Climate disclosures for year ended 31 March 2024

Produced by: The Trustee of the Howden Joinery Pension Plan Date: August 2024

Introduction

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

UK regulations require trustees of pension schemes with more than £1bn in assets at the end of their first scheme year ending on or after 1 March 2021 to meet certain climate governance requirements and publish an annual report on their scheme's climate-related risks.

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

This report is the annual climate disclosures for the Howden Joinery Pension Plan (the "Plan") for the year ended 31 March 2024. This report has been prepared by the trustee of the Plan (the "Trustee") in accordance with The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the "Regulations") and is aligned to the Taskforce for Climate-related Financial Disclosures ("TCFD") framework. The four elements covered in the report are:

1)	Governance:	The Plan's governance around climate-related risks and opportunities.
2)	Strategy:	The potential impacts of climate-related risks and opportunities on the Plan's strategy and financial planning.
3)	Risk Management:	The processes used to identify, assess and manage climate- related risks.
4)	Metrics and	The metrics and targets used to assess and manage relevant

Targets: climate-related risks and opportunities.



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Executive summary

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

We have worked closely with our investment adviser, Aon Investments Limited ("Aon") to identify the climate-related risks and opportunities faced by the Plan, and to understand ways we can manage and mitigate those risks.

Overview of the Plan

The Plan invests across a range of assets, and within this report we consider the impact of climate related risks on those asset classes, the investment strategy and potential impact on the funding of the Plan.



Governance

- The Plan has an asset portfolio of c.£888M (as at 31 March 2024) which is invested in a range of asset classes including equities, property, real estate debt, direct lending, multiasset credit, bank capital relief and insurance-linked securities.
- We, the Trustee, are ultimately responsible for the oversight of all strategic matters relating to the Plan, this includes climate-related risks and opportunities.
- We have delegated implementation and day-to-day oversight of the Group's climate change risk management framework to the Funding and Investment Committee ("FISC"), which is a sub-committee of the Trustee.



Strategy

- Our analysis of climate related risks and opportunities showed that the asset classes in which the Plan invests are impacted to some degree by climate-related risks and over time, the risk exposure is expected to increase. This is consistent with last year's findings.
- Our managers identified some investment opportunities for the different asset classes the Plan is invested in.
- We reviewed the scenario analysis undertaken as at 31 December 2022 and we are comfortable that the analysis remains appropriate for this year's report.



Risk Management

- We have established a process to identify, assess and manage the climate-related risks and opportunities the Plan is exposed to. This is integrated into the Plan's wider risk management framework.
- Our climate risk management framework is set out on pages 23-25 which assists with the ongoing management of climate related risks and opportunities.



Metrics and Targets

Metrics

- Overall, total scope 1 and 2 emissions have decreased for equities and LDI since last year but have increased for secure income. The carbon footprint for equities has seen a modest decrease whereas the carbon footprint for secure income has seen a modest increase.
- Data coverage and data accuracy for scopes 1 and 2 have broadly improved, especially for secure income where three managers have been able to provide data for the first time this year.
- This is the first year we report scope 3 emissions.

Targets

 Last year we set targets to improve data coverage and accuracy for scopes 1 and 2 emissions associated with the growth portfolio assets. Over the year, data coverage and data accuracy for scopes 1 and 2 emissions have increased substantially and as a result, we have nearly met those targets. So we have set new targets to make them more challenging.

	Scopes 1 and 2		
	Data coverage	Data accuracy	
New Target	95%	75%	
U	By 31 December 2026	By 31 December 2027	

Net zero goal

We have committed to achieving net zero emissions by 2040. We expect to achieve our net zero commitment through a combination of:

Engagement: We want to drive positive investment change and accountability by ensuring our managers are aware of and working towards our net zero goal.

Innovation: We will seek out low carbon alternatives or climate solutions that are aligned with our strategic objectives and fiduciary duty.

Transparency: We want to provide insights on our progress and the progress of the funds in which we invest towards net zero portfolios, through transparent reporting and communication with our members and other stakeholders.

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

Chris Martin (ITS Limited)

on behalf of the Trustee of Howden Joinery Pension Plan

Governance

Governance is the way the Plan operates and the internal processes and controls in place to ensure appropriate oversight. Those undertaking governance activities are responsible for managing climate-related risks and opportunities. This includes us, as the Trustee, and others making Plan-wide decisions, such as those relating to the investment strategy or how it is implemented, funding, the ability of the sponsoring employer to support the Plan and liabilities.

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Our Scheme's governance

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

We agreed our climate-related beliefs and our approach to managing climate change risk. These are set out in the Plan's Statement of Investment Principles ("SIP"), which is reviewed triennially and every time there is a change to the investment strategy. A copy of this statement is available here: https://www.howdenjoinerypensions.co.uk/howden/resources/statement-of-investment-principles-august-2023/

Our climate beliefs

We believe that the risks associated with climate change can have a materially detrimental impact on the Plan's investment returns within the timeframe that we are concerned about, as set out in the Strategy section of this report, and, as such, we have a role to play in helping to tackle climate change.

We 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.

As a result of our climate beliefs and in the interest of members, we have committed to manage the investment portfolio in line with achieving net zero greenhouse gas emissions by 2040.

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 Plan.

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 delegate oversight of the Plan's climate change risk management to the Funding and Investment Sub-Committee ("FISC") where it relates to both investment and funding matters. The FISC keeps us updated on material climate-related developments on a regular basis (at least annually).

FISC

The FISC seeks to ensure that any investment decisions appropriately consider climate-related risks and opportunities within the context of the Plan's wider risk and return requirements and are consistent with the climate change policy as set out in the SIP.

The key activities undertaken by the FISC, with support from our advisers are:

- 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.
- working with investment managers to disclose relevant climate-related metrics as set out in the TCFD recommendations.
- ensuring that stewardship activities are being undertaken appropriately on our behalf.
- ensuring that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material

How we work with our advisers

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

We annually review the quality of our advisers' provision of advice and support on climate-related issues. For our investment adviser this is part of the annual review of investment consultant objectives.

