Task Force on Climate-related Financial Disclosures (TCFD) report

1 April 2023 – 31 March 2024

now:pensions

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Introduction

1.1 Chair's commentary

Welcome to our third Task Force on Climate-related Financial Disclosures (TCFD) report, covering the period 1 April 2023 to 31 March 2024.

A year of continued climate extremes

The past year was an alarming milestone in the fight against climate change, as 2023 was marked as the hottest year on record. Even more alarming, is that each of the last 10 years have been recorded as the global warmest 10 years since modern records began.

Several extreme weather events took place, with many causing catastrophic effects on people and our planet. Scorching temperatures swept over most of North America, Asia and Europe, where many regions reached record-breaking highs. The extreme heat triggered huge wildfires across Italy and Chile, claiming the lives of many, and destructive floods in Libya wiped out entire neighbourhoods and vital resources.

Through the UN-convened International Panel on Climate Change, the 2015 Paris Climate Agreement committed to limiting global warming to 'well below 2°C' and to work towards the goal of keeping warming to '1.5°C with limited or no overshoot.' This is what science tells us is the limit of warming that our planet can safely absorb.

Unfortunately, progress against this goal is not fast enough, and 'the door to 1.5°C is closing fast' according to the International Energy Agency. Global governments have made commitments that will bring us closer to 2°C, but this is dependent on them following through on those original commitments and accelerating them even further.

In April 2023, the UK updated their 2023 Net Zero Growth Plan to focus on decarbonising homes, power, industry and transport. Later, in June 2023, the Climate Change Committee published its Annual Progress Report to Parliament, providing a comprehensive overview of the UK government's progress to date in reducing emissions. Since then, it has felt like progress has been limited, with several policy reversals from the UK government, and a concerted pushback in legislation in some parts of the United States. China, by contrast, installed 350 gigawatts of renewable capacity in 2023, more than the rest of the world combined, and is likely to exceed its 2030 target in 2024. Much now hinges on future US government policy which may of course change following November's elections.

Each of the last 10 years have been recorded as the warmest 10 years globally.

1.1 Chair's commentary

now:pensions year in review

Throughout 2023, we greatly enhanced our sustainability activities and made several significant changes to our investment strategy, which we believe will contribute to even stronger alignment with our responsible investment objectives going forwards. We increased the minimum threshold for investments in the default strategy with a responsible investment objective, from 50% to 75% of assets.

Additionally, the majority of equity assets are now managed in-house by Cardano, our investment manager, which allows stewardship of the assets with greater alignment to the Trustee's policies. The change in strategy has greatly improved support of our net zero by 2050 goal. We seek to combine stewardship and our investment framework to deliver financial outcomes and contribute to the transition to a more sustainable economy, environment, and society, with the ultimate goal of delivering better outcomes for our members.

The effects of global warming are being felt across the world. There's an urgent need to act now to mitigate the impact of climate change and protect our members' futures. Climate change therefore remains top of our agenda and is an instrumental part of our strategy.

How we report

Much of the governance we implemented in 2021 and 2022 relating to climate change remains unchanged as it's working well, and therefore also remains unchanged in our reporting. Our net zero target and our approach to metrics also remain the same, importantly allowing us to compare progress between each reporting period. However, we've evolved our investment strategy and our approach to climate scenarios. Whilst our selection of scenarios has remained the same, we've chosen to now report qualitative rather than quantitative analysis, in light of growing industry recognition that quantitative models fail to capture the true potential risks of climate change. We believe this analysis of climate change-related risks and opportunities (CCRO) is easier for our members to understand.

We also continue to believe that integrating climate change and other environmental, social, and governance (ESG) issues into our investment decisions leads to better risk-adjusted investment returns and helps identify new investment opportunities[1]. By focusing on the stewardship of our assets towards a 1.5°C outcome and engaging policy makers on the importance of achieving this objective, we hope to play our role in reducing the long-term systemic risk that climate change poses to the global economy, and in turn, improve our members' outcomes. In other words, investing sustainably is in our members' best financial interests.

Additionally, we wanted to ensure this year's TCFD report can be read as a 'standalone' report (in other words, it's not necessary to read our 2023 report first). For these reasons, there's some repetition between our 2023 and 2024 TCFD report (this approach also helps us ensure we meet our regulatory obligations).

[1] The Trustee has reviewed academic and practitioner evidence, including:

- ESG and Corporate Financial Performance: Mapping the global landscape, DWS, 2015
- Financial Performance of ESG Integration in US Investing, PRI, 2018
- Sustainable Reality, Morgan Stanley, 2020
- Global Risks Report, WEF, 2022

Our commitment to net zero remains unchanged

To help us manage the climate change-related risks and opportunities (CCRO) of our portfolio, back in 2021 we committed to net zero greenhouse gas (GHG) emissions by 2050, which means that by this date, all of our investments will not add to the amount of GHGs in the atmosphere.

We've also set an interim target, committing to a 50% emissions reduction for our investments by 2030. This will be measured against 2019 levels, for scopes 1 and 2 of our emissions (more detail on scopes to follow later in this report). These targets are consistent with the Paris Climate Agreement's objective of limiting warming to 1.5°C with limited or no overshoot. We recognise however that the global pace of transition so far may be insufficient to meet this target. Whilst we'll strive to achieve our interim target, we'll keep the target date for this reduction under review as we realise that our ability to progress may be limited if insufficient action is taken globally.

Our emphasis is on achieving real world decarbonisation. This means we want our underlying investments to reduce their emissions across the board, rather than our portfolio managers simply selling high emissions assets to another investor who may not care as much about driving real world change. For that reason, we emphasise engaging with companies and with policy makers to align their ambition with achieving the 1.5°C objective too.

In this year's TCFD report, we'll report on the progress we've made so far.

Communicating with members

Alongside the publication of our report, we've summarised its contents for members on the **website**.

We welcome your comments and questions, and we thank you for reading.

Joanne Segars,
Chair of the Trustee Board
NOW: Pension Trustee Limited

1.2 What is climate change?

Climate change refers to global warming caused by the greenhouse gas (GHG) emissions of human activity. This leads to the increased frequency and severity of weather events such as droughts, rising sea-levels, floods, heatwaves, hurricanes, and wildfires.

Globally, we emit around 54 billion tons of GHGs a year[2]. Most of these emissions come from transport, industry (in particular cement, steel, and plastic), energy (including electricity, heating, and cooling), and agriculture.

The GHGs that we collectively emit trap energy from the sun in the Earth's atmosphere, warming the planet. These gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated gases (F-gases). We've already warmed the Earth to at least 1.1°C[3] above the pre-industrial era. To stop climate change, we need to reduce GHG emissions to a level that nature can absorb within its normal capacity, referred to as net zero.

Temperature change is not uniform across the globe. The Earth is warming more rapidly at the North and South Poles, by as much as 3°C[4]. As the poles warm, the ice melts and is replaced with water. Whilst ice reflects the sun's rays, water absorbs them. This causes further warming.

As the Earth warms, permafrost (ground that remains frozen) begins to thaw. Permafrost stores methane from hundreds of thousands of years of decayed animal and plant matter, a particularly potent GHG (the contribution of methane to climate change is multiple times that of carbon dioxide). As the permafrost thaws, this methane is released, causing further warming.

As the Arctic warms, it creates less of a difference between polar air temperature and warmer equatorial air. This is a problem because it weakens the jet stream, which typically acts as a barrier between the cold and warm air, potentially causing further warming at the poles. It also leads to extreme weather events[5].

To avoid these, and other 'tipping points', from accelerating climate change in unpredictable ways, science tells us that we need to do everything we can to limit global warming to 1.5°C. To do this we need to reach net zero by 2050.

[2] Our World in Data, **Greenhouse Gas Emissions**.

[3] IPCC, **Climate change widespread, rapid, and intensifying**

[4] Carbon Brief, Guest post: **Why does the Arctic warm faster than the rest of the planet?**

[5] CBC, **595 people were killed by heat in B.C. this summer, new figures from coroner show**

What's the solution?

A very large portion of greenhouse gas (GHG) emissions (both from nature and human emissions) are absorbed by the natural carbon cycle, the majority into the oceans (through photosynthesis of phytoplankton, or dissolving into the water), with the remainder being absorbed into land, approximately 75% in organic matter in the soils and the remainder in vegetation, such as trees. The fact that GHG concentrations are increasing in the atmosphere means we're overwhelming nature's ability to absorb these emissions. To date, attempts to remove and store carbon through industrial process at scale have been unsuccessful. There are some technologies that can suck carbon out of the atmosphere, but it takes significant energy to do so. This is because the concentration of atmospheric carbon dioxide is 420 parts per million, and the volumes of our emissions are so huge.

We could (and should) plant trees, but this will not solve climate change in itself. Our best and only course of action is to rapidly decarbonise the energy, industrial, transportation, and agricultural sectors, and to limit deforestation. In the meantime, we need to prepare for climate adaptation as global temperatures will inevitably increase towards 1.5°C. This is what informs our approach to climate change-related risk management and stewardship.

1.3 What are our climate change-related commitments and beliefs?

Climate change is now a widely established and socialised concept within financial markets. It poses a financial risk, due to climate-related transition, physical and systemic risks, and is of vital importance in investments, because the way in which we direct capital will support (or hinder) climate change targets.

At NOW:Pension Trustee Limited (hereafter, the Trustee), we believe:

- A speedy, fair, and just transition to a low-carbon economy is the only way to address this crisis and will likely constitute the biggest change to the current global economic system in our lifetimes.
- Our investment portfolio should be built in alignment with net zero greenhouse gas (GHG) emissions by 2050, with a 50% emissions reduction by 2030, against 2019 levels. This is consistent with the Paris Climate Agreement goal of limiting global warming to 1.5°C versus pre-industrial levels.

To have a real-world impact, our starting point is to engage where possible rather than disinvest. As investors, we have a critical role to play, and we can use our influence to drive change. We believe in collective action and therefore more is to be gained from collaborating with other like-minded investors and supporting joint initiatives to tackle climate change.

We can, directly, and through our investment manager and third-party managers, exert influence on the companies in which we invest through active engagement, and exercising our voting rights as shareholders. We engage companies, governments, stakeholders, and third-party asset managers to address climate change-related risks. However, we're prepared to disinvest where we believe companies are not committing to transition quickly enough and represent unacceptable financial risks, or are judged to have too harmful an effect on the environment and society. The Trustee believes that now:pensions needs to make a real-world impact to the transition, as it's our view that systemic issues represent a long-term financial risk to our investment portfolio.

