportunities;
- Engaging with the investment managers to understand how climate risks are considered in their investment approach; and
- Working with the investment Adviser and investment managers to ensure that stewardship activities are being undertaken appropriately on the Group’s behalf and relevant climate-related metrics as set out in the TCFD recommendations are disclosed.

### Group Trustees’ update

The Group Trustees and F&IC have spent a considerable amount of time and resource in understanding the Group’s climate-related risks and opportunities to be able to provide a comprehensive TCFD report.

Additional time has been spent this year in updating the climate change scenario analysis and the introduction of new metrics.

The Group Trustees expect the required time and resource to reduce in future years.



## How we work with our advisors

We expect our advisers and investment managers to bring important climate-related issues and developments to our attention in a timely manner. We also expect our advisers and investment managers to have the appropriate knowledge on climate-related matters and seek to question or challenge information received from third-parties for reasonableness in line with our fiduciary duties. Such discussions are recorded in the minutes of meetings.

We review annually the quality of our advisers' provision of advice and support on climate-related issues. For our investment adviser this is part of the annual qualitative review of their objectives in respect of the service they offer to the Group.

**Investment Adviser** – our investment adviser, Aon, provides investment-related strategic advice and support on our climate-related risks and opportunities. This includes regular training and updates on climate-related issues, climate change scenario modelling and ESG ratings for investment managers. Aon have supported us on climate-related matters at numerous F&IC and Group Trustee Board meetings as well as at meetings with our investment managers.

Aon has qualifications and expertise in this area, including their participation in cross-industry initiatives and being a signatory of both the Principles for Responsible Investment (PRI) and the UK Stewardship Code.

**Group Actuary** - the Group Actuary, Philip Dennis, helps us assess the potential impact of climate-related risks on the Group's funding where relevant.

As part of its assessment of its advisers' climate-related competence, the Group Trustees will seek to understand how climate-related factors affect the funding assumptions used for the Group, and which sources of expertise the Scheme Actuary has used in determining the appropriate assumptions to use.

**Covenant adviser** – The Group Trustees' covenant adviser, Aon, helps the Group Trustees understand the potential impact of climate change risk on the covenant of the Principal Employer (Northern Electric plc) and each of the Participating Employers (Cal Energy Resources Limited, Integrated Utility Services Limited, Northern Powergrid (Northeast) plc, Vehicle Lease and Service Limited, Northern Powergrid (Yorkshire) plc).

As part of covenant advice sought, the Group Trustees will seek to understand how climate-related factors could affect the sponsoring employers' strategies over time and consider this in light of the Group's de-risking journey. In doing so, the Group Trustees will seek information from the covenant adviser regarding its credentials in assessing climate-related factors.

### Group Trustees' update

Throughout the year, the Group Trustees have met with their investment adviser to ensure that they are meeting the regulatory requirements and obligations expected from them with regards to reporting on climate-related risks and opportunities.

The TCFD report, SIP and Engagement Policy Implementation Statement (EPIS) all form evidence of the governance that the Group Trustees have in place.

The Group Trustees also receive a Responsible Investment dashboard that is updated annually and provides visibility of the climate-related risk credentials of their investment managers to inform further engagement activity.



# Strategy

Assessing the climate-related risks and opportunities associated with the Group's chosen investment strategy is key to understanding the impact that climate change could have on the Group in the future.



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

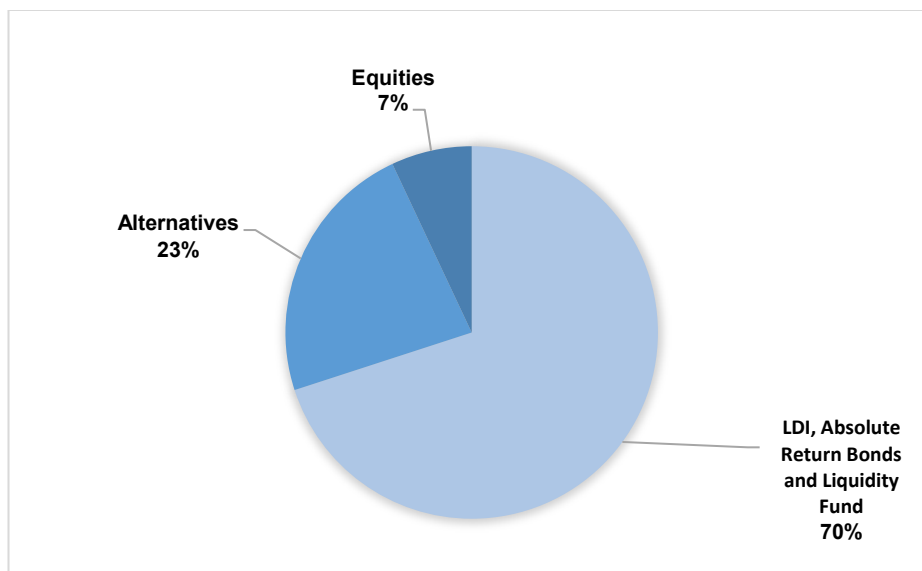
We carried out a qualitative risk assessment of the asset classes in which the Group is invested. From this we identified which climate-related risks could have a material impact on the Group and identified suitable climate-related opportunities. Recent engagements with our investment managers show that the climate-related risks and opportunities are little changed from those reported last year.

For this assessment, we surveyed our investment managers asking them to rate the climate-related risks and opportunities they believe their fund(s) is exposed to. We will continue to engage with these managers, and we expect further improvements to follow in future.

## Our investments

The Group's investment portfolio is diversified across a number of strategies split across equities, alternatives and liability matching assets.

The Group's asset allocation is as follows:



Asset allocations as at 31 December 2023

Note: The Groups asset allocation also includes 0.5% in cash, but this has not been included on the grounds of what is deemed both material and proportional. Alternatives include listed infrastructure, UK property and Insurance-Linked Securities ("ILS") funds.

### Group Trustees' update

In 2023, we asked our investment managers to assess their exposure to climate-related risks for the funds the Group is invested in.

This year, we asked our managers to review their risk assessments and update them if necessary.

Our qualitative risk assessment is based on the updated information from the managers.

## How the asset class risk assessment works



### Risk categories

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.