Investment adviser - Our investment adviser, Aon, provides investmentrelated strategic and practical support to the FISC in respect of climate-related risks and opportunities for assessment under the TCFD reporting requirements. Aon also provides regular training and updates on responsible investment, including climate-related issues, engagement and voting information, and ESG ratings of investment funds to us, as the Trustee.

Scheme Actuary - the Scheme Actuary, Colin High (Aon), will help us assess the potential impact of climate related risks on the Plan's funding where appropriate.

Covenant adviser - Our covenant adviser, Penfida, will help us understand the potential impact of climate change risk on the sponsor covenant of the principal employer (Howden Joinery Corporate Services Limited) of the Plan.

Trustee's update

We undertook training covering the lessons learnt from preliminary observations and feedback to industry, by the Pensions Regulator based on its review of a selection of the first climate-related disclosures published by occupational pension schemes.

The training helped equip us for the preparation of our second TCFD report.

Trustee's update

We reviewed the quality of our investment adviser's provision of advice and support on climate-related issues as part of the annual review of investment consultant objectives. We concluded that Aon had met our expectations.

Strategy

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

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



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

We carried out a qualitative risk assessment of the asset classes the Plan is invested in. From this we identified which climaterelated risks could have a material impact on the Plan. We also identified suitable climate-related opportunities.

Given the number of asset classes used in the Plan, 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 fund(s) is exposed to. All the managers we surveyed were able to provide us with analysis.

Excluded from this analysis on the basis of materiality are investments in asset backed securities, corporate bonds and cash.

Our investments

The Plan's investment portfolio is diversified across a range of different asset classes including equities, property, real estate debt, direct lending, multi-asset credit, bank capital relief and insurance-linked securities.

The Plan's asset allocation at 31 December 2023 is as follows:

	Matching portfolio		Growth portfolio		
Asset Class	Liability driven investments	Cash	Equities*	Secure income	Absolute return
Allocation	35%	1%	6%	51%	8%

Source: Managers. Allocation may not sum to 100% due to rounding. The Matching portfolio also includes an immaterial allocation to corporate bonds which is not shown in the table above. Secure-income includes investments in property, property debt, direct lending and bank capital relief and multi-asset credit.

Absolute return includes insurance linked securities.

*As at 31 March 2024, the Plan fully disinvested from its equity holdings.

How the risk assessment works



Risk categories

In the analysis, the climaterelated 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.

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



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 climaterelated risks and opportunities over multiple time horizons considering the liabilities of the Plan and its obligations to pay benefits. We decided the most appropriate time horizons for the Plan are:

- short term: 1-3 years
- medium term: 4-10 years
- Iong term: 11-25 years

Climate-related risk assessment

Key conclusions

Diversification across asset classes, sectors and geographical regions is important to manage the physical and transition risks for the Plan.

One of the Plan's largest allocations to a single fund is the liability driven investments ("LDI"), which is primarily invested in UK government bonds. The manager has rated acute physical risks and regulatory, technology and market risks medium (amber) over the long-term.

The highest (red) risk identified by a manager was for property. In the long-term, chronic physical risks could damage properties and have a significant financial impact, particularly in geographically vulnerable areas. There has also been an increase in regulatory and reporting requirements in the property sector. There are potential market transitional risks around the depreciation of asset values for those regarded as poor carbon performers. Failure to adapt might lead to reputation damage in the long-term.

Medium (amber) risks are identified in the short- and medium- term across secure income, multi-asset credit and insurance linked securities for many of the transition risks. The tables below summarise the transition and physical risks for each asset class the Plan is invested in. Please note the allocations below do not sum to 100% as cash has been excluded from the analysis.

Liability driven investments (35%)

Physical Risks



Acute physical risk exposure is expected to increase in the long term. As extreme weather events become more frequent, severe, and unpredictable, they will likely have a large financial impact on global sovereign bonds. Extreme weather events cause business interruptions and due to globally interconnected supply chains, may have ripple effects even in unaffected regions. *Source: Manager*

Transition Risks

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

To ensure emissions stay within global budgets for limiting global warming to below 2°C, carbon prices might continue rising over the medium and long term, likely leading to a material financial impact on the global sovereign bond valuation. Additionally, adopting low-carbon technologies and building the relevant infrastructure will lead to significant costs. Lastly, over the long term, there could be a medium-level Market risk due to changes in demand and supply patterns for key raw materials.

Secure income - Property (10%)

Physical Risks



Chronic physical risks, such as incremental shifts in climate patterns (annual average rainfall or temperature), could potentially damage properties and have a significant financial impact, particularly in geographically vulnerable areas. However, geographical and sectoral diversification can provide protection from financial loss associated with these physical risks. Source: Managers

Transition Risks



There has been an increase in regulatory and reporting requirements in the real estate sector. Additionally, there is a potential market risk around the depreciation of asset values for those regarded as poor carbon performers. These issues could lead to increased resource requirements and spending to retrofit current assets to net zero standards in the long term. Failure to adapt to these requirements might also lead to climate-related reputation damage in the long term.

Secure income - Real Estate Debt (15%)

For the Plan's Real Estate Debt allocation, medium and long-term risks are not applicable due to relatively short exit periods associated with the holdings in this asset class.

Physical Risks



The main relevant short-term climate risk is flooding but can be deemed as negligible provided that the due diligence assesses the flood risk.

Transition Risks

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

Regulatory risk may arise due to policy interventions (e.g., minimum energy efficiency standards), and Market risk may arise as a result of investors' preference for low-carbon, highefficiency assets. While some evidence suggests that investors are starting to favour low-carbon properties, it is still difficult to measure and hence considered a low risk.

Source: Manager

Secure income – Direct Lending (8%)

Due to the short-term nature of the Plan's Direct Lending assets long-term risks are not applicable.