In 2023, we published a stewardship policy which sets out the principles we've adopted that underpin our approach to stewardship. We're members of several industry organisations that support and inform our climate change approach, including the United Nations-supported Principles for Responsible Investment (PRI), the Institutional Investors Group on Climate Change (IIGCC), Pensions for Purpose, and the Asset Owners Council. We support several collaborative initiatives that aim to engage with companies on environmental action, including Climate Action 100+, and the PRI Spring Initiative, focused on tackling deforestation.

Box 1: Our Statement of Investment Principles

Our Statement of Investment Principles (SIP) sets out the principles, beliefs, and policies adopted by the Trustee in investing the assets of **now:pensions** Trust (the Trust). The SIP is reviewed at least once every three years, and when there's a significant change in investment policy. Our recent investment strategy review finished in September 2023 and is now in effect.

The Trustee has set the following goals as part of its responsible investment objectives:

- Net zero greenhouse gas emissions by 2050, with 50% emissions reduction by 2030 based on 2019 levels, consistent with the Paris Climate Agreement goals of limiting global warming to 1.5°C, compared to pre-industrial levels.
- At least 75% of the portfolio's net asset value in investments which support the Trustee's Responsible Investment beliefs by having an explicit responsible investment objective.

In addition, the Trustee has set sustainability priorities focussed on:

- **climate action** – we believe a speedy and fair transition to a low-carbon economy is the only way to address the climate crisis.
- **gender equality** – we believe everyone should have equal rights, responsibilities, and opportunities.
- **living wages** – we believe all companies should pay their employees a living wage.

Our Statement of Investment Principles (SIP) is available on our website[6].

[6] **Statement of Investment Principles (SIP) and Implementation Statement**

1.4 What is TCFD?

The Taskforce for Climate-related Financial Disclosures (TCFD) was established in 2015 by the Financial Stability Board (FSB) as a global industry-led reporting framework, that sets out recommendations for companies and investors to organise and standardise climate disclosures. The TCFD has since been adopted by regulators, including by the UK government.

It was set up because:

The financial risks and opportunities posed by climate change are not fully understood and not fully priced by financial markets.

Corporate and financial institutions are not prepared for the transition to a low carbon economy.

This can lead to the misallocation of assets, the risk of asset stranding, and market volatility, which will ultimately lead to costs to long-term members.

Box 2: What do the regulations require and how are we applying them?

The UK government has enacted law[7] to require large pensions schemes and master trusts, like **now:pensions** Trust, to publish a TCFD report. We support this initiative.

The regulations set out the following requirements, across four themes, which we cover in our report:

Governance, including how we:

- Oversee financially-material climate change-related risks and opportunities (CCRO).
- Apply processes to stay informed about climate change.
- Disclose our role (and the role of our support teams) with respect to CCRO
- Disclose the role of third parties with respect to CCRO

Strategy, including:

- The impact of climate change on our investment strategy.
- At least two scenarios, including a Paris-aligned (1.5°C) scenario, to measure the financial risk of a certain degree of warming. We use scenarios due to the difficulties of predicting the impacts of climate change on our portfolios. For the purposes of our reporting, we've used three scenarios, 1.5°C, 2°C and 3°C.

Risk management, including:

- How we identify, manage, and incorporate climate change-related risks and opportunities (CCRO) in our investment beliefs, policies, and decision-making.
- The risk management tools and the outcomes of using these tools.
- How we prioritise risks.
- How we've used stewardship to manage CCRO

Metrics and target setting. We use:

- Absolute emissions-based metric. The emissions metrics must cover scopes 1, 2 and 3 (we'll explain the metric and scopes later in the report). [8]
- Intensity emissions-based metric (we'll explain this too).
- One other climate change-related metric. We chose to show the percentage of assets under management of our portfolios where the investment has an explicit responsible investment objective.
- We also track and disclose the proportion of the portfolio on which we have good climate data (a data quality metric).
- An alignment metric. We show the percentage of assets under management of our corporate investments that have set science-based targets to align with the Paris Climate Agreement (SBTi alignment).
- An emissions reduction target. As mentioned above, our target is net zero greenhouse gas emissions by 2050, with 50% emissions reduction by 2030, against 2019 levels. We track this based on scope 1 and 2 emissions.

The regulations require the Trustee of now:pensions Trust to:

- Implement climate change governance measures and prepare a TCFD report containing associated disclosures; and
- Publish our TCFD report on a publicly available website, which will be the **now:pensions** website, including a summary for members.

[7] DWP, **Governance and reporting of climate change risk: guidance for trustees of occupational schemes**

[8] We published our Scope 3 emissions last year on a voluntary basis.

2

Governance

The organisation’s governance around climate change-related risks and opportunities (CCRO).

2.1 Statement of Trustee's Climate Change-related Risks and Opportunities (CCRO) governance policy

As the Trustee, we're ultimately responsible for identifying, assessing, and managing the climate change-related risks and opportunities (CCRO) the pension scheme is exposed to.

Through external events, our own training sessions, and our own research, we build the knowledge, skills, and understanding to identify climate change-related risks and opportunities (CCRO). We monitor our service providers, including our investment manager, Cardano Risk Management Limited (Cardano), our investment adviser, Redington, and third-party managers, and interpret climate change-related risks and opportunities (CCRO), taking action where necessary.

In 2021, we adopted a CCRO governance policy. Our Investment Committee (IC), a committee responsible to the Trustee, oversees and monitors the day-to-day decision-making and stewardship activities of CCRO actions undertaken by Cardano.

The IC ensure that the day-to-day decision-making by Cardano reflects the Trustee's investment beliefs, policies, and objectives, with respect to climate change. The IC reports the outcome of the assessment to the Trustee.

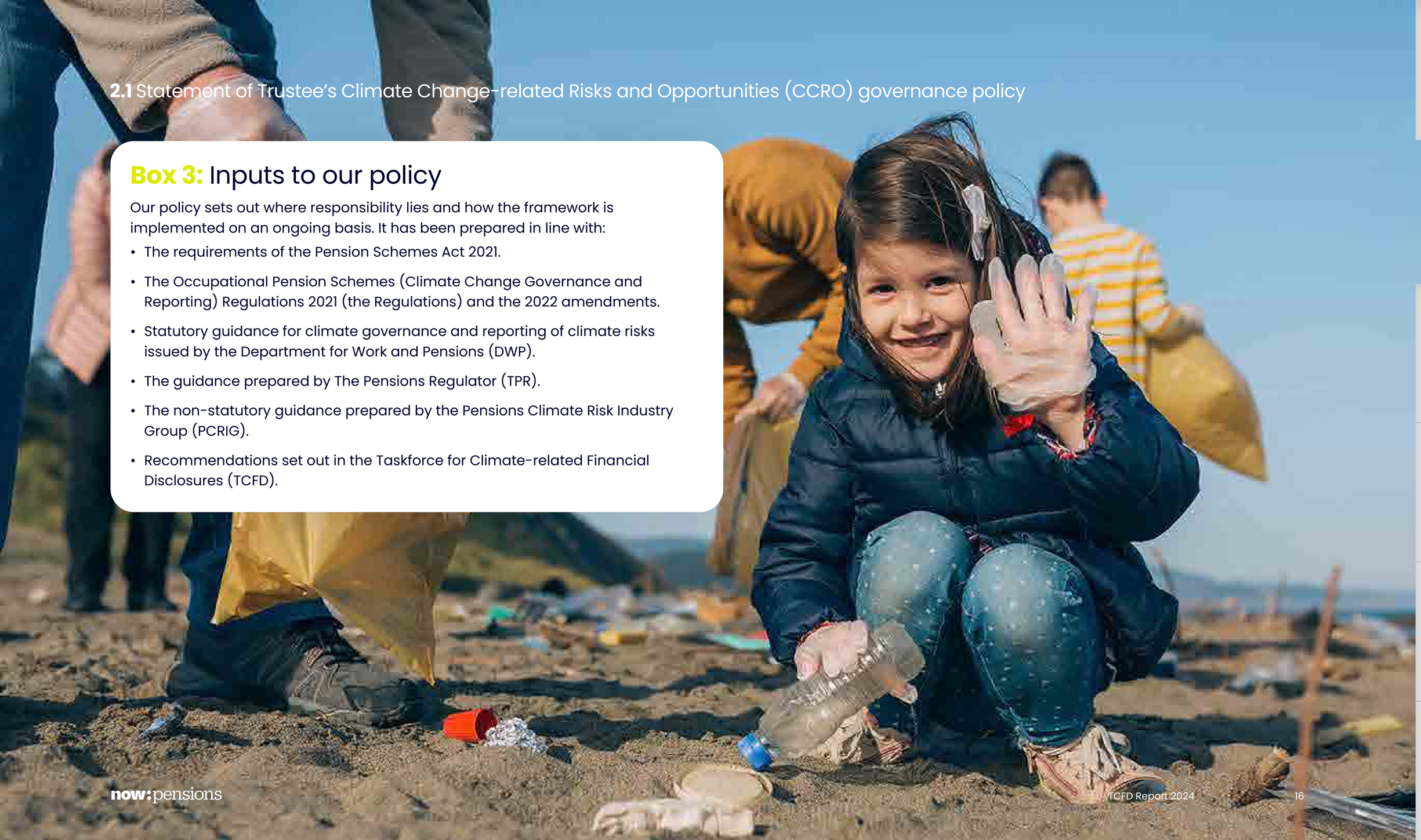
Our governance is working well and therefore remains unchanged from last year's TCFD report. We receive quarterly reporting on climate change-related risks and opportunities (CCRO) from our investment manager, which we discuss at our IC meetings.

Throughout 2023 and 2024 we've further developed our approach to stewardship. We have successfully applied to become a signatory of the UK Stewardship Code as of July 2024 (with respect of our activities for the year 31 March 2024). This document includes detail of how we engage with companies and policy makers around climate change and other sustainability risks, and we highlight our approach throughout this report. As a Trustee, we've also completed several training sessions, covering a range of sustainability issues, including sessions on stewardship and climate change, and the new qualitative approach to scenario analysis discussed later in this report.

Our CCRO policy describes:

- How we oversee climate change-related risks and opportunities (CCRO).
- The role of parties other than the Trustee, such as the Trust Manager (**now:pensions**).
- The role of Cardano, our investment manager and third-party managers.
- The timelines associated with TCFD.

We have set out the main aspects of the policy in the sections that follow.



Box 3: Inputs to our policy

Our policy sets out where responsibility lies and how the framework is implemented on an ongoing basis. It has been prepared in line with:

- The requirements of the Pension Schemes Act 2021.
- The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the Regulations) and the 2022 amendments.
- Statutory guidance for climate governance and reporting of climate risks issued by the Department for Work and Pensions (DWP).
- The guidance prepared by The Pensions Regulator (TPR).
- The non-statutory guidance prepared by the Pensions Climate Risk Industry Group (PCRIG).
- Recommendations set out in the Taskforce for Climate-related Financial Disclosures (TCFD).