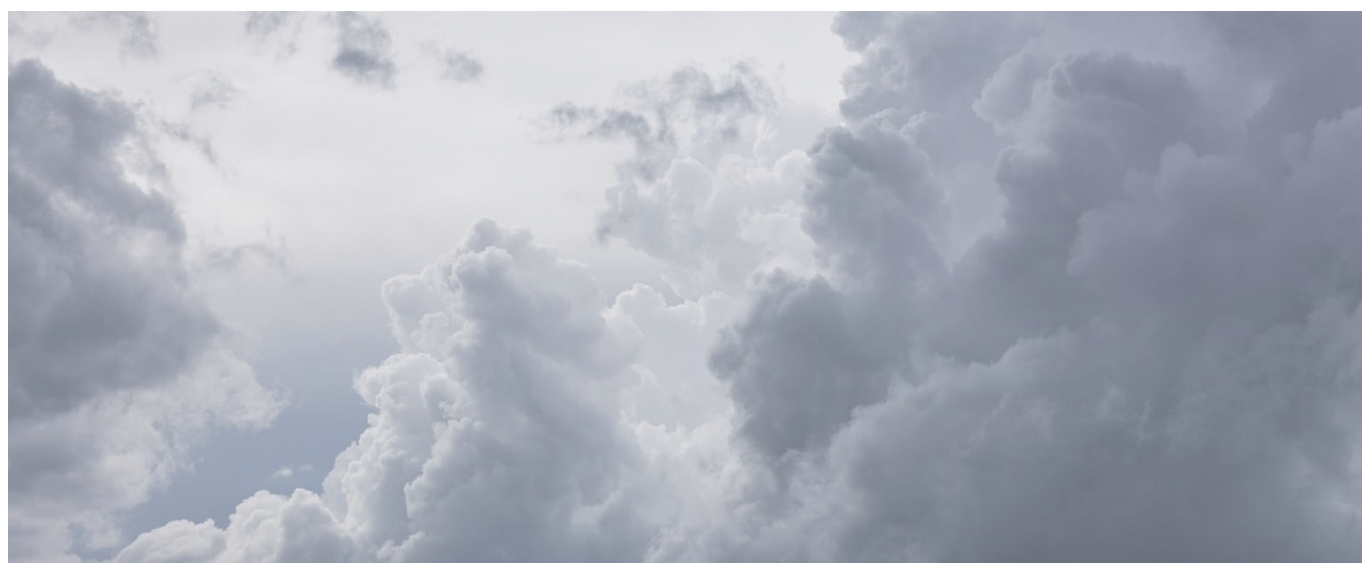


### Time horizons

We assessed the climate-related risks and opportunities over multiple time horizons considering the liabilities of the Group and its obligation to pay benefits. We decided the most appropriate time horizons for the Group are:

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

More details about transition and physical risks can be found in the [Appendix](#).



## Climate-related risk assessment

### Liability Matching Assets – 70% of the Group’s portfolio.

#### LDI Portfolio

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	G	G	G	NA
Medium (4-10 years)	G	G	G	G	G	NA
Long (11-20 years)	G	G	G	G	G	NA

Source: Manager. Reputation is not a risk modelled by current analytics for this manager.

#### Physical and Transition risks

The LDI portfolio is resilient across all time horizons against the effects of both physical and transition risks associated with climate change and is, therefore, classed as low risk. The manager assigns risk ratings to securities depending on how the holdings today are exposed to physical and transition risks in different scenarios within the manager’s underlying proprietary climate risk models.

#### Bonds Plus Fund

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	G	G	G	G
Medium (4-10 years)	G	G	A	G	A	A
Long (11-20 years)	A	A	A	A	A	A

Source: Manager.

## Physical risks

The frequency and severity of acute physical risks are expected to rise, reflecting rising physical impacts of climate change. In most cases, these will be limited to isolated geographies and assets and insurance coverage is expected to mitigate most significant risks given the profile of the existing holdings.

The manager believes that chronic risks of climate change are increasingly recognised as a result of changing weather and precipitation patterns, but in general are not expected to pose major climate-related financial risks in the short term.

## Transition risks

The manager believes that policy and legal risk, whilst increasing, is expected to be manageable in the short term and that regulatory interventions have focused heavily on the most emissions-intensive activities, such as thermal coal power generation. The manager stated that the technological risks of a low-carbon transition are expected to be low in the short-term, with some disruption as a result of shifting demands and services. Similarly, reputational risk is likely to remain isolated to a handful of sectors and issuers in the short term.

## Alternatives – 23% of the Group’s portfolio.

### Insurance Linked Securities (“ILS”)

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	A	A	A	G	G	G
Medium (4-10 years)	A	A	A	G	G	G
Long (11-20 years)	A	A	A	G	G	G

Source: Manager.

## Physical risks

Investments in non-Life insurance-linked securities are predominantly exposed to acute and chronic natural catastrophe risks. There is a potential link between climate change and increased severity / incidence of some perils, which may have a direct negative financial impact for the Group. However, when there is increased incidence and severity of these natural catastrophes, this will ultimately push up premiums and increase demand for insurance coverage, and so grow the market.

## Transition risks

The manager predicts a low financial risk in the market in which they operate. Demand for insurance products will continue to increase as will the demand for capital solutions in the insurance market. The manager also predicts a low financial risk to their technological infrastructure and products due to enhancing their ESG reporting tools as part of their investment workflow.

### UK Property

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	G	G	G	G
Medium (4-10 years)	G	G	A	G	G	A
Long (11-20 years)	G	G	A	G	G	A

Source: Manager

## Physical risks

The manager confirmed that its approach to physical climate risk is aligned with the TCFD framework and considers both acute and chronic physical risks. Acute physical risks arise from changes in event-driven hazards, such as an increased severity of cyclones, hurricanes, or floods.

Locations with very high physical risk exposure are not favoured in the manager's investment strategies but are not excluded if an asset is considered to be resilient to such risks or mitigation measures can be implemented to create a resilient asset.

## Transition risks

The manager assesses transition risk at an asset level and uses Carbon Risk Real Estate Monitor ("CRREM") methodology which allows real estate owners and asset managers to estimate exposure to climate-related market risk using country and asset type specific decarbonization pathways with an open-source tool. The manager also identified that the portfolio's market value weighted average stranding year is 2038<sup>1</sup>.

<sup>1</sup> Stranding assets are those which are vulnerable to factors such as environmental challenges, changing resource landscapes, technological innovation, changes in regulations and liability and evolving social norms. Such changes can result in the devaluation or non-performance of assets, thus making them 'stranded'.

Property Unit Trust

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	G	G	G	G
Medium (4-10 years)	G	G	A	A	G	G
Long (11-20 years)	A	A	R	A	A	A

Source: Manager.

**Physical risks**

The manager has undertaken physical risk screening for all standing assets utilising the service provider Four Twenty Seven (now Moody's). Risk thresholds are characterised through scores for six hazards: floods, heat stress, hurricanes & typhoons, sea level risk, water stress and wildfires. Acute risks are characterised predominately through scores for flooding hazards including fluvial, pluvial, and flash flooding. The manager recognises the likely increased frequency and severity of acute physical climate-related risks in the long term.

**Transition risks**

The manager recognises that 2050 is a key date for achieving net zero carbon emission for the UK. Risks associated with building-related policy and legislation are largely unknown at present. As such, there is a higher potential financial risk exposure at longer timescales. The manager utilises tools to ensure a forward-looking approach to ESG that enables associated risks and required mitigation measures to be identified and implemented early and is committed to achieve net zero carbon across all the commercial real estate assets managed for their clients by 2050 or sooner.