Physical Risks



In the short- and medium- term, supply chain interruptions, increased operating costs and increased insurance premiums for direct lending targets are expected to cause acute and chronic risks.

Source: Manager

Transition Risks



In the medium term, the evolving regulatory environment in the EU is expected to increase reporting obligations and costs, as well as exposure to litigation. Higher costs are also expected with the transition to new technology and potential unsuccessful investments. Changes in customer behaviour could increase the cost of materials and production as well as unexpected shifts in energy costs.

Secure income – Direct Lending (7%)

The fund's loan maturities are short-term (i.e., 3 to 5 years), so long-term risks are not applicable.

Physical Risks



Transition Risks



The physical effects of climate change might adversely impact businesses in the near and medium term. These impacts could be associated with adapting to a more volatile environment, such as measures to cope with prolonged temperature rise, increasing insurance costs, and/or physical asset write-offs. The portfolio has moderate Policy and Legal risks stemming from governments' and regulators' increasing scrutiny of the company's preparedness for a transition to net zero. Technology and Market risk are also considered moderate over the short to medium term. As the world moves towards a lowcarbon economy, vulnerable sectors in the portfolio may be adversely affected by technological disruptions and changing consumer demand. Lastly, Reputation risk will likely intensify over the coming years due to increased media scrutiny.

Source: Manager

Secure income – Bank Capital Relief (4%)

Physical Risks



Given that most of the fund's current investments mature within five years, the manager has the flexibility to structure future deals to address more gradual changes in weather patterns as they emerge.

Source: Manager

Transition Risks



In the short term, an increased risk of default is expected among small and medium enterprises ("SMEs") which focus on emerging sustainable technologies if those technologies are less effective or well-received than anticipated. Over the medium and long-term, an increased risk of default in SMEs is expected if borrowers fail to keep up with technological advancements.

Secure Income – Multi-Asset Credit (7%)

Due to the short-term nature of the Plan's fixed income assets long-term risks are not applicable.

Physical Risks



The portfolio's acute and chronic risk exposure is considered low in the short- to medium- term.

Source: Manager

Absolute return – Insurance-linked securities (8%)

Physical Risks



Over the long-term, a higher risk exposure is expected due to extreme weather events caused by increasing temperatures and sea levels. Additionally, it is expected that there will be significant uncertainty regarding long-term acute risk levels. The medium-term chronic risk has been reduced to a low level as the allocation of funds to secondary perils like wildfire and flooding has reduced. *Source: Manager*

Transition Risks



Regulatory transition risk is considered medium from short- to medium- term. This is due to the expectation of an increase in carbon prices globally because of additional policy measures related to carbon reduction.

Transition Risks

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

Lack of coherency in approaches globally across political and regulatory environments is likely to create a more challenging and uncertain environment. Over the medium to long-term, higher market risk is expected due to the impact on supply and demand of specific, exposed businesses such as the energy sector.

Climate-related opportunities

We have identified some climate-related opportunities which may be suitable for the Plan across all the time horizons:



Source: Managers

In 2022, we invested in a fund that targets a consistent level of income by investing in companies that contribute to the United Nations' Sustainable Development Goals. More work is planned in the future to consider other climate-related investment opportunities as part of the Plan's net zero commitment.

How resilient is the Plan to climate change?

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

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

Each climate scenario considers what may happen to the Plan when transitioning to a low carbon economy under different temperature-related environmental conditions. These scenarios were developed by 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 Plan is currently exposed to, highlighting areas where risk mitigation could be achieved through changing the investment portfolio.

Other relevant issues such as governance, costs and implementation (including manager selection and due diligence) must be considered when making changes to the investment strategy. Investment risk is captured in the deviance from the base case scenario, but this is not the only risk that the Plan faces. Other risks include covenant risk, longevity risk, timing of member options, basis risks and operational risks.

Trustee's update

Under the Regulations, climate scenario analysis must be carried out at least every 3 years, with an annual review in each intervening year to confirm the most recent analysis is still appropriate.

We reviewed the scenario analysis completed as at 31 March 2022. The Plan's current asset allocation has evolved since this date. We will refresh the scenario analysis as at 31 March 2025 in line with regulatory requirements. We believe the current analysis is still a suitable illustration of the impacts of climate change on the Plan over the longer-term.

Impact on the funding level

Key conclusions

Overall, we are comfortable with the level of resilience exhibited by the investment portfolio, and we do not plan to make any investment or funding strategy changes as a result of this analysis.

The Plan's investment portfolio exhibits reasonable resilience under the climate scenarios. This is due to the diversification of assets, the low proportion of equities and the high levels of hedging against changes in interest rates and inflation.

The worst-case scenario for the Plan is the Disorderly transition. Although initially the funding level improves in line with the Base Case, after 10 years the funding level deteriorates sharply and this leaves the Plan materially worse off in terms of surplus relative to the Base Case at the end of the modelling period.

Another key risk is volatility of the funding level. Under the Orderly transition, the Plan experiences a fall in the funding level of around 7% before recovering. Deterioration of the funding level will place a strain on the Sponsor covenant as the Sponsor may have to make up a bigger shortfall through deficit contributions. It may also require the Plan to rerisk to stay on track to achieve the funding target or extend the timeframe for achieving this.