2.1.1 Trustee oversight

We've established processes to assess, oversee, review, and effectively manage climate change-related risks and opportunities (CCRO) relevant to the pension scheme. This includes ensuring those persons who assist the Trustee with governance activities take steps to identify and assess any relevant risks and opportunities, and where necessary, take investment decisions to address these.

The Trustee retains all strategic investment decisions and assessment, including setting of climate change-related investment beliefs, policies, and objectives, and where appropriate, the Trustee has delegated certain functional responsibilities to its committees, our investment adviser, Redington, and our investment manager, Cardano.

The relevant committees responsible to the Trustee are:

Investment Committee (IC), whose role is to:

- Identify, assess, and manage the ongoing impact of climate change-related risks and opportunities (CCRO) over the short, medium and long-term on the pension scheme's investment strategies, for review and agreement by the Trustee.
- Oversee climate change scenario analysis to assess the impact on the pension scheme's assets and investment strategy, for review and agreement by the Trustee, including selection of appropriate scenarios.
- Select an absolute emissions metric, an emissions intensity metric, an alignment metric, and at least one additional climate change-related metric. Establish clear reporting lines to obtain climate change-related data for the pension scheme's investments, and calculate the selected metrics.
- Set at least one target for the pension scheme in relation to the metrics and assess performance against it, for review and agreement by the Trustee.
- Prepare the pension scheme's TCFD report in line with legislative requirements and statutory guidance, for review, agreement, and publication by the Trustee.

Audit Risk and Compliance Committee (ARCC), whose role is to:

- Establish and maintain processes to assess and effectively manage climate change-related risks and opportunities (CCRO) which are relevant to the pension scheme, for review and agreement by the Trustee, including integration of CCRO into the overall risk management of the pension scheme.

The IC meets at least quarterly, and reports to the Trustee on sustainability topics, including, where necessary, input from sustainability and investment staff at **now:pensions**, Cardano and Redington. The IC commits to assess CCRO on an 'as required' basis, and at least annually, reporting to the Trustee on material issues. As part of its reporting, Cardano will provide greenhouse gas (GHG) emissions metrics for our investment portfolios, ESG metrics[9] for the portfolio and largest underlying investments, and details of stewardship and engagement activities for our review.

The ARCC commits to assess CCRO at least annually, reporting to the Trustee on material issues.

This allows the Trustee to assess whether the investment processes are consistent with CCRO.

[9] We use various ESG metrics to assess a company's exposure to and management of environment, social and governance factors, including climate change

2.1.2 Trustee knowledge and understanding

To ensure that we're sufficiently informed on climate change-related topics to be able to challenge assumptions, external advice, and information received, we undertake a range of activities:

- Identifying regulatory developments that are relevant to the pension scheme, including guidance from The Pensions Regulator (TPR)[10] and the Department for Work and Pensions (DWP).
- Engaging with peer groups, industry bodies and advisers to compare the pension scheme's position to peers or competitors.
- Identifying relationships between events and news, and business and financial impacts, to manage reputational risks.
- Identifying and assessing physical and transitional risks, including operational risks, over different time horizons.
- Asking Cardano, Redington and other advisers to provide us with training on climate change-related topics.

We consider climate change scenarios, risk management, metrics, and targets, which we explain throughout this report.

We also expect **now:pensions** staff to undertake training on climate change-related risks and opportunities (CCRO). **now:pensions** staff participated in a range of activities, including attending events on climate change (and other sustainability issues), organised by the Institutional Investors Group on Climate Change (IIGCC), Pensions for Purpose, and the PRI, on climate change-related issues. They also reviewed guidance published by the IIGCC.

[10] TPR, **Governance and reporting of climate-related risks and opportunities**

2.1.3 Investment manager delegations

The Trustee oversees Cardano's investment decision-making as set out in the Investment Management Agreement (IMA) and Statement of Investment Principles (SIP).

The Trustee reviews, on at least an annual basis, the climate change-related metrics, scenarios, and targets relevant to the pension scheme, taking into account climate-related information (including scope 1, 2 and 3 GHG emissions). In doing so, the Trustee receives independent advice from Redington.

The Trustee expects Cardano to facilitate information flows from third-party managers to obtain the climate change-related data required to calculate selected metrics, and assess the climate change-related risks and opportunities (CCRO) relevant to the pension scheme.

Cardano will flag any gaps in data, and prioritise on our behalf engagement on the gaps that are likely to make the most material difference to the pension scheme's CCRO. We explain limitations in data and methodologies in the scenarios and metrics later in this report.

2.2 Management role: Cardano

As Trustees, we're satisfied that Cardano has the skills and resources to integrate our CCRO policy into their investment decision-making.

Cardano has published its sustainable investment beliefs, sustainable investment policy, stewardship policy, voting policy and its climate strategy[11], which we've reviewed.

In January 2022, Cardano acquired ACTIAM, an asset manager with 30 years' sustainability experience, which has subsequently been integrated into the broader group and rebranded as Cardano Asset Management. The acquisition allowed Cardano to take on the in-house management of the majority of the equity portfolio in early 2024. The new mandate allows significantly increased alignment between the Trustee's beliefs and the investment strategy being executed (including the stewardship of assets). The new mandate now covers a wide range of systemic sustainability challenges including climate change, biodiversity loss and deforestation, water use, materials use and pollution, and social issues such as human rights, living wage, and gender equality. Engagement voting and escalation are pursued as part of the process, consistent with these priorities.

The Trustee is satisfied that Cardano's investment and stewardship policies reflect the way in which we expect our portfolios to be invested.

Cardano is a signatory to the UN Principles for Responsible Investment (PRI), a member of the Institutional Investors Group on Climate Change (IIGCC), and a signatory of the UK Stewardship Code. Cardano's engagement policy sets out how they promote and monitor the shareholder engagement activity of their investment and third-party managers that are included in the portfolios which they manage.

As our manager, Cardano has publicly stated they'll measure the greenhouse gas (GHG) emissions of their investments and set portfolio targets consistent with achieving net zero GHG emissions by 2050, with a target to cut emissions by 50% by 2030, against 2019 levels. This is the same target that we've set for ourselves. The Cardano Group, which includes **now:pensions**, monitors and manages its own operational carbon emissions, and offsets any residual operational emissions on an annual basis, and has done so since 2021.

Cardano has integrated sustainability throughout its business, with activities overseen by the Sustainability Policy Committee, chaired by Kerrin Rosenberg, the CEO of Cardano Investment. More details on Cardano's approach to sustainability is available on their website, including explanations of their participation in stakeholder groups[12].

Cardano contracts with various data providers, including MSCI and Sustainalytics. This data is used to assist with climate change-related monitoring and reporting, including GHG emissions and other ESG metrics.

MSCI has a data tool accessed by both Cardano and Redington (see below). The data covers 100% of the equities in our portfolio (see our section on metrics for more details), though coverage in the credit space is less complete. Cardano uses this tool to provide the Investment Committee (IC), and in turn the Trustee, with the ESG and climate change-related reporting necessary to understand, assess, and scrutinise, the climate change-related risks and opportunities (CCRO) relevant to the pension scheme. We explain the role of GHG emissions data in more detail later.

[11] TPR, **Governance and reporting of climate-related risks and opportunities**

[12] Cardano, **Our approach to Sustainability**

2.3 Advisers: Redington, Eversheds Sutherland and **now:pensions** staff

The Trustee is supported by investment, sustainability, compliance, and communications staff at NOW: Pensions Limited (Trust Manager). This includes a head of sustainability with experience in both investment and sustainability issues including climate change, and a head of investment with extensive experience of defined contribution investments. The Trustee is satisfied that **now:pensions** staff have the skills and experience necessary to support the Trustee's implementation of the CCRO policy.

The Trustee is advised by Redington and Eversheds Sutherland. Redington is a certified B-Corp and a member of a range of responsible investment-related industry groups, supporting the Trustee with climate change-related expertise. The Trustee is satisfied that Redington and Eversheds Sutherland's staff also have the skills and experience necessary to support the Trustee's implementation of the CCRO policy.

The time and resources involved in the governance of climate change-related risks and opportunities (CCRO) include meetings by the IC, ARCC, and Trustee, training on climate change-related issues, and the costs of our external providers, including Cardano (and in turn, their data provider, MSCI), Redington, and Eversheds Sutherland.

Given the importance and urgency of climate change, we consider the resources spent on understanding and taking action to address CCRO to be appropriate to the materiality of climate risk to the pension scheme.

At quarterly IC meetings, the Trustee regularly challenges **now:pensions** staff and advisers on climate change-related issues, requesting training on new and emerging topics such as alignment metrics, emerging disclosure frameworks such as the International Sustainability Standards Board (ISSB) and the Task Force for Nature-related Financial Disclosures (TNFD), and evolving UK and EU regulation, such as the proposed FCA Sustainability Disclosure Rules, as well as progress on stewardship topics. For example, a recent discussion took place on the challenges with quantitative scenario analysis, and how a qualitative approach may be more useful in making decisions. This approach is now being implemented in this TCFD report.

2.3 Advisers: Redington, Eversheds Sutherland and **now:pensions** staff

Diagram 1:

This diagram illustrates our governance on climate change-related risks and opportunities (CCRO).

2.4 Understanding members' views

We published our first TCFD report in 2022. As part of that report's next steps, we committed to run focus groups with members and employers, to better understand their views on sustainability topics, including climate change. In Q1 2023, we met with several members and employers for a series of responsible investment focus group sessions, facilitated by an external research provider. Prior to the sessions, all respondents completed a questionnaire. The respondents answered broad questions about their attitudes to finance, before answering more specific questions about their pension.

The 75-minute focus group sessions were structured to systematically explore both members' and employers' attitudes to finance, investment, sustainability, and climate change. Discussions involved assessing both members' and employers' perceptions around responsible investment, as well as members' understanding and attitudes towards pensions.

Our findings:

- Members need help to understand pensions and their investment strategies, including responsible investing.
- Older members closer to retirement understand pensions better than younger members – but knowledge is still inconsistent.
- Among members and employers, risk profiles are understood, but there is little sense of what makes a good investment versus a bad investment.
- Members and employers currently have little sense that they can, or should, influence pension investment decisions.
- The 2022 TCFD report had the potential to shape perceptions, but members found it very difficult to understand.
- Some members feel that some investments are morally wrong, for example specific products like weapons and tobacco.
- There is an increasing awareness of corporate social responsibility and ESG, however, there is also a scepticism surrounding these, and often suspicions of greenwashing.
- Members understand issues are not always straightforward, such as divesting from fossil fuels.

How we have responded

These findings fed into the investment strategy review completed in September 2023, and contributed to the new investment strategy implemented in Q1 2024.