## Equity – 6.7% of the Group’s portfolio.

### Global Passive Equity

Time horizon	Physical risks		Transition risks			
	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	G	G	G	A
Medium (4-10 years)	A	G	A	A	A	A
Long (11-20 years)	A	A	R	A	R	A

Source: Manager.

### Physical risks

In the medium to long term, the manager’s analysis shows exposure to physical risks through its investments and the impact on the wider economy resulting from uncontrolled climate change. As extreme weather events become more frequent, severe, and unpredictable, they are likely to have a growing impact at the portfolio level – especially as impacts become increasingly felt in temperate climates, where much of today’s global equity value is concentrated.

### Transition risks

The medium term is a crucial period for the climate transition, as time is running out to stay within the carbon budget of a well-below 2°C future. As a result, policy acceleration is to be expected over the next 10 years, with a significant expansion in carbon pricing across the globe.

Over the longer term, most Paris-aligned pathways envision a large drop in demand for fossil fuels, especially coal and oil and internal combustion engine vehicles – with potentially large financial repercussions at a global equity index level depending on companies’ mitigative actions up until that point.

UK Passive Equity

Physical risks			Transition risks			
Time horizon	Acute	Chronic	<i>Policy and Legal</i>	Technology	Market	Reputation
Short (1-3 years)	G	G	A	G	G	G
Medium (4-10 years)	A	G	R	A	A	A
Long (11-20 years)	A	A	R	A	R	A

Source: Manager.

**Physical risks**

In the short term, the manager believes that such risks are relatively geographically concentrated and not expected to have a material financial impact on the fund. Over the medium term, warming levels and resulting physical impacts are not expected to vary significantly across the orderly or disorderly transition scenarios.

As extreme weather events become more frequent, severe, and unpredictable in the long term, chronic physical risks are likely to become significant across all scenarios, with especially significant risks in a hothouse world, where climate change remains unabated. Climate change may induce migration from at-risk regions, social unrest, adverse health impacts and other social problems.

**Transition risks**

There would need to be significant climate policy change in the short term in an orderly transition scenario, with equity values likely to see some volatility as a result.

Technology change is accelerating, and companies should already be preparing for the medium- and long-term impacts of this shift, hence the low-risk rating.

The manager believes that the medium term is a crucial period for the climate transition, as time is running out to stay within global carbon budgets for limiting global warming to below 2°C. The largest risk for this fund is the market risk in the long term.

There is risk from a market perspective that demand and supply for key raw materials will be mismatched going forward. The manager believes that a disorderly transition could be disruptive to the whole economy, creating significant additional risk to equity values in the long term.

---

## Key conclusions

Overall, we are comfortable with the level of understanding that our managers have demonstrated in their responses to questions about climate-related risks. The Group has already undertaken some de-risking activities (including a reduced allocation to equities) to consolidate its strong funding position and will be considering further portfolio changes in the coming months.

Diversification across asset classes, sectors and regions is important to manage climate-related physical and transition risks for the Group. Equity is deemed a medium to high-risk area in terms of exposure to climate-related risks, indicated by the amber and red ratings over all time horizons.

Similarly, the risks associated with insurance-linked securities are also indicated as amber across all time horizons and there is a particular exposure to acute and chronic physical risks. This could have a negative impact on the Group, but it is noted by the manager that whenever there is an increase of such incidences, this will ultimately increase demand for insurance coverage which expands the market.

Property is presented as a low to medium risk, mainly in the long term and particularly in relation to physical climate risk. The static nature of property investments could present a risk to the Group, particularly if they are in regions that are vulnerable to climate change. The Group's property fund managers recognise the likely increased frequency and severity of acute physical climate-related risks in the long term.

The Group's liability driven investment strategy invests in UK Government bonds, cash instruments and swaps to manage risk. Most governments in developed markets - including the UK - have set carbon reduction targets. These assets provide a good level of protection against interest and inflation rate changes that might arise from climate-related risks.

---

## Climate-related opportunities

We have identified some climate-related opportunities which may be suitable for the Group across the short, medium, and long-term time horizons:



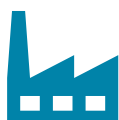
### Cleaner energy

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

Source: Managers

As part of the Group's TCFD reporting, the Group Trustees worked with the Group's investment adviser to understand what climate-related opportunities our investment managers believe the Group can benefit from.

All managers provided a response which ranged from looking into low-carbon options and climate resilient buildings from the property managers to use-of-proceeds (UoP) bonds from the LDI managers.

Green bonds dominate the impact bond issuance market, including bonds promising to finance projects that will enable the transition to a net-zero economy and help tackle climate change, such as renewable energy projects and green buildings. These are both examples that the Group's underlying managers are considering as climate-related opportunities.

These investment opportunities are considered on a case-by-case basis. However, at the time of writing, the Group's investment strategy demonstrates resilience to climate-related risks and no further action has been taken with regards to the climate opportunities above.



# How resilient is the Group to climate change?

We carried out climate change scenario analysis in 2021 to better understand the impact climate change could have on the Group's assets and liabilities. We have reviewed the scenario analysis reported last year and concluded that it is necessary to refresh the analysis this year.

The analysis considers three climate change scenarios, designed to provide a reasonable range of possible climate change outcomes. The climate scenarios are compared to a "base case" scenario.

Each climate scenario considers what may happen to the Group when transitioning to a low carbon economy under different temperature-related environmental conditions. The scenarios aim to illustrate the climate-related risks the Group is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the investment portfolio. These scenarios were developed by Aon and are based on detailed assumptions. They are only illustrative and are subject to considerable uncertainty.

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 the Group faces. Other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

## Group Trustees 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 refreshed within the 3-year window include:

- a 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.