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

Summary of the Scenario	Summary of the impact to the Plan
The Base Case is based on Aon's Capital Market Assumptions which considers what is currently priced into the market. This includes some climate change related impact. In the Base Case, action is taken to tackle climate change, but the approach is fragmented. The transition to a low carbon economy is expected to happen in a slow but orderly fashion.	The funding level gently increases over time.
Summary of the Scenario	Summary of the impact to the Plan
In the short-term:	In the short-term:
Insufficient consideration given to long-term policies and there is no action taken to combat	The funding level increases gently in line with the base case.
	In the medium terms
In the mealum-term:	In the mealum-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	The funding level increases gently in line with the base case. After 10 years, the funding level experiences a sharp fall.
	Summary of the Scenario The Base Case is based on Aon's Capital Market Assumptions which considers what is currently priced into the market. This includes some climate change related impact. In the Base Case, action is taken to tackle climate change, but the approach is fragmented. The transition to a low carbon economy is expected to happen in a slow but orderly fashion. Summary of the Scenario In the short-term: Insufficient consideration given to long-term policies and there is no action taken to tackle 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:	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.	The funding level continues to deteriorate for a few years and the Plan does not recover to base case levels by the end of the. This leaves the Plan materially worse off in terms of surplus relative to the base case and the orderly transition scenario.		
Orderly	Summary of the Scenario In the short-term:	Summary of the impact to the Plan In the short-term:		
Scenano	Immediate coordinated global action is taken to	The funding level initially falls by around 7%		
Temperature rise	tackle climate change. Risky assets perform	before starting to recover.		
1.3°C - 2°C	poorly.	C C C C C C C C C C C C C C C C C C C		
Reach net-zero by	In the medium-term:	In the medium-term:		
2050	The rapid transition to clean technologies and	The funding level continues to recover and		
Coordinated	green regulation begins to boost economic	then improves rapidly but remains slightly		
environmental	growth.	below the base case.		
regulation	In the long-term:	In the long-term:		
	The rapid transition to clean technologies and	The funding level continues to improve, but		
	green regulation begins to boost economic	remains slightly below the base case. By the		
	growth. This represents the fastest transition to a	aend of the modelling period the Plan's funding		
	impacts from climate change despite the large	transition sconario than under the disorderly		
	initial transition cost	transition scenario		
Source: Aon. Effective date of the impact assessment is 31 March 2022. Please note: The result				

Source: Aon. Effective date of the impact assessment is 31 March 2022. **Please note:** The result of the scenario modelling is illustrative and relies on many assumptions. These are subject to considerable uncertainty.

Modelling limitations

Scenario modelling relies on many assumptions. They are only illustrative and subject to considerable uncertainty. Please see the *Appendix* for more detailed information on the assumptions underpinning the scenarios.

The climate scenarios modelling illustrates the potential impact climate change could have on the asset portfolios. It does not consider the impact climate change could have on other risks for our clients, such as timing of member options, operational risks, and covenant risk and longevity risk.

The scenario modelling reflects market conditions and market views at the effective date of the modelling. The model may produce different results for the same strategy under different market conditions.

Identifying the climate-related risks and opportunities of the sponsoring employer

A key risk identified from the scenario analysis is the volatility of the funding level. Under the orderly transition and disorderly transition scenarios, the Plan experiences sudden falls in the funding level before recovering. Deterioration of the funding level will place a strain on the financial strength ("covenant") of the sponsoring employer if it must make up a bigger shortfall through deficit contributions. It may also require the Plan to re-risk its portfolio or extend the time frame for achieving full funding or other long-term goals.

The sponsoring employer considers climate change to be the core theme of its ESG strategy¹. It has set a Science Based Targets initiative ("SBTi") approved net zero target to have a 90% reduction in all emissions by 2050 against a 2021 baseline². Emissions reduction developments in 2023 include³:

- Waste heat recovery a project at its manufacturing site which recovers heat from its generators and uses it to heat another part of the factory. Reducing its reliance on gas and reducing its emissions by 600 tCO₂e/year
- Energy monitoring started to install energy monitors at a process level allowing its engineering and operations teams to see the energy consumption at an individual process level. In the first phase, it has identified emission reductions of over 300 tCO₂e/year.
- Solar energy investment approved the first phase will see PV panels installed on its main warehouse roof. Whilst dependent on the sun, the emissions reduction is calculated to be 1,000 tCO₂e/year and an 8% reduction in purchased energy.

We monitor the covenant on a regular basis with the support from our covenant adviser and maintain a regular dialogue with the sponsoring employer.

¹See page 45 of

² See page 46 of

³See page 50 of

https://www.howdenjoinerygroupplc.com/docs/librariesprovider25/archives/2023ar/02-sustainability-matters.pdf

https://www.howdenjoinerygroupplc.com/docs/librariesprovider25/archives/2023ar/02-sustainability-matters.pdf

https://www.howdenjoinerygroupplc.com/docs/librariesprovider25/archives/2023ar/02-sustainability-matters.pdf

Risk management

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

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



Our process for identifying and assessing climaterelated risks

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



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

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 Plan. 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 climate-related risks into the Plan's risk management processes.

We have a climate risk management framework to manage climate-related risk and opportunities. The climate risk management framework set out in the tables below clearly describes who is involved, what is done and how often. We delegate a number of tasks to different committees but retain overall responsibility.

Governance

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Maintaining the climate change governance framework	Trustee	Aon / Investment Managers	Annual
Publish TCFD report and implementation statement	Trustee	Aon / Investment Managers	Annual
Add / review climate risks and activity on key Plan documentation (risk register, work plan)	FISC	Aon	Ongoing
Maintain climate beliefs	Trustee	Aon	Triennial
Trustee training	Trustee	Aon	Ongoing
Ensure investment proposals explicitly consider the impact of climate risks, and seek investment opportunities.	Trustee	Aon	Ongoing
Engage with managers to ensure their carbon emissions objectives are in line with the Plan's net zero target	FISC	Aon / Investment Managers	Annual
Ensure that actuarial and covenant advice adequately incorporate climate-related risk factors where they are relevant and material	Trustee	Scheme Actuary, Covenant advisor	Triennial
Review adviser objectives to ensure advisers have appropriate climate capability, and bring important, relevant and timely climate-related issues to the Trustee's attention.	Trustee	Advisers	Annual

Trustee update

We receive training on Responsible Investment issues annually to understand how ESG factors, including climate change, could impact the Plan's assets and liabilities. We undertook training covering the lessons learnt from preliminary observations and feedback to industry, by the Pensions Regulator based on its review of a selection of the first climate-related disclosures published by occupational pension schemes. The training helped equip us for the preparation of our second TCFD report.