In particular, the Trustees have focused on the benefits to members of adopting a more sustainable investment strategy. An emphasis on a larger allocation to responsible investment strategies, a new transition-focused equity strategy and an emphasis on stewardship and policy engagement (explained in more detail later in the report) have all formed part of the strategy review. The Trustee's conviction that climate change poses a systemic risk that will affect member outcomes in the long-term, has reinforced the need to steward assets and engage policy makers in line with a 1.5°C scenario.

The 2023 TCFD report was further refined with a two-page member-friendly summary. We hope that this 2024 report brings even further clarity, particularly with the new qualitative approach adopted to explain climate scenario analysis, which we believe members will find more understandable.

now:pensions (and the broader pensions industry) can and should do more to explain responsible investment and climate change risk to our employers and members.

We're planning further member engagement sessions in the near future, as the Trustees continue to find this a valuable source of information.

3

Strategy and scenarios

The actual and potential impacts of climate change-related risks and opportunities (CCRO) on the organisation's businesses, strategy, and financial planning.

3.1 The short, medium and long term time periods identified for our Trust

Given the profile of our membership, and the time periods over which their monies are invested up to and through retirement, across our single default investment strategy, we consider:

- **short-term to be 3 to 5 years.**
- **medium-term to be 5 to 15 years.**
- **long-term to be 15 to 26 years (to 2050).**

Our assessment of time horizons is consistent with the pension scheme journey path, which includes growth phase savings while working, a pre-retirement phase as the saver approaches retirement, and a retirement phase. It's also the market standard for defined contribution master trusts, as set out in The Pensions Regulator's (TPR) guidance.

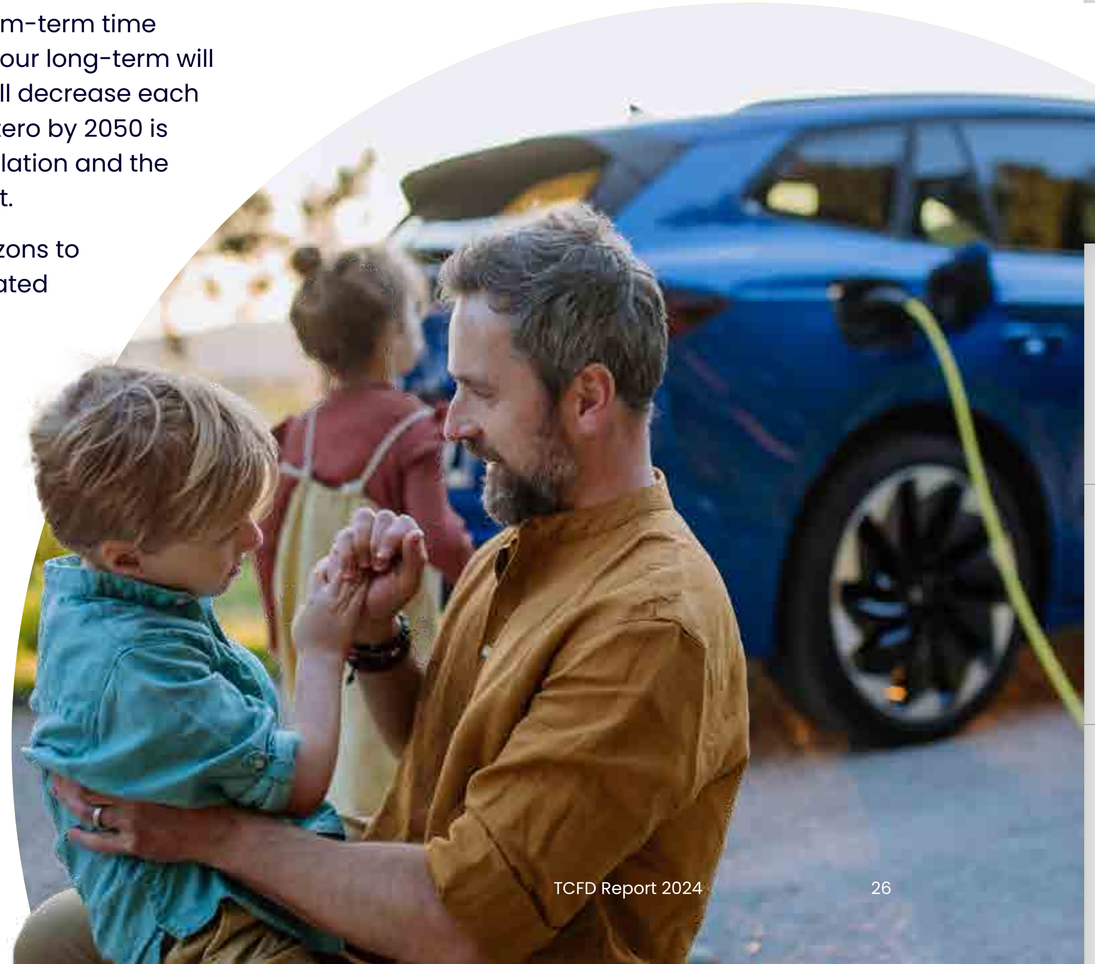
Short-term
3 to 5 years

Medium-term
5 to 15 years

Long-term
15 to 26 years

We expect that our short and medium-term time periods will remain the same, whilst our long-term will remain as 2050 (in other words, it will decrease each year as we approach 2050), as net zero by 2050 is consistent with UK government legislation and the aims of the Paris Climate Agreement.

We use our assessment of time horizons to understand the climate change-related risks and opportunities (CCRO) in our portfolios, and how we address these. When we carry out scenario analysis we think of the pathway over the complete time frame, not just an estimate of conditions at the end point. For example, our medium-term scenario analysis describes a path over the medium-term.



3.2 The climate change-related risks and opportunities (CCRO) that will affect our pension scheme's investment strategy over the short, medium, and long-term

We've adapted the climate-related risk matrix from the Bank of England's Prudential Regulation Authority, and have added an additional category of 'systemic risk'. It's a useful summary of the climate change-related risks likely to materialise over different timeframes, and as such, we include it in our TCFD report to explain how we think about short, medium, and long-term risks.

[13] Systemic risk is not separated in the original Bank of England taxonomy of climate risks. We find it useful to separate out systemic risk that affects the whole economy from the bottom up risks that affect individual assets so have added it in as another section.

Box 4: An adapted Bank of England climate-related risk matrix:

Climate-related risk		Short/medium/ long term	Main causes of financial impact on members
Physical (bottom-up)	Acute	Medium/Long	Increased frequency and/or severity of extreme weather events
	Chronic	Medium/Long	Steady increase in global sea levels and changes in precipitation patterns
		Medium/Long	Rising temperatures
Transitional (bottom-up)	Policy and legal changes	Short/Medium	Regulations of existing products and services
		Medium/Long	Sectors facing penalty incentives could harm current business models
	Market demand	Short/Medium	Changing consumer behaviour
	Technology	Medium	Existing products replaced with lower emission technology
	Reputational	Short/Medium	Increased scrutiny following changes in stakeholders' perceptions of climate-related action or inaction
Systemic[13] (top-down)	Market level outcomes	Short/Medium	Expectations of future economic growth, inflation, interest rates and the risk appetite of investors in specific countries and regions driven by geopolitics, changes in policy and legislation, as well as consumer behaviour
	Global economic system	Medium/Long	Impact on productivity, migration, government policies, consumer behaviour, food supply, insurance availability, financial system functioning and many other complex interactions

3.2 The climate change-related risks and opportunities (CCRO) that will affect our pension scheme's investment strategy over the short, medium, and long-term

We find it useful to think in terms of 'bottom-up risks', which can be assessed based on the characteristics of a specific investment, and 'top-down risks', which are a function of market level outcomes and the global economic system. Bottom-up risks can be modelled by understanding specific assets such as company shares in detail, and we use data providers like MSCI to help us assess these risks for individual assets. Top-down risks depend on economic outcomes and are more difficult to model. They are often very poorly modelled in current climate scenario quantitative tools, to the degree where we find the results to be unusable. Previously, like most investors, we split climate risks into physical risks and transition risks, but in order to encompass top-down risks, we found it prudent to include systemic risks as a third category.

We therefore break climate-related risks into three broad categories:

Physical risks (bottom-up):

The impact of weather and climate on physical assets. For example, the damage to a factory due to coastal flooding and storm damage, or exposure to wildfire risks (hazards). This depends on the frequency and severity of hazards, the location of physical assets, and their resilience. This is a 'bottom-up' risk applied to each specific asset.

Transition risks (bottom-up):

The impact of implementing climate policies on individual companies, usually modelled by focussing on the 'bottom-up' effect on each specific asset.

- The financial risk exposure of a business to the increase in financial costs (either direct or indirect) of greenhouse gas (GHG) emissions through its own activities or its supply chain. In 1.5°C scenarios, the potential cost is high for high emitters in the short to medium-term. In the 3°C scenario, transition risks are there, but the timing is more uncertain. As such, costs are likely to be lower to begin with, but possibly more severe over the medium-term.
- Financial opportunities, for example, the potential for technological progress and changing policy driven by climate change, to create new opportunities for green revenue for certain companies. This opportunity is accelerated by supportive policy that increases demand in the 1.5°C scenario or delayed by less supportive policy in the 3°C scenario.

Systemic risks (top-down):

The impact of climate change on broad economic activity and financial markets. We believe broad financial market returns are a function of several key variables; expectations of future economic growth, inflation, interest rates, and the risk appetite of investors. The systemic risk of climate change refers to the linkage between climate change and these key financial market drivers through the many complex mechanisms that drive our global economies. For example this may include its impact on productivity, migration, government policies, consumer behaviour, food supply, insurance availability, and many other complex interactions. All of these will collectively drive pricing in bond, equity and credit markets, and exchange rates.

3.3 The climate scenarios we consider

We use scenario analysis due to the complexities involved in forecasting the degree of warming that will result from climate change. These may include policy uncertainty, multiple environmental tipping points, and potential technology advances.

We've chosen to disclose three scenarios (rather than the mandatory two), because we believe this best equips us with analysis to inform our investment decisions. These scenarios highlight the impact of physical risks (these are asset specific bottom-up risks), transition risks (these are company or asset specific bottom-up risks), and systemic risks (these are top-down economy wide risks), enabling us to draw conclusions about the different components of climate change-related risks and opportunities (CCRO) relevant to the pension scheme.

It's worth noting that when scientists talk about a temperature scenario, they refer to the level of global warming by the end of the century (2100), compared to pre-industrial era temperatures. If the world is able to get to net zero by 2050, there's a good chance of limiting climate change to 1.5°C by the end of the century. If it takes longer to get to net zero, we'll end up in warmer scenarios. When we discuss our scenario analysis over different time horizons, we're referring to a trajectory of greenhouse gas (GHG) emissions over time that results in the different global warming end points at 2100.