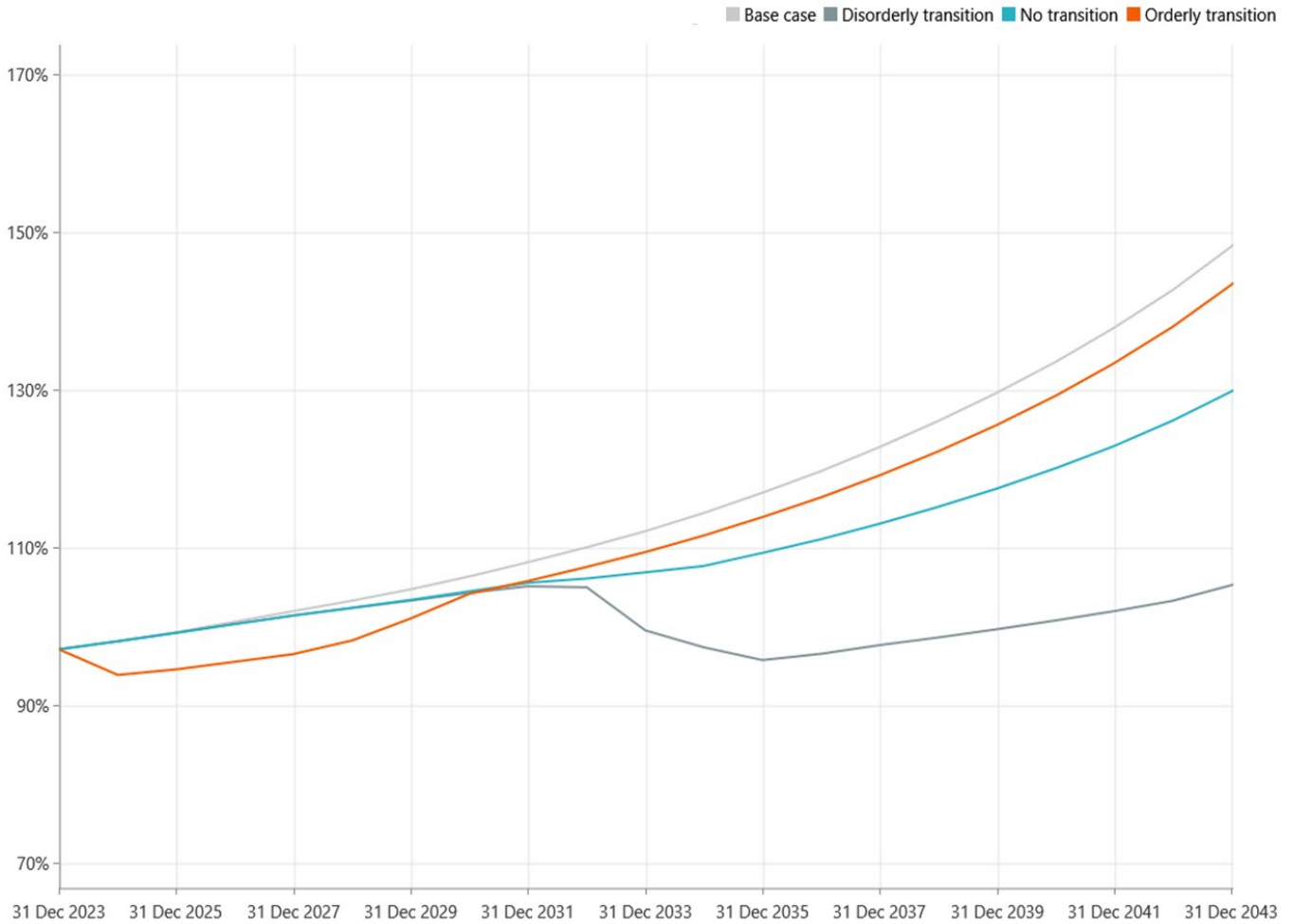
Details of the climate scenarios we chose to analyse are set out in the table below.

Scenario	Reach net zero by	Degree warming vs pre-industrial levels by 2100	Introduction of environmental regulation	Scenario description
Base Case	2050	~2°C – 2.5°C	-	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	+4°C	Late and Aggressive	No further action is taken to reduce GHG emissions leading to significant global warming.
Disorderly Transition	After 2050	<4°C	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	<2°C	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

## Impact on the funding level

The F&IC reviewed scenario analysis which considered the potential impacts of climate change on the Group's strategic asset allocation and liabilities (measured on the Gilts+0.3% basis) and, therefore, its funding position. The analysis is shown in the chart below.



Source: Aon. Effective date of the impact assessment is 31 December 2023

## Impact on the funding level

### Key conclusions

Overall, we are comfortable with the level of resilience exhibited by the investment portfolio, and we are not going to make any changes to the Group's investment strategy as a result of this analysis.

The Group's investment portfolio shows good resilience to climate-related risks in all three climate scenarios modelled. This is because of the low-risk investment strategy used by the Group. The portfolio is diversified across different asset classes, geographic regions and market sectors. Also, the Group invests in assets which provide protection against changes in interest rates and inflation expectations.

Over the short term, the worst-case scenario for the Group is the orderly transition, due to an orderly transition shock (from the immediate, coordinated action taken). However, the Group recovers and stays well-funded.

Over the long term, the worst-case scenario for the Group is the disorderly transition. Although initially the funding level improves, after 10 years the funding level deteriorates due to a disorderly transition shock. However, it recovers and stays above 100% by the end of 20-year modelling period.

The table below describes the impact of each scenario on the Group over short-, medium- and long-term time horizons.

Scenario	Summary of the scenario	Summary of the impact to the Group
<b>No Transition Scenario</b>	<p><b>In the short term:</b> No action is taken to combat climate change.</p> <p><b>In the medium term:</b> No action is taken to combat climate change.</p> <p><b>In the long term:</b> 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.</p>	<p><b>In the short term:</b> The Group experiences a mild increase in the funding level but increasing risks posed to the overall well-being of members and their beneficiaries.</p> <p><b>In the medium term:</b> The funding level slightly lags some of the other scenarios modelled at the 10-year mark.</p> <p><b>In the long term:</b> The funding level improves on a similar trajectory to the other scenarios modelled but at a slower pace. In the long term. This is the second worst-case scenario for the Group (albeit still resulting in a strong funding position).</p>



## Disorderly 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.

### In the short term:

The funding level improves in line with the other scenarios modelled in the short term.

### In the medium term:

The funding level deteriorates after 10 years due to a disorderly transition shock, sending the funding level below the 100% mark.

### In the long term:

The funding level for the Group recovers and stays slightly above 100% by the end of the 20-year modelling period. This is the worst-case scenario for the Group.

## Orderly 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.

### In the short term:

This is the worst scenario for the Group in the short term, due to an orderly transition shock taken from the immediate, coordinated action towards a low-carbon economy.

### In the medium term:

Under this scenario, at the 10-year mark the Group has recovered its funding levels to be in line with/better than most other scenarios modelled.

### In the long term:

The funding level remains well above 100%, this is the third best-case scenario for the Group, falling short of the Base Case.

## Comparison with previous analysis

The scenario analysis conducted this year and last year shows relatively similar funding level results across scenarios, as allocations to different asset classes have remained largely unchanged. In the long term, the smooth transition and disorderly transition scenarios remain the best and worst outcomes for the Group respectively.

We have not taken any action as a result of the climate change scenario modelling given that the Group is expected to be fairly resilient to climate change. The Group Trustees are currently considering how to evolve the portfolio as the funding level improves and the liabilities mature, and we will consider relevant climate-related opportunities for the Group as part of that review.

## Modelling limitations

Please refer to the [Appendix](#) for further details in relation to the assumptions used for the scenario analysis and its limitations.

## Covenant Assessment

Overall, the Group Trustees are comfortable with the limited impact of climate-related risks on the covenant.

The Group is not expected to be reliant on deficit repair contributions (DRCs) as it is both fully funded on a Technical Provisions (TP) basis and is well hedged, so the sponsor covenant risk is reduced. To the extent that the Group Trustees expect to rely on the covenant going forward, the Group Trustees are also comfortable that the potential impact of climate-related risks on the covenant is expected to be minimal in the scenarios the Group Trustee have considered and the time horizons that are of most concern to the Group.