The FISC engages with the investment managers regularly to understand how climate risks are considered in their investment approaches and to ensure carbon emissions objectives are met in line with the Plan's Net Zero target. Over the year, the FISC met with 3 managers (Robeco, ICG Longbow and Leadenhall).

We reviewed the quality of provision of advice and support on climate-related issues as part of the annual review of investment consultant objectives. We concluded that Aon had met our expectations.

We monitored the stewardship activities of the Plan's investment managers through the production of our annual Engagement Policy and Implementation Statement ("EPIS").

Over the year, we also updated the stewardship section of the Plan's Statement of Investment Principles ("SIP") following the updated stewardship guidance from the Pensions Regulator ("tPR").

Strategy

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify climate-related risks and opportunities (over agreed time periods) for investment and funding strategy	FISC	Aon / Investment Managers	Annual
Climate scenario analysis - annual review for the continuing suitability of the results	FISC	Aon	Annual
Annual review of manager's RI policies	Trustee	Aon / Investment Managers	Annual

Trustee update

Climate-related risks and opportunities were analysed during the year. With support from Aon, we asked our investment managers to rate the climate-related risks and opportunities they believe the Plan's investments are exposed to.

Alongside this, we also reviewed the appropriateness of the climate change scenario analysis carried out for the Plan's initial TCFD disclosures and are comfortable that the analysis remains relevant.

We considered the sponsoring employer's climate-related risks and opportunities. Please see the *Strategy* section for more information.

As part of regular quarterly monitoring of the Plan's investment managers, we receive ESG ratings from our investment adviser, Aon. On an annual basis, we review the investment managers' Responsible Investment policies, and their alignment with our beliefs and policies.

Risk management

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Identify, assess, and manage key climate-related risks	FISC	Aon / Investment Managers	Ongoing
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	Advisers	Ongoing

Trustee update

We have incorporated climate-related risks into the Plan's risk register and will incorporate any required changes to further documentation as it is reviewed.

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 Plan via the Plan's climate risk management framework.

Metrics and Targets

Activity	Delegated responsibility	Adviser / supplier support	Frequency of review
Review the metrics remain suitable	Trustee	Aon / Investment Managers	Annual
Review the target remains suitable	Trustee	Aon / Investment Managers	Annual
Obtain emissions data and calculate climate metrics	FISC	Aon / Investment Managers	Annual

Trustee update

As part of our TCFD reporting, we collect emissions data annually from our investment managers and calculate climate metrics supported by Aon. We reviewed the climate metrics and believe they remain suitable for this reporting.

We reviewed our target to improve data quality, and we decided to update the target in light of the improvements to the data. More details can be found in the *Metrics and Targets* section.

We have committed to manage the investment portfolio in line with achieving net zero greenhouse gas emissions by 2040.

Assessing our managers

To assess our managers' abilities to manage climate-related risks, we asked them 20 questions designed by the Pensions Climate Risk Industry Group³ to help trustees do just that. The questions cover a range of topics including the manager's approach to climate management, net zero targets, whether they produce their own TCFD reporting, their ability to conduct climate scenario analysis, their engagement policies, and their ability to provide emissions data.

Key conclusions

We received responses from all the investment managers. Some of the key highlights include:

- Only two investment managers have not yet incorporated climate risk analysis into their investment process.
- All investment managers demonstrated their commitment to Responsible Investment initiatives, with each manager participating in one or more industry initiative.
- Five out of eight managers report on carbon metrics, compared to three last year.
- Four out of eight managers produce TCFD reports.

³ Aligning your pension scheme with the Taskforce on Climate-Related Financial Disclosures recommendations - GOV.UK (www.gov.uk)



Metrics & Targets

Metrics help to inform our understanding and monitoring of the Plan's climate-related risks. Quantitative measures of the Plan's climate-related risks, in the form of both greenhouse gas emissions and non-emissions-based metrics, help us to identify, manage and track the Plan'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 Plan's exposure to climate-related risks. Measuring the greenhouse gas emissions related to our assets is a way for us to assess our exposure to climate change.

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

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



Scope 1

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



Scope 2

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



Scope 3

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

Last year, we reported on scopes 1 and 2 emissions; 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.

	Total Greenhouse Gas emissions	The total greenhouse gas (GHG) emissions associated with the portfolio. It is an absolute measure of carbon output from the Plan's investments and is measured in tonnes of carbon dioxide equivalent (tCO2e).
	Carbon footprint	Carbon footprint is an intensity measure of emissions that takes the total GHG emissions and weights it to take account of the size of the investment made. It is measured in tonnes of carbon dioxide equivalent per million pounds invested (tCO2e/£m).
	Data coverage	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).
	Data accuracy	A measure of the proportion of the portfolio for which the available emissions data has been <i>reported</i> rather than estimated.
	Binary target	A metric which shows how much of the Plan's assets are aligned with a climate change goal of limiting the increase in the global average temperature to 1.5°C above pre-industrial levels.
\bigcirc	measurement ("BTM")	It is measured as the percentage of underlying portfolio investments with a declared net-zero or Paris-aligned target, or are already net- zero or Paris-aligned.

In the table below are the climate-related metrics for the Plan's assets. The metrics are shown separately for the LDI and the other asset classes because the methodology used for each are different so aggregating the metrics would not make sense.

The climate metrics

Asset			Data cov (%)	v erage)	Data accuracy (%)		Total GHG emissions (tCO ₂ e)		Carbon footprint (tCO2e/£m)		BTM (%)
class		%	S1 & 2	S 3	S1 & 2	S3	S1 & 2	S 3	S1 & 2	S3	
Equities	2023	6	97	97	90	51	1,530	40,090	32	826	52
	2022	11	100	-	85	-	7,650	-	45	-	49
Secure Income	2023	51	87	31	43	19	10,200	8,660	28	68	9
	2022	30	54	-	10	-	5,610	-	25	-	18
Absolute return	2023	8					Not available)			
	2022	23	76	-	-	-	19,560	-	80	-	5
LDI	2023	35	100	-	-	-	48,150 Physical 57,080 Synthetic	-	170	-	-
	2022	19	99	-	-	-	41,000 Physical	-	98	-	-
							97,830 Synthetic				

Source: Investment managers / Aon.