Box 5: Our three scenarios

1.5°C

1.5°C Paris-aligned transition scenario – this is our goal. We hope through our stewardship, engagement with policy makers, collaboration with other investors and investment activity to help accelerate the transition to achieve this outcome. We use the AIM/CGE[14] 1.5°C scenario which assumes measures are taken that will keep the rise in temperature limited to 1.5°C.

2.0°C

2.0°C late transition scenario – this is what we think is most likely to happen given the current pace of policy change that we observe. The AIM/CGE 2.0°C scenario assumes measures are introduced to tackle climate change, but are introduced too late to meet the Paris Agreement. We use the work of the 'inevitable policy response' commissioned by the PRI to inform this scenario.

3.0°C

3.0°C slow transition scenario – this is our hothouse scenario which could happen if policy action stalls. This scenario could also happen because climate tipping points accelerate climate change faster than anticipated in current climate models despite mitigating efforts. The AIM/CGE 3.0°C scenario assumes current policies continue and there is no further progress.

[14] The AIM/CGE model is a multi-regional, multi-sectoral, computable general equilibrium (CGE) model.

3.3 The climate scenarios we consider

Progress over 2023

To assess the bottom-up asset specific risk (physical and transitional) we can use Climate Value-at-Risk (Climate VaR) metrics from our data provider MSCI, which we use specifically for equity and corporate credit risks, but not other asset classes. However, we believe these metrics at present severely underestimate the systemic risks, which will impact the individual assets as well, and fail to discount sufficiently long-term physical risks. As these systemic risks may be very large and are not adequately captured, we've taken the decision over the last year to discontinue publishing the results of this quantitative scenario analysis, as we believe it may be misleading to our members.

> Instead, we've developed a more qualitative approach together with our **now:pensions** staff and the help of the investment manager.

3.4 The resilience of our investment strategy in these scenarios (i.e. the results of the scenario analysis)

The impact on our portfolio is a function of the specific assets held and the combined effect of the top-down and bottom-up risks on the value of our members' assets.

Tables 1 and 2 represent the 'directional' outcomes for our portfolio based on our qualitative scenario risk assessment. The following analysis has been undertaken in respect of the scheme's default strategy as a whole and we think the scenario conclusions below are broadly applicable across the different asset classes in our portfolio. Importantly, we don't think that systemic risk from climate change can easily be diversified away. This means that regardless of what asset allocation we choose, we'll still be exposed to climate risks because they affect the whole economy.

Scenario outcomes: The short-term

Over the short-term time horizon (3-5 years) we don't think there's much value to climate scenario analysis. Climate refers to long-term trends in the global system, whereas weather is the short-term outcome from year to year. Weather can by highly unpredictable from year to year, as can the economic outcomes that affect markets. Even though each year in the last 10 has been the warmest on record, that doesn't mean we may not experience some temporarily cooler years. It's the medium to long-term outcomes that are important and as a long-term investor, these are the time horizons that the Trustee focus on. Over these time horizons the inevitability of global warming is more relevant.

What is of critical importance over the short-term however, is the policy choices and actions we take globally as a society. These will determine which of the three trajectories we're on. If we fail collectively to take the necessary actions in the short-term, the chances of limiting warming to 1.5°C in the long-term will become increasingly unlikely.

3.4 The resilience of our investment strategy in these scenarios (i.e. the results of the scenario analysis)

Scenario outcomes: The medium-term

Over the medium-term, regardless of which long-term climate trajectory we're on (1.5°C, 2.0°C or 3.0°C), further global warming towards at least 1.5°C is inevitable. Under all scenarios we expect to experience more severe weather over the medium-term. Over the medium-term time horizon of our scenarios, the systemic risk component of climate scenario analysis is driven not by extreme variations in climate change itself, but by the macro-economic impact of changing consumer activity and government policies in anticipation of climate change.

It's likely that geopolitics, policy actions, and consumer behaviour, over the short to medium-term period will play a very significant role in determining the longer-term trajectory for climate change. These changes can have large effects on overall economic growth and inflation, and can drive big variations in broad equity and bond market outcomes over this medium-term time horizon. This is the 'top-down' effect on markets and economies.

The good news is that if policy action is taken, this is also likely to support economic growth driven by both the investment required and decreased risks for investors that come with consistent, supportive policy. We therefore think the 1.5°C scenario will be positive for the portfolio over the medium-term time horizon. On the other hand, a 3°C scenario would be negative through less supportive investment and greater policy uncertainty.

From a bottom-up perspective, it's important to include the impacts of transition risks, and physical risks and opportunities, on stock selection. These are likely to become more important over time. In particular, we expect that physical risks will start to be more heavily priced into markets if it becomes clear over the medium-term that we are indeed on a hotter scenario trajectory.

The table below summarises our qualitative sense of the size and direction of risk for our portfolio.

Table 1. Risk impacts: medium-term time horizons

	1.5°C	2°C	3°C
Physical risk	Moderate	Moderate	High
Transition risk	High	Initially moderate but accelerating in time	Initially moderate but increasingly severe, timing is uncertain
Systemic risk	Positive	Moderate	High
Portfolio impact	**Positive**	**Moderate**	**Negative**

3.4 The resilience of our investment strategy in these scenarios (i.e. the results of the scenario analysis)

Scenario outcomes: The longer-term out to 2050

Over the longer-term time horizon, progress on climate change will increasingly contribute to systemic outcomes. Climate change will affect inflation and productivity, accelerate changes in government policy, lead to changes in consumer behaviour and human activity, and drive substantial change in many sectors of the economy, all of which will drive macro-economic and market outcomes.

In the longer-term, systemic risks of climate change in hotter scenarios are compounded by the risk of crossing climate tipping points i.e. irreversible climate effects that could accelerate global warming. The effects of climate change will include impacts on agriculture, biodiversity and human activity, such as making certain agricultural activity infeasible in some areas, or sea level changes and desertification, forcing relocation of human activity.

Investors will need to increasingly allow for these potential uncertainties as the medium-term unfolds and it becomes clearer which of the long-term pathways we're likely to be on. The longer we leave making a change, the more the change will ultimately cost, both in terms of mitigation, and in terms of the imperative of more drastic policy reactions required in the 3°C scenario. Because of this, in the long-term we believe that the transition risks will be high in all three scenarios (and possibly very high in the 3°C scenario) as the realities of climate change will increasingly impact policy.

In the long-term we believe the 1.5°C scenario is unequivocally the best economic and environmental outcome for most portfolios, and 3°C will be unambiguously negative.

The table below summarises our sense of directional impact on our portfolio in these scenarios over the long-term.

Table 2. Risk impacts: long-term time horizons

	1.5°C	**2°C**	**3°C**
Physical risk	Moderate	High	Very high
Transition risk	High	High	Very high
Systemic risk	Positive (overall impact is positive)	Moderate	Very high
Portfolio impact	**Positive**	**Negative**	**Very negative**

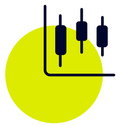
3.5 The key conclusions and implications from the scenario analysis

From this analysis it's clear that:

- **The systemic risks of climate change affecting the global economy are the most important medium and long-term effects our portfolios are exposed to**. These risks are severely negative in the medium and long-term in hotter scenarios, such as the 3°C scenario. On the positive side, the global policy and investments that will be required to limit global warming to 1.5°C present an opportunity and potentially a long-term positive outcome for members.
- **These systemic risks cannot be diversified away through careful stock selection or asset allocation changes.** The only way we can contribute to mitigating these risks, is for the scheme to make a real-world impact, by encouraging policy makers and the companies we invest in to transition as rapidly as possible to a net zero world, in order to limit global warming to as close to the 1.5°C scenario as possible, and to invest in solutions that may accelerate that transition.
- **Both physical and transition risks of the individual assets we own will be important.**
  - The transition risks will become important if legislation does move rapidly to support a 1.5°C world. This will likely vary substantially from region to region, and will be particularly impactful for high emissions sectors, such as the energy sector. Transition risk impacts may be delayed, but will inevitably increase over time if the world fails to transition in the shorter-term. We expect this to result in more policy uncertainty and investment risks.
  - For our portfolios, our largest transition risks are in the following sectors: energy, transport, automobiles and components, materials, and food and beverage production.
  - Physical risks will become increasingly important as the world continues to warm, and will become much more acute in hotter scenarios. Physical risks are very specific to the location and nature of individual assets.
  - Our largest physical risks are in the following sectors: food and staples retail, insurance, food and beverage production, health care equipment and services, and real estate.

3.5 The key conclusions and implications from the scenario analysis

As a result of this analysis, we prioritise four actions to help manage climate change-related risks and opportunities.



Stewardship of investments which focuses on increasing the likelihood of achieving net zero by 2050, and the resilience of individual assets to transition and physical risks.

Engagement with policy makers, regulators, and other stakeholders to increase the likelihood of achieving net zero by 2050 (sometimes referred to as ecosystem stewardship).

Incorporating the assessment of transition risks, physical risks, and climate opportunities (such as companies adapting to the transition), into security selection, exclusions, and portfolio construction, both in the direct portfolios managed by our investment manager and in those of third-party managers.

Identifying climate opportunities which offer both financial returns and a positive contribution to a faster transition to a low-carbon economy.

Because of this, it's important that our investment manager and the third-party managers who manage our assets, demonstrate strong alignment with our investment beliefs. We'll focus particularly on their stewardship activities, including consistency between their engagements, voting and escalation activities, and their portfolio actions in support of the goal of net zero by 2050, and limiting warming to 1.5°C.

3.6 The impact of climate change-related risks and opportunities (CCRO) on the pension scheme's investment strategy

It's our expectation, based on the evidence we've reviewed, that the severity and frequency of weather events relating to climate change (physical risk) will increase in all plausible scenarios (1.5°C, 2°C, and 3°C) in the coming decade. Without globally coordinated action across both the public and private sectors, we're in danger of much more severe scenarios (2°C and 3°C) where those risks increase exponentially in the medium and long-term.

We're increasingly seeing weather events such as extreme heat and cold, wildfires, and floods, which are having profound social and economic implications. This is likely to mean that the materiality of climate change-related risks and opportunities (CCRO) will increase both at the asset-level, but also for the economy as a whole, driving portfolio-level outcomes.

> Climate change-related risks and opportunities (CCRO) therefore need to be considered in relation to all aspects of the pension scheme's investment strategy.

We're very concerned about the systemic risks of climate change. It's easy to see how a 2-3°C increase would negatively impact global economic growth and lead to higher inflation. The top-down systemic risks of climate change will therefore impact all asset classes and geographies through the impact on the broader economy and financial markets, and therefore strategic asset allocation is a consideration.