On the grounds of proportionality and given that the overall findings of the scenario analysis conducted indicate that the Group's portfolio is resilient to climate related risks, the Group Trustees have not commissioned additional scenario analysis for the employer to complement the funding analysis undertaken. However, on the basis that the most significant risks posed to the funding level in the long term are projected to materialise in the disorderly scenario, we expect that in this scenario there will likely be more reliance on the covenant. That said, the funding level is projected to recover thereafter to slightly above full-funding and so reliance on the covenant is expected to be minimal in the long-term. In the two other scenarios modelled, the reliance on the covenant is expected to be more limited relative to the disorderly scenario in the long-term, given that a less material impact on funding is expected.

The Group Trustees' covenant adviser has noted that the sponsor's environmental risk is moderately negative and reflects the exposure of Northern Powergrid's distribution businesses to physical climate risk. This exposure is mitigated by reinforcing the distribution network and regulatory protections that reduce the adverse impact on operational cash flows of more extreme weather events.

The Group Trustees are also reassured by Northern Powergrid's climate resilience strategy for 2023-28, which recognises that climate change represents a significant ongoing risk to the network and its customers.

As part of planning for the 2023-28 period, Northern Powergrid has:

- Used the Meteorological Office's UK Climate Projections 2018 (UKCP18) information to consider a range of scenarios (or climate change pathways) for the effect of climate change on the local weather; and
- Assessed the impact of climate change and severe weather on the organisation and asset base to understand the risks and to target adaptations.

This has allowed Northern Powergrid to identify the following priority risks and their impact on the network:

- extreme prolonged or intense rainfall leading to flooding;
- extreme heat leading to reduced performance and efficiency of assets;
- storms leading to operational failure, faults and loss of supplies to customers; and
- increases in temperature / rainfall leading to extended growing seasons.

The following mitigation actions have been identified to be carried out over the 2023-28 period:

- adopt bespoke adaptations to mitigate the most significant risks – continuing to maintain compliance with industry requirements for flood mitigation and building on the 2015-23 programme of works that ensured that 271 major ‘at risk’ sites (99 per cent) will meet these standards by the end of 2023;
- deliver long-term synergistic resilience through their core asset replacement programmes - ensuring standards and specifications reflect climate change projections and that all their equipment remains fit for purpose throughout its expected life;
- continue to monitor and adapt emergency planning protocols - learning from events to inform improvements in their processes and practices;
- use innovation to drive efficiency and enhance resilience - maintaining and improving the resilience of the overhead network through the vegetation management programme, looking to increase efficiency through the use of new technologies and by using innovation to address new and emerging risks; and
- reduce (or mitigate the risk of) system wide interdependencies - understand and seek to mitigate interdependencies with other infrastructure organisations, working towards enhancing regional climate change strategies and cross sector working.



# Risk management

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

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 Group. This is part of the Group's wider risk management framework and is how we monitor the most significant risks to the Group in our efforts to achieve appropriate outcomes for members.



## Qualitative assessment

A qualitative assessment of climate-related risks and opportunities which is prepared by our investment adviser and reviewed by us.



## Quantitative analysis

Climate scenario analysis, which is provided by our investment adviser and reviewed by us.

### Group Trustees' update

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

Together these give us a clear picture of the climate-related risks to which the Group is exposed.

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 Group. This helps us focus on the risks that pose the most significant impact.

# Our climate risk management framework

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

We have developed a climate risk management framework to manage climate-related risk and opportunities as set out in the tables below. This framework clearly describes who is involved, what is done and how often. We delegate some key tasks to different committees with support of our advisers but retain overall responsibility.

## Governance

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Develop a climate change governance framework (this document)	F&IC	Investment Adviser	One off
Add / review climate risks and activity on key Plan documentation (risk register, work plan)	F&IC	Investment Adviser	Ongoing
Review advisor objectives to ensure advisors have appropriate climate capability, and bring important, relevant, and timely climate-related issues to the Trustees' attention	Group Trustees	Advisors	Annual
Train Group Trustees on climate-related topics including climate risks and opportunities	F&IC	Investment Adviser	Ongoing
Engage with the Group's investment managers to understand how climate risks are considered in their investment approach and stewardship activities are being undertaken appropriately	F&IC	Investment Adviser/ Fund Managers	Annual
Ensure investment proposals explicitly consider the impact of climate risks and opportunities, and seek investment opportunities	Group Trustees	Investment Adviser	Ongoing
Ensure that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material	Group Trustees	Group Actuary, Covenant advisor	Triennial

### Group Trustees' update for the year ending 31 March 2024

The Group Trustees met throughout the year with their investment advisors to discuss the requirements set out for the Group with regards to TCFD reporting and the statutory requirements relevant to the Group. The Group Trustees have a process in place to ensure that disclosure and compliance requirements are followed in relation to TCFD, SIP and EPIS.

Barring any regulatory changes, the ongoing requirements in the above plan are likely to continue on an ongoing basis. Similarly, covenant advice will be considered as part of the next actuarial valuation.

## 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	Investment Adviser/ Fund Managers	Annual
Conduct climate change scenario analysis to understand the impact of climate-related risks on the Group's portfolio	F&IC	Investment Adviser	Annual reviews. Triennial refreshed modelling thereafter

### Group Trustees' update for the year ending 31 March 2024

We updated the climate scenario analysis in line with TCFD requirements for this to be done triennially. This will give us a better understanding of how our investment and funding strategy over the short, medium, and long term will fare across modelled scenarios. Tools such as the PCRIG Due Diligence Questionnaire and RAG Due Diligence Questionnaire are also deployed to our investment managers to help identify and assess climate related risks and opportunities.

## Risk management

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify, assess, and manage key climate-related risks	F&IC	Investment Adviser/ Fund Managers	Ongoing
Consider climate-related risks in the Group's other risk processes and documents, such as the risk register and the SIP, and regularly review these	Group Trustees	Advisors	Ongoing

### Group Trustees' update for the year ending 31 March 2024

We have processes in place for identifying and assessing climate-related risks. Climate risk management is integrated into the ongoing risk management activities of the Group via this climate risk management plan.

We carried out qualitative assessment of climate risks and quantitative climate scenario analysis, which combined helps us to focus on the risks that pose the most significant impact. Based on our analysis for this TCFD report, we do not need to make any further changes to the Group's investment strategy. Additionally, we conduct an annual review of our manager's rating across various climate-related risk criteria to ensure our climate beliefs are being aligned as much as possible.

## Metrics and Targets

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Review and agree on metrics	F&IC	Investment Adviser/ Fund Managers	Annual
Review and agree target	F&IC	Investment Adviser/ Fund Managers	Annual
Obtain data for agreed metrics	Group Trustees	Investment Adviser/ Fund Managers	Annual

### Group Trustees' update for the year ending 31 March 2024

For this report we have collected and reported on the carbon metrics associated with the Group's assets from the relevant managers. More information can be found in the *Metrics and Targets* section of the report.