1. Emissions data was provided by the managers as at 31 December 2023 and 31 December 2021 unless specified otherwise. Please see the appendix for more information.

2. Asset allocation for 2023 is at 31 December 2023. Asset allocation for 2022 is at 31 March 2022.

3. Scope 3 emissions are not available for 2022 because 2023 is the first year of reporting Scope 3 emissions.

4. Scope 3 emissions are not available for LDI due to the lack of industry agreed methodology to calculate them.

5. The 2023 scopes 1 and 2 emissions associated with LDI have been calculated from the following sources: UK national emissions as at 31 December 2022 from the Emissions Database for Global Atmospheric Research. PPP-adjusted GDP as at 31 Dec 2022 from the Organization for Economic Cooperation and Development.

• Figures may not sum due to rounding.

• Emissions associated with LDI includes both physical emissions (emissions associated with physical assets that are held within the portfolio) and synthetic emissions (emissions associated with the notional exposure to sovereign bonds gained through derivatives).

• Secure income total GHG emissions for scopes 1 and 2 includes some scope 3 emissions because one of the managers could not report on scopes 1, 2 and 3 separately.

Commentary

Overall, the scopes 1 and 2 emissions have decreased since last year. This can be explained by a couple of factors; firstly, we updated the reporting methodology for LDI and growth assets to reflect the latest industry best practice guidance. Secondly, the decrease in absolute emissions reflect the decrease in asset values over the period.

The story for carbon footprint is mixed. The carbon footprint for equities has seen a modest decrease whereas the carbon footprint for secure income has seen a slight increase. Whereas the carbon footprint for LDI has increased materially due to a change in the calculation methodology. Since last year the Plan disinvested from the funds in the Absolute Return allocation and invested in an insurance-linked securities ("ILS") fund. There is no industry-agreed method for calculating emissions from ILS and hence there are no reported emissions for this asset class. This has contributed to the overall decrease in emissions since last year.

Data coverage and data accuracy for scopes 1 and 2 have broadly improved, especially for secure income where three managers have been able to provide data for the first time this year.

This is the first year we have reported scope 3 emissions. Some managers were able to provide scope 3 emissions, however this is an area that needs improvement.

Notes on the metrics data

Our investment adviser, Aon, collected information from the Plan's investment managers about their greenhouse gas emissions. Aon collated this information to calculate the climate-related metrics for the Plan's portfolio of assets.

Availability of data

- Five managers provided scopes 1, 2 and 3 GHG emissions.
- One manager in the secure income allocation was able to provide scopes 1,2 and 3 emissions but could not provide data coverage for each scope so we have reported them together as scopes 1 and 2 emissions.
- Bank Capital Relief was excluded from the analysis due to the nature of the asset class.
- Insurance Linked Securities ("ILS") were excluded from the analysis because there is no industry-agreed method for calculating emissions from ILS.
- Only 3 managers provided binary target measurement.
- We did not include two immaterial investments, liquid ABS and corporate bonds, (<1% of total assets) or cash in the calculations.

Due to some data not being available we expect the reported climate metrics do not include all the Plan's GHG emissions. And so, the metrics show the Plan's GHG emissions to be lower than they actually 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.

Notes on the metrics calculations

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

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")¹. 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.

The carbon metrics

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

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

The methodology used follows the industry-standard best-practice established within the Carbon Emissions Template ("CET")4 The table below shows for each asset class the broad approach used to calculating each metric.

Asset Class	Methodology
Equity,	Carbon footprint
Secure Income	The investment managers provided the carbon footprint metrics for the funds.
and	Total GHG emissions
Absolute Return	Using the carbon footprint, we calculated the Plan's proportion of each investment fund's emissions by calculating:

carbon footprint **x** £m Plan assets invested in the fund **x** data coverage.

Data coverage

The investment managers provided data coverage.

Data accuracy

The investment managers provided data accuracy.

LDI The manager provided value of the Plan's physical and synthetic exposures. Aon calculated the emissions for the Plan's physical and synthetic exposure separately.

Carbon footprint

UK national emissions scopes 1 and 2 PPP-adjusted GDP

Where data coverage is assumed to be 100% estimated. UK national emissions scopes 1 and 2 as at 31 December 2022 as reported by the Emissions Database for Global Atmospheric Research. PPP (Purchasing Power Parity)-adjusted GDP as at 31 December 2022 as reported by the Organization for Economic Cooperation and Development.

Total GHG emissions

£m value of Plan investment x carbon footprint x data coverage

⁴ https://www.plsa.co.uk/Policy-and-Research/Document-library/Carbon-Emissions-Template

Binary target measurement

Aon requested the binary target measurement of each fund 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. The Plan's binary target measurement only represents the portion of the portfolio for which we have data.

Currently, there is no standard approach for calculating binary target measurement for government bonds. Hence there is no binary target measurement for the LDI assets.

Climate Value at Risk

Another way to measure of climate-related risk is to consider the value of the possible future financial losses to the Plan stemming from the portfolio's exposure to climate-related risk. This is known as Climate Value at Risk ("CVaR"), and it is a forward-looking measure of risk.



How do we calculate Climate Value at Risk?

The investment adviser calculates the Plan's Climate Value as Risk as the difference between in Plan's the funding level deficit (or surplus) under the base case scenario and the funding level deficit (or surplus) under the Orderly or Disorderly transition scenario, which ever gives the largest loss.

Source: Aon

Time horizon (years)*	Orderly – CVaR (£m)	Disorderly CVaR (£m)	CVaR (£m)
4	(146.0)	(1.6)	(146.0)
11	(72.0)	(368.2)	(368.2)
25	(110.0)	(611.9)	(611.9)

*End of short, medium, and long-term time horizons

Looking to the future Our climate-related target

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

In our first year of reporting, we set targets to improve data coverage and accuracy. Without meaningful data from the investment managers, it is very hard to accurately assess our climate-risk exposure. So, it is important to set a target to improve the data coverage of the GHG emissions data from the managers.