- A diversified portfolio (such as ours) is a good starting point. This includes exposure to a range of asset classes that include those that can participate in economic growth, and those that can diversify in scenarios of lower economic growth and higher inflation. For example, the portfolio has exposure to green bonds which, because of their high credit quality, should do well in a scenario of declining growth, as well as commodities that may benefit in a more inflationary scenario.
- However, it's also plausible that these systemic risks could impact multiple parts of the portfolio negatively at the same time, particularly over the medium to long-term. We conclude that, despite diversification providing some benefits, the systemic impacts of climate change are highly unpredictable and can't be significantly diversified away through asset allocation.

3.6 The impact of climate change-related risks and opportunities (CCRO) on the pension scheme's investment strategy

To mitigate this risk, we need to do our part to influence the outcome to progress towards a 1.5ºC scenario, and avoid a 3.0ºC scenario. We can contribute as a single scheme of course, but our influence is much more powerful in collaboration with others, by taking the following actions.

- Stewardship, i.e. engaging with companies to develop transition plans consistent with a 1.5ºC scenario.
- Engaging with policy makers to implement supportive policy.
- Investing in solutions that will accelerate the transition, for example, our investment in green bonds that finance renewable energy buildout.

To mitigate the risks at the asset class level, the choice of investment strategy in each asset class (whether by our investment manager Cardano or third-party managers) is important. When assessing and monitoring strategies and managers we consider

- Whether the investment manager is able to identify and manage transition risks, physical risks, and other sustainability risks, in the individual investments they're exposed to.
- Their approach to stewardship regarding these assets, and engaging with businesses.
- Choices about the sectoral and geographic exposures of the assets.

There may also be opportunities to allocate to solutions such as impact investments that may accelerate the transition.

We're confident that our new equity strategy incorporates an assessment of these risks and an approach to stewardship that helps manage and mitigate them.

Climate change systemic risk may also impact the financial system.

The creditworthiness of the government and supranational bonds in which we invest, and the counterparties of derivative contracts.

The prospects for banks and other financial institutions we place cash with, and therefore the integrity of the financial system.

The exchange rates between currencies.

Our investment manager has a framework for managing currency and collateral risks and will monitor counterparty credit risk, and the credit risk of assets in the portfolio.

> In the sections that follow, we detail the decisions we've taken in implementing this strategy.

3.7 Limitations of the modelling

There are many fundamental uncertainties in modelling climate change, including:

Uncertainties in climate modelling itself, such as:

- The future greenhouse gas (GHG) emissions trajectories under different scenarios.
- Expected warming, and other environmental impacts for a given amount of GHG emissions.
- Estimates of the strength of different feedbacks (also known as 'tipping points'), in the climate system.
- Uncertainties surrounding regional projections of climate change.

Uncertainties around government policies which will drive transition risks, including legislation and regulation, monetary policy, and fiscal policy.

Uncertainties around the economic impacts on future growth and inflation of both climate change and governments responses to climate change.

Uncertainties around the market reactions to changes in policy, growth, and inflation.

Uncertainties around the exact exposures and sensitivities to transition or physical risks, of the assets we own.

Uncertainty around data and methodologies across asset classes in which we invest.

With all of these compounding uncertainties, we don't believe quantitative models are hugely helpful, particularly when it comes to systemic risks. They can be more useful in quantifying bottom-up risks.

The purpose of scenario analysis is to consider a plausible range of outcomes. Any scenario analysis depends heavily on the underlying assumptions. We don't claim that the scenarios we use are the most likely scenarios. We appreciate there could be other more negative potential scenarios consistent with 1.5°C or different scenarios consistent with 2°C or 3°C. We don't aim to predict with any precision, or suggest which scenario is most likely.

We think the narrative approach we've now adopted to scenario analysis helps us identify and focus on what's important when analysing climate change-related risks and opportunities (CCRO). We use this to ensure our portfolio becomes more robust when it comes to CCRO, regardless of which trajectory we ultimately end up following. In other words, this is a starting point for our investment decision-making, and should be considered alongside other analysis, metrics, and target setting, to create more robust portfolios.

4

Risk management

The processes used by the organisation to identify, assess, and manage climate change-related risks and opportunities (CCRO)

4.1 How we manage climate change-related risks

We've identified the following risks as the most likely to occur, therefore posing the greatest potential loss:

Risk 1

Insufficient action at a global level to limit global warming to 1.5°C, increasing the risk of environmental tipping points and the systemic risks of climate change affecting portfolio outcomes negatively.

Risk 2

Incorrectly identifying bottom-up portfolio risks from climate change. Changing legislation and technology will drive the transition risks which our investments are exposed to. Physical risks are still poorly understood and more data is needed. New risks are likely to emerge, both physical and transition.

Risk 3

Not adequately evolving the investment strategy for members as we move through time.

Climate change remains an ongoing and important part of our risk register. We've made changes to our portfolio to address the risks that we've identified, and we explain this further below.

4.2 The risk management tools we've used (including our investment manager and adviser), and the outcomes of using those tools

Adopting investment strategies that incorporate climate change and other systemic sustainability risks

At least 75% of the investments in our default strategy must incorporate a responsible investment objective, which includes specific assessments of a wide range of systemic sustainability risks, including climate change.

To be clear, the remaining portion of our portfolio will also be included in our assessment of climate risk management, but includes investment strategies that, at this time, may not be particularly impactful in terms of our ability to influence climate outcomes. This includes cash holdings, index exposures through derivatives in credit and equity markets used for efficient portfolio management, and exposure to commodities, which we discuss in more detail later on. We still measure and monitor our climate risk in respect of these strategies.

Stewardship

To mitigate the systemic risks, we expect our investment manager, Cardano, and third-party managers, to engage with underlying company holdings to set science-based targets, and develop transition plans to support a speedy and just transition to net zero, in line with the Paris Climate Agreement. We expect to see voting consistent with this, and escalation where companies are failing to transition quickly enough, ultimately leading to positive portfolio outcomes.

We also expect to see collaborative engagement with like-minded investors, and engagement with policy makers to support these objectives.

We'll also support this engagement directly where **now:pensions** can effectively add its voice to drive change.

4.2 The risk management tools we've used (including our investment manager and adviser), and the outcomes of using those tools

Data providers and service providers

The assessment of transition and physical risks (bottom-up risks) depends on the identification of those risks at an asset-level. Cardano, our investment manager, uses a range of data providers to conduct such assessments, and we expect third-party managers to do the same.

Cardano appointed MSCI as one of its core external sustainability data providers. The appointment followed a formal process in which the service offerings of different providers were reviewed. Cardano selected MSCI for several reasons, including the extent of its coverage, its research process (and as such, data reliability), and portfolio scenario analysis (based on degrees of warming), following the acquisition of Carbon Delta in 2019[15].

In 2023, Cardano appointed Glass Lewis as its proxy voting provider. Glass Lewis apply Cardano's voting policies, and Cardano regularly monitors that this voting is in line with its policies. In specific cases, Cardano's stewardship team will direct specific voting, including on shareholder resolutions that it may co-file with other investors.

Cardano has also appointed Sustainalytics as an engagement overlay service provider. This allows the Cardano stewardship team and **now:pensions** staff to engage with a broader range of companies on systemically important sustainability themes, as well as respond to individual incidents or controversies that may arise at companies in the portfolio.

The appointment (and subsequent reappointment) of these service providers is overseen by the Cardano Group's Sustainability Policy Committee and reported to us on an annual basis. It's also reviewed by the Investment Committee (IC) annually.

[15] MSCI, ***MSCI to Strengthen Climate Risk Capability with Acquisition of Carbon Delta***

Participation in industry groups working on methodology development, in particular, IIGCC and Partnership for Carbon Accounting and Financials (PCAF)

There are a range of methodologies available when assessing climate change exposures, including assessing the GHG emissions of companies, and therefore portfolios.

Cardano participates in multiple industry initiatives to develop and evolve metrics and reporting on climate change, feeding back to us on a regular basis. Cardano has developed its own climate strategy based on industry standard metrics, such as those developed by PCAF, and takes input from the IIGCC Net Zero Investment Framework[16]. **now:pensions** is also a member of the IIGCC. We have assessed, and are satisfied with, Cardano's chosen methodologies, and believe the approach is not only market-leading, but equips us to assess the climate change-related risks and opportunities relevant to the pension scheme.

When considering a company's GHG emissions, we use the EVIC (enterprise value including cash) calculation. This is also known as 'financed emissions' and is used to determine an investor's ownership of a company's GHG emissions, or in other words, the emissions the investor is financing. Enterprise value includes a company's market cap (or equity) and a company's issued debt. This aligns with data provided by MSCI.

One of the most important metrics we use is an alignment metric showing the extent to which our portfolio is aligned to the Paris Climate Agreement. Cardano presented a range of approaches to calculating alignment, setting out the strengths and weaknesses of each approach. Following our review, the metric we selected is the percentage of assets under management of our portfolio (the number of companies, by weight) that have science-based targets in place, as reviewed by the Science Based Targets initiative (SBTi). This allows us to measure progress over time as more companies commit to Science Based Targets.

Internal controls

Cardano has implemented internal controls in the preparation of TCFD metrics and scenarios, which we've reviewed to ensure they're appropriate. **now:pensions** staff have undertaken an internal audit of our report, and we've also sought external legal advice.

Finally, we note that there are gaps, estimations, and assumptions in the data. In some markets, greenhouse gas (GHG) emissions disclosures are not regulated, and not subject to audit. Scope 3 emissions remain subject to wide variation and are often most consistently derived using estimation methodologies, rather than relying on reported emissions. However, the quality of the data is constantly improving. We believe that the processes we've implemented are consistent with market-leading practice and mitigate (as far as possible) for known limitations in data quality and coverage. We continue to engage with standard-setters, policymakers, data providers, and other companies, to improve data quality.

[16] Cardano joined IIGCC in Q4 2020.

4.3 Investment decisions that help address climate change-related risks and opportunities

Over the past three years, we've made several investment decisions that relate to our assessment of climate change-related risks and opportunities (CCRO).

In 2023, the Trustee completed a formal tri-annual investment review, which resulted in some significant changes to our investment strategy, which were implemented by Cardano in the first quarter of 2024. As a result of that review, we increased the minimum for investments in the default strategy with a responsible investment objective, from 50% to 75% of assets. As at March 2024, we've met this target and it stood at 76.3% of the default strategy.

We expect to see continued evolution in future, enhanced by ongoing scenario analysis and tracking of metrics as set out in this report.

Transition focused equity with stewardship

One of the more substantial changes arising from the investment review was a considerable change in the equity investment strategy, which was implemented in Q1 2024. The allocation to directly held equities was increased from around 30% to around 65% of the default strategy. This change allowed much greater direct engagement and influence on the companies we own.

The strategy is managed in-house by Cardano, our investment manager, as a new strategy focused on supporting the transition to a more sustainable society. The strategy is more closely aligned with our Trustee priorities focused on climate change, living wage and gender equality.