---

## Assessing our managers

To assess our managers' abilities to manage climate-related risks, we asked them 10 questions designed by the Pensions Climate Risk Industry Group<sup>2</sup>. A due diligence questionnaire asking investment managers to identify the most significant climate-related risks and opportunities affecting the Group was also populated with findings summarised on pages 14 to 20 above.

The questions cover a range of topics including the manager's 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 GHG emissions data.

All of the Group's managers responded to the climate risk management questionnaire. Some key highlights include:

- Five of the six managers have produced (or are in the process of producing) their own TCFD report, setting out their approach to managing climate-related risks. The Group Trustees will continue monitoring the managers' alignment with the industry TCFD reporting in future.
- Five of the six managers conduct climate-related risk scenario analysis and one of the managers is currently in the process of setting up this analysis at an asset class level.
- Three of the managers have set temperature alignment targets which apply to the strategies employed by the Group. Managers will therefore invest in a way which is aligned that of the Paris Agreement of limiting global temperature increases to below 2 degrees by the end of the century.

---

## Key conclusions

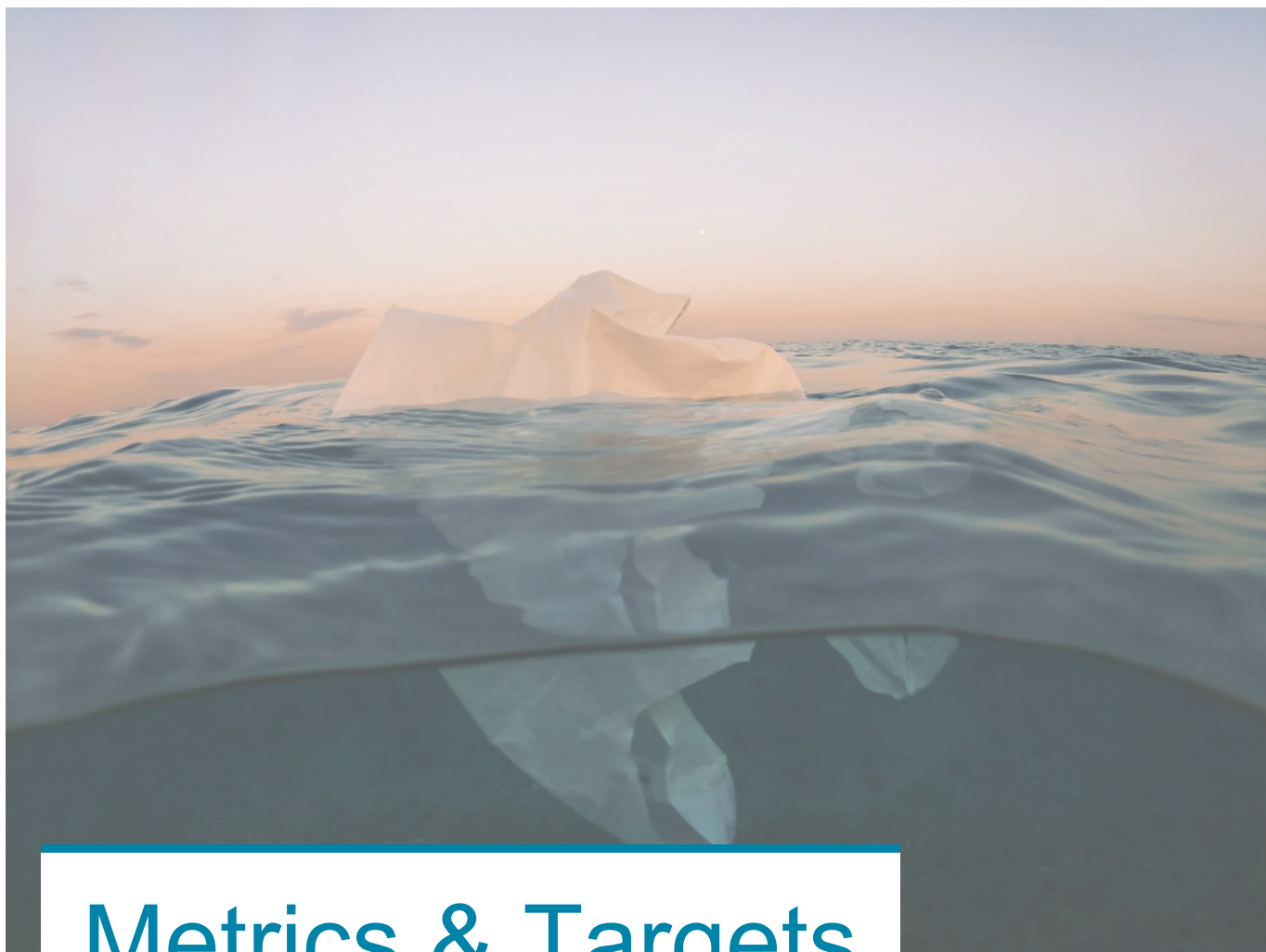
Overall, the Group Trustees conclude that the managers have adequate frameworks and processes in place to ensure climate-related risks and opportunities associated with the transition to low carbon economy are considered within their mandates.

In addition, the majority of the Group's investment managers are participating in market-leading industry initiatives and frameworks, such as United Nations supported Principles of Responsible Investment ("PRI"), Carbon Disclosure Project's ("CDP") climate change programme and Institutional Investors Group on Climate Change ("IIGCC").

In summary, the Group Trustees are comfortable with the managers' ability to act in the best interests of the Group and to account for climate-related risks and opportunities in the portfolios that they manage.

---

<sup>2</sup> Aligning your pension Group with the Taskforce on Climate-Related Financial Disclosures recommendations - GOV.UK ([www.gov.uk](http://www.gov.uk))



## Metrics & Targets

Metrics help to inform our understanding and monitoring of the Group's climate-related risks. Quantitative measures of the Group'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 Group's exposure to the financial risks and opportunities climate change will bring.



# Our climate-related metrics

We use some quantitative measures to help us understand and monitor the Group's exposure to climate-related risks. Measuring the GHG emissions related to our assets is a fundamental way for us to assess our exposure to climate change.

GHGs 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.

GHGs are categorised into three 'scopes' by the Greenhouse Gas Protocol, the world's most used GHG accounting standard.



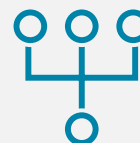
## Scope 1

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.

Last year, we reported on Scope 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 very 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 which metrics to report on annually. These are described below. This year we reviewed the metrics, and we believe they continue to be suitable for us to report against.



### Total Greenhouse Gas emissions

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



### 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).



### Data coverage

A measure of the proportion of the portfolio that the Group Trustees have high quality coverage 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 the portfolio with net zero or Paris-aligned targets

A metric which shows the extent to which the Group'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.

The table below sets out the climate-related metrics for the Group's assets. The metrics are shown separately for the LDI portfolio and the other investments because the methodology used for each are different (so aggregating the metrics would not make sense).