	Scopes 1 and 2 for the growth portfolic Data coverage Data accuracy						
Target	90%	50%					
	by 31 December 2026						
Actual							
2023	88%	48%					
	000/	100/					
2022	68%	19%					
Source: Managers							

Since last year, data coverage and data accuracy for scopes 1 and 2 emissions has increased by c.20% and c.29% respectively. This is partially due to some of the Plan's secure income managers being able to provide data for the first time.

Updated targets

Given that the Plan has nearly met the current target, we decided to update the targets to make them more challenging.

		Scopes 1 and 2 Data coverage	Data accuracy
\bigcirc	New Target	95%	75%
		By 31 December 2026	By 31 December 2027

The Plan's performance against the updated targets will be reported each year. Over time, this will show the Plan's progress against the target.

Trustee 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 have decided to include an additional target for Scope 3 data coverage initially, as these are now mandatory to report on. We may set a target on Scope 3 data accuracy in the future.

The targets have also been adjusted to exclude LDI figures, because we note that the underlying methodology for calculating the emissions associated with sovereigns are different to other assets.

Steps we are taking to reach the targets

Our main focus at this stage is on engagement with our managers. Through engagement, we encourage better, more transparent reporting of climate data. The FISC regularly engages with the Plan's investment managers on this issue. A schedule for meeting with managers has been drawn up which prioritises engaging with the managers who need the most improvement. We are focussing on managers in our growth portfolio as this is where we have the most ability to influence managers.

Progress towards net zero

We have set a commitment to manage the investment portfolio in line with achieving net zero greenhouse gas emissions by 2040. The table below shows the improvement in carbon footprint of the growth portfolio.

	Carbon for (tCO2	otprint 2023 2e/£m)	Carbon footprint 2022 (tCO2e/£m)		
	Scopes 1 & 2	Scope 3	Scopes 1 & 2	Scope 3	
Growth portfolio	29	276	75	-	
Source: Managara					

Source: Managers

Our Net Zero Commitment

Net zero is when the amount of greenhouse gas ("GHG") emissions (Scopes 1,2 and 3) coming from the Plan's investment portfolio is the same as the amount that is removed. To achieve net zero by 2040, we will aim to reduce the carbon footprint (tCO2e/ \pounds m invested) of the investment portfolio from the baseline footprint (calculated in 2022).

We recognise that as the target date of 2040 approaches, it may not be possible to reduce the Plan's emissions completely. We will consider industry best practice and the availability of suitable arrangements at that time, including the potential use of offsetting approaches.

We have developed an engagement plan for current and new investment managers to align with the Plan's net zero target of 2040 or sooner. This will also be applied to any risk transfer policies that the Plan might enter with insurance companies.

We will seek to encourage investment managers to vote and engage with companies in their portfolios on climate change issues and the transition to low-carbon approaches. We will also look to engage through membership of industry groups and networks of like-minded investors.

We support the global transition to a low carbon economy and will seek to identify climate-focused investment opportunities that are aligned with the transition to a net zero economy, whilst being consistent with the Plan's strategic objectives and in accordance with our fiduciary responsibilities.

If we identify that our investment managers are making insufficient efforts to reduce emissions and align with the Plan's objective, it may lead to divestment and the consideration of alternative climate-focused investments.

Appendices

Glossary

Governance	refers to the system by which an organisation is directed and controlled in the interests of stakeholders. ⁵ Governance involves a set of relationships between an organisation's management, its board 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. ⁶
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. ⁷
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. ⁸
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. ⁹
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. ¹⁰

⁵ A. Cadbury, Report of the Committee on the Financial Aspects of Corporate Governance, London, 1992.

⁶ OECD, G20/OECD Principles of Corporate Governance, OECD Publishing, Paris, 2015.

 ⁷ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
 ⁸ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
 ⁹ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017
 ¹⁰ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

Greenhouse Greenhouse gases are categorised into three types or **gas emissions** 'scopes' by the Greenhouse Gas Protocol, the world's most **scope levels**¹¹ 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, transportrelated 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.¹²

- **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).¹³
- Climate 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.¹⁴
- **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.¹⁵

¹¹ World Resources Institute and World Business Council for Sustainable Development, The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004.

¹² PCC, Climate Change 2014 Mitigation of Climate Change, Cambridge University Press, 2014.

¹³ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

¹⁴ TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

¹⁵ Energy Saving Trust, What is net zero and how can we get there? - Energy Saving Trust, October 2021

Appendix – An explanation of climate risk categories

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

Transition risks

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

Policy and legal

Examples

Increased pricing of GHG emissions Enhanced emissions-reporting obligations

Regulation of existing products and services

Potential financial impacts

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

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

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).

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

Reputational

Examples

Stigmatisation of sector Increased stakeholder concern or negative stakeholder feedback Risk of litigation including mass actions

Potential financial impacts

Reduced revenue from decreased demand for goods and services.

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

Reduced revenue from negative impacts on workforce management and planning

Physical Risks

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

Acute

Chronic

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

Examples Water stress Sea level rises Land degradation Variability in temperature Variability in precipitation

Appendix – 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. The model considers the long-term exposure of the Plan to climate-related risks and the approximate impact on asset and liability values over the long-term.

Aon's model uses a deterministic projection of assets and long-term funding objective ("LTO") ;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 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. Note, no allowances is made for expenses, with modelled asset/liability cashflows left unaffected by these factors.

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

The 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 March 2022 (in line with the Plan's Funding update at 31 March 2022 dated 23 May 2022 prepared by Colin High):

- Market value of assets: £1,480m
- Present value of liabilities on the Long Term Objective basis: £1,587m
- Contributions: Nil in line with the Plan's Schedule of Contributions dated 9 April 2021

Other modelling assumptions for assets

Portfolio return statistics are shown relative to the expected return of the Plan's liabilities.