This strategy is managed using Cardano's Sustainable Investment Framework, which determines the classification of every direct investment from a forward-looking sustainability perspective. The classification determines whether a direct investment is eligible for our portfolio, and what our stewardship and engagement priorities for that investment will be.

The strategy includes explicit commitments around science-based targets to achieve net zero emissions on climate change by 2050 (with interim objectives by 2030), and commitments to support net zero deforestation and water neutrality by 2030. Water neutrality is ensuring that companies operating in water scarce areas don't extract more water than nature is able to replenish. Both of these are systemically important sustainability issues closely linked to climate change. It also recognises and tackles the social aspects of the transition, such as human rights, and the Trustee's priority issues of living wage and gender equality.

The portfolio excludes companies that contravene international standards, such as controversial weapons. It also excludes companies that are harmful to human health, animal welfare, or the environment, such as tobacco stocks and nuclear weapons. On the environmental side, this means exclusion of companies with exposure to thermal coal and oil sands (except in cases where the exposure is minimal and there are plans to phase it out by 2030).

In addition, an assessment is made about the contribution a company makes to the transition to a more sustainable society (including climate, and the risks it's exposed to). Where companies are not adapting quickly enough (and have not responded to engagement), they may be excluded. As a result, a substantial number of energy companies in the oil and gas sector are now excluded, however our asset manager Cardano continues to own and engage with others, where we think there's more potential for transition.

Cardano's stewardship team (supported by Sustainalytics) actively engage with companies about their plans to transition to net zero in line with the Paris Climate Agreement, alongside other sustainability concerns. Cardano supports the Climate Action 100+ initiative which aims to collectively engage some of the world's largest emitting public companies. To contribute actively to this initiative Cardano lead engagement efforts with several of the target companies. Cardano are also actively involved in many other initiatives that contribute to net zero, like the PRI Spring Initiative focused on halting deforestation. Where companies are failing to act, they use various tools to escalate our concerns, such as voting against directors or management, voting in support of climate resolutions where these appropriately target net zero, and co-filing shareholder resolutions. This may include, for example, requesting a company make a science-based net zero commitment, publish a transition plan, or improve policies on management of deforestation risks.

4.3 Investment decisions that help address climate change-related risks and opportunities

Transition focused investment grade corporate bonds

In Q1 2024, we introduced an internally managed Cardano investment grade credit portfolio. This portfolio is allocated using Cardano's Sustainable Investment Framework, focused on supporting the transition to a sustainable society. It therefore has the same exclusions as the equity portfolio. Stewardship in this portfolio is also focused on supporting the transition, and systemically important sustainability issues like climate change.

Green, social, and sustainable government bonds

We've invested in green, social, and sustainable bonds since 2017 and continue to do so, however with the revised strategy these will make up a slightly smaller portion of the portfolio.

As at 31 March 2024, we had a total of 22 green, social, or sustainable bonds, which made up over 10% exposure of our total assets.

Sustainable bonds are the same as conventional bonds in terms of financial characteristics in that they have a fixed term, fixed notional and a fixed coupon. The main difference is that the proceeds of sustainable bonds must be used for green, social, or sustainable purposes. Our bonds finance a range of environmental projects, from solar and wind energy production, to low-carbon transport and residential buildings.

We would expect our investment in green, social, and sustainable bonds to contribute to the transition to net zero and a more sustainable world, through the activities they finance.

As at 31 March 2024, we had a total of **22** green, social, or sustainable bonds, which made up over **10%** exposure of our total assets.

Our exposure to commodities that support the transition

Commodity investments don't allow us to exert our influence through stewardship, and therefore we don't include them in the minimum 75% responsible investment total. Nonetheless, we believe these investments can help contribute to portfolio outcomes and are aligned with the transition.

We took the decision in 2020 to end our direct commodity exposure to fossil fuels. Fossil fuels tend to perform well in periods of high inflation. To manage our inflation risks, the strategy was updated in early 2024 to include investment in a basket of commodities that we believe hedges inflation and may also contribute to the transition to net zero. This includes exposure to base metals, such as copper and aluminium, which will be needed as we electrify our energy systems. We expect base metals to help us manage inflation-related risks, in addition to performing well as part of the transition.

We've also made an allocation to EU Allowances. These are regulated carbon credits issued by European Union member states that must be purchased by regulated industries when they emit greenhouse gases (GHGs). This effectively levies a cost on companies for such emissions, and we expect the cost of these emissions to increase over time as the EU tightens its controls in line with its net zero by 2050 commitments. Please note that these contracts are not included in our metrics, and therefore do not reduce the reported carbon footprint of our investments.

Third-party engagement

Where Cardano invests via a third-party asset manager, we expect Cardano to review the sustainability characteristics of the fund manager and the portfolio, which we assess to ensure it's consistent with our investment strategy, our CCRO policy, our Statement of Investment Principles (SIP), and the Investment Management Agreement (IMA). We'll place particular emphasis on the approach third-party managers take to stewardship and engagement, in line with our priorities and driving real world transition. As at 31 March 2024, only 0.1% of assets were invested in a third-party manager (a Shariah-compliant fund).

Corporate engagement

The Trustee has prioritised three sustainability issues for our corporate engagement: climate action, gender equality, and living wages.

The updated strategy allows for stronger alignment between the Trustee and corporate engagement, as the vast majority of assets are managed directly by the investment manager, Cardano. Previously engagement and voting was conducted by third-party asset managers, and not always in line with the Trustee beliefs. The in-house portfolio will therefore allow us to ensure more consistency. In addition to the investment manager's own engagement resources, the investment manager and **now:pensions** work closely with Sustainalytics' engagement team to engage on a broader range of topics across the portfolio.

We believe we have a responsibility to use our influence to improve the quality of corporate greenhouse gas (GHG) disclosures, target setting (in line with science-based targets), and transition plans. Recent engagement has focused particularly on deforestation. Examples of outcomes of the investment manager's recent and ongoing engagement with direct investments in relation to climate change, overseen by the Trustee, are shown on the right.

Please note that during 2023, while all of the positions on the right were held in the **now:pensions** portfolio, many were held indirectly via third-party managers. The investment manager and **now:pensions** (via Sustainalytics) were able to conduct these engagements as overlays. While the investment manager was able to vote as described for other clients, they were not able to directly vote on the shares owned by the **now:pensions** master trust, which were voted by the third-party managers. Following the 2023 strategy review, which has been implemented in Q1 2024, the investment manager is now able to directly vote on these shares as described, and undertake escalatory actions on behalf of the Trustee.

Investee company	Priority sustainability theme	Engagement activity
PepsiCo	Climate action	The investment manager engaged PepsiCo by discussing deforestation mitigation in their supply chain. PepsiCo has been non-responsive and as a result engagement has been unsuccessful. Consequently, the Investment Manager escalated engagement and voted against the relevant board member re-elections.
Procter & Gamble	Climate action	The investment manager engaged Procter & Gamble by discussing deforestation mitigation in their supply chain. The Investment Manager recognised that P&G's deforestation policies and processes were insufficient due to a lack of firm commitments and sourcing from old growth forests and escalated their engagement activity against board members.
Nestle S.A	Climate action	The investment manager engaged Nestle on supply chain deforestation mitigation. The engagement has been successful in that Nestle have made progress on a more sustainable supply chain.
McDonald's	Climate action	The investment manager engaged McDonald's through discussion on diversifying animal protein sources, in relation to expanding their strategy on tackling climate risk as part of their TCFD reporting alignment.
Unilever	Climate action	The investment manager engaged Unilever by discussing deforestation mitigation in their supply chain. Unilever is part of the deforestation program and have been making improvements.

Policy engagement

We engage policy makers both directly, and through Cardano, on sustainability topics. We participate in public policy consultations, engage policy makers to improve corporate disclosure obligations, and support policies that will accelerate the transition to a 1.5°C scenario.

Examples of **now:pensions**' participation in industry initiatives are shown on the right.

Initiative	About	Rationale and participation
now:pensions is a member of Pensions for Purpose	Pensions for Purpose is an initiative focused on promoting the flow of capital towards impact investments. Its aim is to generate positive social and environmental outcomes, leveraging a collaborative online platform to share best practices, case studies, and innovative solutions within the investment community.	**now:pensions** can collaborate on initiatives that aim to influence policy and market standards, such as advocating for transparency in how pension funds address climate risks, to amplify impact, and drive systemic change in the industry. **now:pensions** can align investment strategies and priority sustainability themes with broader social and environmental objectives, benefiting from shared knowledge on impactful investing. The Trustee believes that as a member of Pensions for Purpose, **now:pensions** can better address the priority sustainability themes and drive systemic change in the industry.
now:pensions is a member of IIGCC	The IIGCC is a leading European investor membership organisation dedicated to promoting investor action on climate change, with a focus on creating a net zero and climate-resilient future. IIGCC pushes for transparency and better corporate disclosure on ESG, engages with policymakers and regulators to advocate for long-term stability of financial markets (for example through mitigation of the systemic risk of climate change), and promotes investor collaboration and best practice.	Through engagement with IIGCC, **now:pensions** can amplify policy engagement activities, address the priority sustainability theme of climate action, and have European influence. The collaboration with IIGCC is one way **now:pensions** can promote the well-functioning of financial markets and address long-term systemic risks like climate change.
now:pensions is a signatory of the PRI	The PRI is a UN-supported initiative that encourages investors to incorporate ESG factors into investment decision-making and ownership to foster a sustainable global financial system.	Through collaboration with PRI, **now:pensions** can address the key issues of climate action, gender equality, and living wages, at a global level of influence. Additionally, the investment manager participates in PRI's stewardship initiative for nature, Spring, focused on deforestation, an action that supports our priority sustainability theme of climate action.
now:pensions is a member of the Asset Owners Council	The Asset Owners Council (previously the Occupational Pensions Stewardship Council) is a UK council of pension schemes focused on promoting and facilitating high standards of asset stewardship, to support thoughtful and responsible investment practices.	Participation facilitates the Trustee's engagement in industry-wide sustainability and stewardship activities related to our priority sustainability themes. For example, **now:pensions** conducted focus groups to interview pension scheme members regarding their views on sustainability and responsible investment topics, and shared the results with the DWP's Occupational Pensions Stewardship Council. Participation includes regular discussions with policymakers and regulators, including the Department of Work and Pensions (DWP), The Pensions Regulator (TPR), Financial Conduct Authority (FCA) and Financial Reporting Council (FRC).