### The carbon metrics

Asset class		Scopes 1 and 2				Scope 3			
		Asset Valuation (% of Total AUM)	Data coverage (%) (Scope 1 & 2) (tCO <sub>2</sub> e)	Carbon Footprint (Scope 1 & 2) (tCO <sub>2</sub> e/£m)	Total GHG (Scope 1 & 2) (tCO <sub>2</sub> e)	Data coverage (%) (Scope 3)	Carbon Footprint (Scope 3) (tCO <sub>2</sub> e/£m)	Total GHG (S3)	Proportion of holdings with net zero or Paris-aligned targets (%)
Equities	2023	7%	97%	73	5,200	96%	729	51,808	55%
	2022	7%	95%	103	12,747	-	-	-	49%
Alternatives	2023	23%	69%	139	14,986	67%	289	30,155	13%
	2022	23%	54%	117	35,133	-	-	-	34%
Liability Matching assets (non-LDI)	2023	29%	53%	109	9,211	95%	534	81,348	7%
	2022	34%	27%	51	15,915	-	-	-	10%
<b>Total</b>	<b>2023</b>	<b>59%</b>	<b>68%</b>	<b>111.0</b>	<b>29,397</b>	<b>84%</b>	<b>498</b>	<b>163,310</b>	<b>18%</b>
	<b>2022</b>	<b>65%</b>	<b>45%</b>	<b>59.3</b>	<b>63,709</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15%</b>

Source: Investment managers. Note: Numbers may not sum up due to rounding. Liability Matching assets refer to Absolute Return Bond Funds and Liquidity Fund. Other cash holdings have been excluded from the analysis on the basis of materiality. Data for scope 3 emissions was not collected from managers in 2022 as it was not required at the time. Data for our report as at 31 March 2023 was calculated as at 31/03/2022 and data for this report is calculated as at 31/12/2023.

### Commentary

- Please note that this represents c. 68% coverage for assets held, hence the total carbon emission would be higher if there was more complete data coverage. This data can't be scaled up as it is inappropriate to assume the emissions would linearly scale up.
- Scope 3 emissions were not required for 2022 Y1 reporting.
- Scope 1 and 2 total emissions for equities has fallen significantly as the carbon footprint of the underlying assets in the equity funds held has fallen, along with the value of Group assets invested. This is particularly reflected in emerging market equities which typically have a higher emissions profile due to the due to their economic structure and rapid growth.
- Please note that the AUM does not total 100% due to the exclusion of cash and LDI. Information for the latter is provided overleaf.

- This data cannot be scaled up as it is inappropriate to assume the emissions would linearly scale up.
- Data for the ARBS fund (liability matching assets [ex LDI) and the Non-Life ILS Fund (alternatives) has not been provided. Data coverage for these funds has therefore been provided as 0%.

LDI			Scope 1 & 2		
Asset class	Year	AUM (%)	Data Coverage (%)	Total GHG emissions (tCO <sub>2e</sub> )	Carbon footprint (tCO <sub>2e</sub> /£GDP)
Liability Matching Assets	2023	41%	100%	77,341	170.2
	2022	35%	100%	89,741	169

Source: Investment managers/Aon. Note: Numbers may not sum up due to rounding. Cash has been excluded from the analysis on the basis of materiality. Scope 3 data requirement is not applicable to LDI assets. Data for our report as at 31 March 2023 was calculated as at 31/03/2022 and data for this report is calculated as at 31/12/2023.

### Commentary

- The LDI portfolio contains mainly UK government bonds.
- Carbon metrics for UK government bonds are based on the total GHG emissions for the whole of the UK, which as a result are typically higher than other asset classes.
- By contrast, carbon emissions for equities, for example, are based on the emissions associated with the underlying companies invested in, which are typically smaller. Hence, the carbon metrics for LDI are higher than other assets.

### Binary target measurement

Asset class		Binary target measurement
Equity	2023	55%
	2022	49%
Alternatives	2023	13%*
	2022	34%
Liability Matching Assets	2023	7%
	2022	10%

Source: Investment managers / Aon. Data as at 31 December 2023.  
\*BTM is lower due to fewer managers providing data this year.

## Notes on the metrics calculations

There is no industry-wide standard for calculating some of these metrics and different managers may use different methods and assumptions. This in itself highlights 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

Aon collected carbon metrics data from managers before aggregating by asset class. The methodology used for this aggregation does not make any assumptions or estimations about the carbon emissions for assets for which data was unavailable. The aggregation methodology is as set out below:

$$G = A \times C \times F$$

G = Total GHG expressed as (tCO<sub>2</sub>e).

A = Assets expressed in £ Millions.

C = Data Coverage expressed as a decimal between 0 and 1.

F = Carbon Footprint expressed as (tCO<sub>2</sub>e/£M invested).

The methodology used follows the industry-standard best-practice established within the Carbon Emissions Template (“CET”)<sup>3</sup>.

### LDI

Aon requested the physical and synthetic split from the Group’s LDI manager. The carbon footprint was calculated using UK GHG Emissions and PPP adjusted GDP and assumes data coverage to be 100%. Scope 3 is not applicable to LDI, as it contains primarily UK sovereign bonds and scope 3 emissions are not yet widely available for UK sovereign bonds.

### Portion of the portfolio with net zero or Paris-aligned targets

Aon requested a SBTi validated metric from our public investment managers for our binary target measurement metric and aggregated the results based on the portion of assets invested in each fund – i.e., the portion of the assets invested which have a net zero or Paris-aligned target.

Aon does not make any estimates for missing data. The Group’s SBTi validated metric only represents the portion of the portfolio for which there is data.

### How we collected the data

Our investment adviser, 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 Groups meet their obligations under the Climate Change Governance and Reporting Regulations, and associated DWP Statutory Guidance.

<sup>3</sup> <https://www.plsa.co.uk/Policy-and-Research/Document-library/Carbon-Emissions-Template>



# Looking to the future

## Our climate-related target

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

In our first year of reporting, we set a target to improve data quality to above 90% coverage of carbon emissions data across all asset class split across scopes 1 and 2. This year, we have also obtained scope 3 emissions data from each of the Group's investment managers, and so are extending the target to include these. 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 data quality of the GHG emissions data from the managers.



Data quality target (ex LDI)

90%

By 2028

### Group Trustees' update

Each year we review the suitability of the target we have set. Based on the data collected and the metrics calculated this year, we believe the target continues to be suitable.

### Our progress towards the target

The table below shows the data quality metrics for this year and last year.

	2023 report	2024 report
Actual Data Quality (ex LDI) Scope 1 and 2	45%	68%
Actual Data Quality (ex LDI) Scope 3	-	84%

*Data for our report as at 31 March 2023 was calculated as at 31/03/2022 and data for this report is calculated as at 31/12/2023. As noted earlier, scope 3 emissions were not required for disclosure in last year's reporting.*

The Group's performance against the target is measured and reported on every year by collecting and evaluating metrics data from investment managers across the portfolio. This data is then assessed and benchmarked against the previous year's Data Coverage to determine how the Group has performed relative to the target set.