The Plan has a derisking plan in place, however for the purposes of this modelling we have assumed that the Plan's portfolio is annually rebalanced to the current portfolio allocations through the whole projection.

Alpha assumptions in line with those expected from the universe of managers has been applied to asset returns for all scenarios.

LDI has been modelled to hedge 100% of the funded liabilities' inflation and interest rate risk.

B&M corporate bonds have been modelled as UK A 10yr zero coupon corporate bonds and contribute to the interest rate hedge.

Diversified Growth Fund has been modelled as a capital preservation style.

Insurance Linked Securities have been modelled with a conservative risk profile.

Factor equities have been modelled as an even split between Momentum, Low Vol, Quality and Value factors.

Real Estate Debt has been modelled as whole, floating.

Property has been modelled as UK property.

Direct Lending has been modelled as unitranche.

Bank Loans have been modelled in the US market with a GBP hedge.

Appendix – Metrics in more detail

Asset class		Data coverage (%)		Data accuracy (%)		Total emiss (tCO	Total GHG emissions (tCO ₂ e)		Carbon footprint (tCO ₂ e/£m)		
	%		S1&2	S 3	S1&2	S3	S1&2	S 3	S1&2	S 3	
Equities	5.5	2023	97	97	90	51	1,530	40,090	32	826	52
	11.3	2022	100	-	85	-	7,650	-	45	-	49
LGIM Developed Balanced Equity Index	2.7	2023	97	97	90	51	760	19,860	32	826	52
Fund	5.7	2022	100	-	85	-	3,850	-	45	-	48
LGIM Developed Balanced Equity Index	2.8	2023	97	97	90	51	770	20,230	32	826	52
Hedged	5.6	2022	100	-	85	-	3,800	-	45	-	49
Secure Income	50.7	2023	87	31	43	19	10,200	8,660	28	68	9
	30.4	2022	54	-	10	-	5,610	-	25	-	18
CBRE GIP Global	3.6	2023	79	0	79	-	400	-	16	-	65
Alpha	2.4	2022	80	-	-	-	490	-	15	-	82
ICG Fund IV ²	0.9	2023	100	0	0	-	420	-	51	-	-
	1.1	2022	100	-	-	-	680	-	40	-	-
ICG Fund V^2	8.2	2023	100	0	0	-	4,910	-	66	-	-
	3.9	2022	100	-	-	-	3,440	-	60	-	-
ICG Senior	6.4	2023	100	0	0	-	750	-	13	-	-
	4.4	2022	100	-	-	-	920	-	15	-	-
Insight Liquid ABS	0.1	2023			Exclude	ed from a	nalysis on the	basis of ma	ateriality		
	0.7	2022					Not provide	d			

Not provided

Hayfin DLF III	6.8	2023	35	21	35	21	450	1,197	21	94	1
	4.3	2022					Not provided				
CRC Fund	3.7	2023		Evol	udad from	analysi	a dua ta tha n	oturo of tho	accat ala		
XV	4.3	2022		LXCI		anarysi			asset 0/as	55	
LGIM LPI Income	6.5	2023	100	0	100	-	1	-	<0.1	-	-
Property	5.2	2022					Not provided				
CVC 2021 Feeder	7.8	2023	100	100	61	48	950	4,380	13	62	-
SCSP	1.2	2022					Not provided				
Robeco SDG Credit	6.6	2023	83	83	57	57	2,320	3,080	52	70	30
Income⁴	0.0	2022	80	-	-	-	0	-	120	-	14
Absolute Return	7.9	2023	Excluded from analysis due to the nature of the asset class								
	22.9	2022	76	-	-	-	19,560	-	80	-	5
Corporate Bonds	<0.1	2023		Excluded from analysis on the basis of materiality							
	14.3	2022	60	-	-	-	26,680	-	135	-	-
	34.9	2023	100	-	0	-	48,150 Physical 57,080	-	170	-	-
LGIM – LDI ⁵	19.2	2022	99	-	-	-	Synthetic 41,000 Physical 97,830 Synthetic	-	98	-	-

Source: Investment managers / Aon. Figures may not sum due to rounding.

Emissions data was provided by managers as at 31 December 2023 and 31 December 2021 unless specified otherwise. Scope 3 emissions are not available for 2022 because 2023 is the first year of reporting Scope 3 emissions.

Additional notes:

- 1.) CBRE CIP Global Alpha data is at 31/12/2022. The total emissions, carbon footprint, data coverage and data accuracy figures within the table above within scopes 1 and 2 encapsulates scopes 1, 2 and 3 emissions. The BTM figure provided for CBRE only covers Scopes 1 & 2.
- 2.) ICG was unable to split carbon data up into Scopes 1 & 2 & Scope 3 separately. The figures shown within the table above within Scopes 1 and 2 encapsulates scopes 1,2 & 3 emissions. Data provided for all three ICG funds is at 30/09/2023.
- 3.) LGIM LPI Property data is at 31/12/2022.
- 4.) Only figures associated with Public Investments have been considered on a materiality basis.
- 5.) The 2023 scopes 1 and 2 emissions associated with LDI have been calculated from the following sources: UK national emissions as at 31 December 2022 from the Emissions Database for Global Atmospheric Research. PPP-adjusted GDP as at 31 Dec 2022 from the Organization for Economic Cooperation and Development. Scope 3 emissions are not available for LDI due to the lack of industry agreed methodology to calculate them. Emissions associated with LDI includes both physical emissions (emissions associated with physical assets that are held within the portfolio) and synthetic emissions (emissions associated with the notional exposure to sovereign bonds gained through derivatives).
- 6.) Cash has been excluded in both 2022 and 2023 reported figures.

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 Protocol¹⁶ 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 (CO₂e). 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



¹⁶ 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, <u>Corporate value chain (scope 3) Accounting and Reporting</u> <u>Standard</u>, 2011