Over time, this will show the Group's progress against the target. We have made progress towards our target based the assessment above. The data coverage excludes LDI, which we believe is appropriate for all other asset classes in which we invest.

We have achieved our data coverage target for LDI. Equity and Alternatives have improved, and overall liability matching assets (ex LDI) has minorly decreased. This is not of concern to us as the movement was minor and slow progress can be expected industry wide. We believe that our two remaining targets for Equities and Alternatives remain appropriate for the Group.

---

## Steps we are taking to reach the target

The Group Trustees will be taking the following steps to reach the target:

### Step 1 Increase data coverage

**Observation:** data was unavailable for two mandates and the data coverage was limited for certain mandates, mainly within the alternative and liability matching assets (ex LDI).

**Solution:** The Group Trustees will engage with the managers directly, or through Aon to request improved data availability and coverage for mandates that lacked data. Through ongoing pressure from asset owners collectively and new regulatory requirements for asset managers, we expect data coverage to improve over time and will engage further with the managers if progress does not meet our expectations.

However, for some of the asset classes in which the Group invests, particularly in the alternative mandates, it may be some time before meaningful carbon data becomes available due to methodologies to calculate carbon emissions not yet being agreed. We will encourage these managers to participate in industry consultations to develop methodologies.

### Step 2 Facilitate consistent reporting

**Observation:** The Group Trustees have relied on manager data but, due to the lack of industry-wide standard on calculating some of these metrics, the information may not be consistent year on year.

**Solution:** The Group Trustees will engage with the managers directly, or through Aon to ensure that the carbon information provided is consistent on the annual basis. However, the Group Trustees recognise that the reporting may change in line with evolving industry practices.

# Appendices

# Glossary

- Governance** refers to the system by which an organisation is directed and controlled in the interests of shareholders and other stakeholders.<sup>4</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>5</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>6</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>7</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>8</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>9</sup>

---

<sup>4</sup> A. Cadbury, [Report of the Committee on the Financial Aspects of Corporate Governance](#), London, 1992.

<sup>5</sup> OECD, [G20/OECD Principles of Corporate Governance](#), OECD Publishing, Paris, 2015.

<sup>6</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>7</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>8</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>9</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

**Greenhouse gas emissions scope levels**<sup>10</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>11</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>12</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>13</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>14</sup>

<sup>10</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>11</sup> PCC, [Climate Change 2014 Mitigation of Climate Change](#), Cambridge University Press, 2014.

<sup>12</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>13</sup> TCFD, [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017

<sup>14</sup> Energy Saving Trust, [What is net zero and how can we get there? - Energy Saving Trust](#), October 2021

# Appendix 1 – 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

#### 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 2 – Climate scenario modelling assumptions

The climate scenarios were developed by Aon and are based on detailed assumptions. They are only illustrative and are subject to considerable uncertainty. They consider the exposure of the Group to climate-related risks and the approximate impact on asset/liability values over the long-term.

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

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.

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 Group 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 Group 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 projects using the following inputs as at 31 December 2023

- Market value of assets: £1,098M
- Present value of gilts +0.3% liabilities: £1,132M
- Funding Level (%): 97%
- Duration of liabilities: 12.4 years
- Real proportion of the liabilities: 85%
- Deficit Contributions: Nil

## TAS compliance

This document, and the work relating to it, complies with 'Technical Actuarial Standard 100: General Actuarial Standards' ('TAS 100') (updated July 2023).

The compliance is on the basis that the Trustees of the Northern Powergrid Group of the Electricity Supply Pension Group are the addressees and the only users and that the document is only to be used to assess the Group's exposure to climate change risk. If you intend to make any other decisions after reviewing this document, please let us know and we will consider what further information we need to provide to help you make those decisions.

The document has been prepared under the terms of the Agreement between the Group Trustees and Aon Investments Limited on the understanding that it is solely for the benefit of the addressees.

This document should be read in conjunction with:

- Group funding report - Actuarial valuation of the Northern Powergrid Group of the Electricity Supply Pension Group as at 31 March 2022
- Funding update as at 31 December 2023

If you require further copies of these documents, please let us know.

## Appendix 3 – 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>15</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.

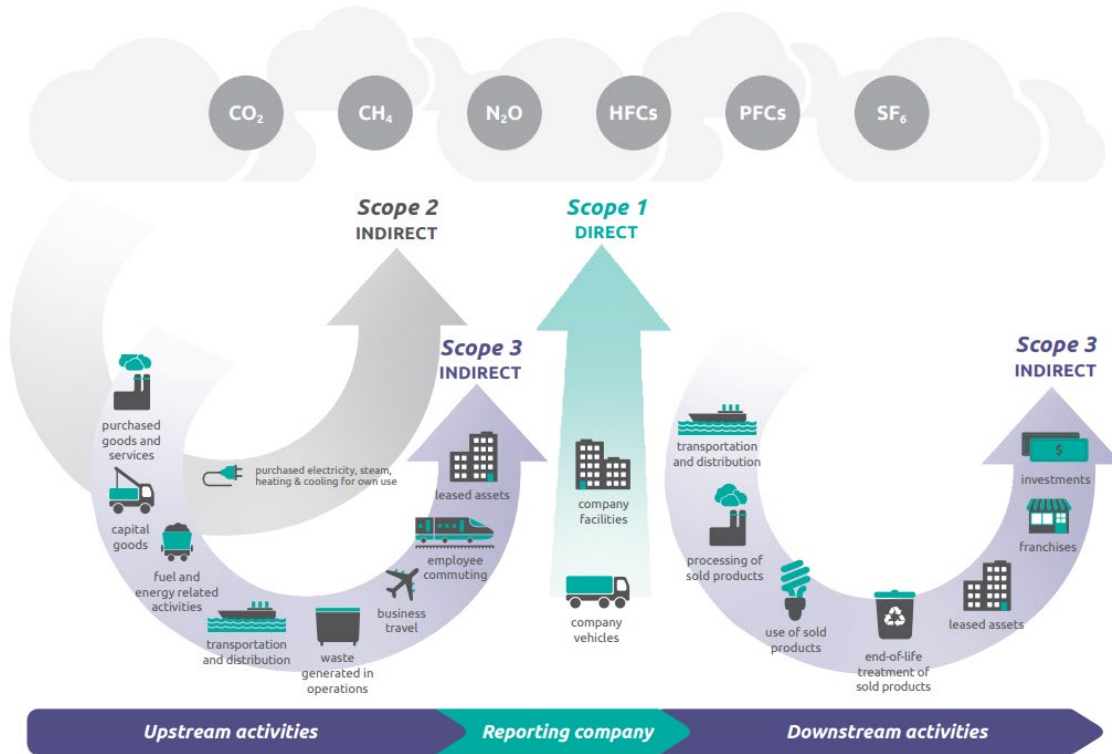
### Six main greenhouse gases identified by the Kyoto Protocol

					
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>15</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