4.3 Investment decisions that help address climate change-related risks and opportunities

Additionally, **now:pensions** is engaged and involved in policy, submitting and responding to policy submissions relevant to mitigating market and system-wide risks; responses include:

Submission	About	Explanation
TCFD	The aim of TCFD is to standardise climate disclosures and help financial markets understand and price the financial risks and opportunities posed by climate change.	The Trustee submitted reports following TCFD disclosure requirements in line with the Trustee's regulatory obligations.
TNFD	The aim of TNFD is to integrate nature into business decision-making processes, providing science-based recommendations consistent with global policy goals and sustainability reporting standards to guide organisations in disclosing their nature-related dependencies, impacts, risks, and strategic planning.	The Trustee expects the engagements and voting decisions conducted on its behalf by the Investment Manager and third-party managers to reference and follow TNFD where relevant, in addition to other international codes and standards. Addressing and identifying nature-related risks and opportunities is in line with the priority sustainability theme of climate action, as nature and climate-related risks are interrelated and reinforcing.
DWP's Social Factors Taskforce	The Social Factors Taskforce, established by the UK's Department for Work and Pensions, aims to guide pension schemes on incorporating social factors, such as workforce conditions, community engagement, and consumer protection, into their investment decisions and stewardship policies.	Both the Trustee and the Investment Manager responded to the recommendations for asset owners, asset managers and investment consultants. The aim was to help facilitate effective practice of stewardship on social factors across the industry and promote the well-functioning of markets. The Trustee welcomed the draft guidance, which supports its priority themes of living wage and gender equality.
Transition Plan Taskforce Disclosure	The Transition Plan Taskforce Disclosure Framework is a set of guidelines for companies to develop credible and robust climate transition plans, with the aim of reaching Net-Zero emissions and supporting the UK's goal for a Net-Zero economy by 2050.	The Trustee responded to the Transition Plan Taskforce consultation to maximise its usability for pension funds and ensure its applicability to the UK's decarbonisation objectives. The Trustee welcomed the taskforce recommendations that recognised the interconnections of climate with other environmental issues like biodiversity and social factors.

5

Metrics and targets

The metrics and targets used to assess and manage relevant climate change-related risks and opportunities (CCRO), and the progress of the underlying investments on aligning with net zero.

5.1 Our investment strategy and the metrics we report

Our strategy consists of:

- Exposures to companies around the world through both equity and debt including:
  - A core allocation to a transition focused equity strategy, supplemented by limited exposure to equity derivatives in the Diversified Growth Fund.
  - Exposure to a Sharia compliant third-party equity fund for some members.
  - Exposure to high yield corporate bonds via index derivatives in the Diversified Growth Fund.
  - Exposure to transition focused investment grade corporate credit in our Retirement Cash Fund.
- Exposure to green, social and sustainable bonds in the Diversified Growth Fund.
- Exposure to direct commodities via derivatives in the Diversified Growth Fund.
- Exposure to government bonds and cash across the Diversified Growth Fund and the Retirement Cash Fund.
- Cash holdings that usually support exposure to derivatives.

The new strategy implemented in quarter 1 2024, has resulted in substantially lower government bond and derivative exposures compared to the previous strategy, which means some of the metrics reported in previous TCFD reports are no longer relevant (and hence not reported).

Our TCFD report includes metrics associated with the following investments:

- **Physical** - sustainable equity, sustainable bonds, government bonds and investment grade corporate bonds.
- **Derivatives** - equity and credit derivatives.

We don't include metrics for:

- **Cash holdings**, even when that cash is held in sustainable cash funds. In previous years, these counted towards our target minimum investment in responsible investment strategies, but under the new strategy these no longer count towards this target.
- **Commodity exposures**. There's no established industry standard for emissions associated with derivative exposure to commodity prices, for example the price of copper, or EU Allowances. Exposures to producers of commodities, for example mining or energy companies via equities and credit are however, included in our corporate exposure metrics.

In the tables that follow, we explain which investments contribute to which metrics.

Corporate emissions

Box 5: Scopes of emissions

The GHG Protocol Corporate Standard[17] classifies a company's greenhouse gas (GHG) emissions into three 'scopes'.

Scope 1 emissions

These are direct emissions from owned or controlled sources.

Scope 2 emissions

These are indirect emissions from the generation of purchased energy.

Scope 3 emissions

These are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream (for example, suppliers), and downstream emissions (for example, customers).

When measuring GHG emissions across our portfolio, we aggregate the emissions of companies, disclosing scopes 1 and 2 emissions. These are the emissions against which we measure our progress.

Scope 3 emissions help us to better understand a company's sensitivity to climate change-related risks and opportunities (CCRO), and its ability to transition. It can therefore help to understand relative performance of different companies within industries. Scope 3 disclosures are required as part of the regulations.

We report scope 3 emissions separately (see Box 5) but don't include them in our emissions targets because they're not yet reliable enough to target. We recognise that there are still gaps in data availability, particularly regarding scope 3 emissions, and we rely on the estimations and methodologies of our data providers, such as MSCI.

We report the metrics recommended in the TCFD regulation, the guidance, and by the Partnership for Carbon Accounting and Financials (PCAF). This includes metric 1, the absolute emissions financed by our portfolio, and metric 2, the carbon footprint, a carbon intensity metric. To measure metric 1, we report on a percentage of enterprise value including cash (EVIC), representing our share of the ownership of the company across both equity and debt. Metric 2 is the absolute emissions per £1m of capital invested. This scales for the size of our assets, which varies over time.

[17] Greenhouse Gas Protocol, **FAQ**

Derivatives

Our investment strategy makes limited use of derivatives alongside traditionally funded investments. This enables us to manage portions of the portfolio more efficiently, aiming for attractive long-term returns and managing risk at the same time.

When exposure is obtained through a derivative, we don't directly own the underlying securities and therefore don't have the same voting or ownership rights associated with physical securities. This means we're not able to engage with the underlying issuers in the same way. This is one of the reasons we've substantially increased direct exposures in the revised investment strategy in 2023, allowing us to increase our influence.

There's no established methodology on how to consider the greenhouse gas (GHG) emissions of derivative investments, so we've worked together with the IIGCC on how to incorporate derivative exposures. The financial risks of climate change on the financial performance of a derivative investment will be similar to that of a physical investment, because the derivative takes its price from its physical equivalent. Because the TCFD report sets out how we measure and manage climate change-related risks and opportunities (CCRO), it means it's still relevant to our assessment of risk exposures.

We report on the emissions associated with these derivative positions as part of our total emissions exposure, even though we haven't directly financed these emissions ourselves. Please note, we don't have any 'short' derivative exposures (exposures that would benefit if market values decreased).

Sustainable bonds

Our sustainable bond exposures include exposures to high credit quality bonds issued by governments, development banks, or government agencies, used to specifically finance green, social, or other sustainable objectives. Such bonds must meet industry quality standards, as well as passing Cardano's own framework for the use of proceeds. The carbon footprint of the issuers of these bonds is not added to other parts of the portfolio, neither are the emissions avoided subtracted from other parts of the portfolio.

Government bonds

There are typically three ways investors measure the greenhouse gas (GHG) emissions of a country:

Absolute emissions per issued debt: the percentage we own of a country's debt multiplied by its production emissions (emissions produced by the country across the public and private sectors). This favours countries with large debts, for example, Japan.

Production emissions per GDP: a weighted average of the GHG emissions per unit of GDP. Production emissions are the total emissions produced by a country across public and private sectors. This metric favours countries with a large GDP and a services industry, for example, the US.

Consumption per capita: a weighted average of the GHG emissions per person, in each country in which we invest. Consumption emissions are the emissions produced in a country, adjusted for the country's net imports. This is because we consume many goods that have high carbon footprint, but they're often produced in other countries. We consider this the fairest way to measure sovereign GHG emissions because a ton of GHG emissions has the same contribution to climate change, regardless of where it's emitted, or by who.

Country GHG emissions include the companies, the government, other public and private entities (like charities) and individuals. To avoid double counting, it doesn't make sense to combine the GHG emissions of government bonds and corporate exposures, and so we report these separately.

We believe that consumption per capita is the fairest way to compare GHG emissions across countries.

Metric 3: our exposure to strategies with a responsible investment objective

We've chosen this metric as it's closely aligned to our internal objective whereby a minimum of 75% of assets in the default strategy should have a responsible investment objective.

This includes exposure to the sustainable global equity strategy, Sustainable Investment Grade Debt in the Short-term Bond Fund, and green, social, and sustainable bonds. These are strategies that we believe can make a contribution to the transition to a more sustainable society.

This excludes cash holdings, government bonds, equity and credit derivatives, and commodity derivative exposure. The nature of these investments means that we're less able to influence their impact through our stewardship activities, though we none-the-less endeavour to do so where we can, for example by engaging with governments or counterparties.

Metric 4: our alignment metric

With the support of our advisers, we reviewed the range of alignment metrics, assessing their strengths and weaknesses, including implied temperature metrics and binary alignment metrics. Binary metrics measure what portion of the portfolio have made commitments to aligning with net zero. We believe this is more useful for decision-making as we can track progress on commitments made to real world decarbonisation, and it's less reliant on the range of assumptions involved in implied temperature metrics.

We've chosen to use a binary alignment metric, SBTi alignment. The Science Based Targets initiative (SBTi) has developed sector-specific methodologies and frameworks to assess the extent to which a company is aligned with 1.5°C, below 2°C, or 2°C scenarios. Companies commit and articulate their target, which they submit to SBTi for assessment. SBTI undertakes an independent assessment of the alignment of those commitments to the Paris Climate Agreement and categorises them as aligned with 2°C, well below 2°C, or aligned with 1.5°C, publishing the results on its website. Our metric measures the proportion of the total portfolio in corporate equity and credit investments that have an approved science-based target.

We note that this applies to 'commitments' by the companies and doesn't necessarily reflect tangible actions, so it will be important in future to conduct assessments of the progress of these companies against their commitments.

Coverage

We note guidance from the regulator that suggests including a metric for how much of the portfolio we've been able to obtain estimates of carbon metrics for. We include this coverage metric in our reporting below.

Internal controls

Finally, to ensure our confidence in the preparation of TCFD metrics and scenarios, our own internal audit assesses Cardano's processes, and prepares a report for IC review. Cardano provides comments and addresses our internal audit's findings.

5.2 Our metrics for 2024

We calculate and disclose the following metrics:

Metric 1

Total or absolute GHG emissions

Our 2024 absolute emissions for GHG scope 1 and 2 are 194,322 tCO2e for investments in corporate equity and credit

This is the total GHG emission, in tons of carbon dioxide equivalent, of scope 1 and 2 emissions. There has been an uplift from our reported 2023 emissions (142,908 tCO2e) due to **now:pensions**' assets under management (AUM) increasing from 2023 to 2024. This is due to both investment performance and member contributions. To give a sense of scale, on average, this is equivalent to the typical GHG consumption-based emissions of 24,600 UK residents, or, the per passenger emissions of 329,400 flights from London to New York, or, 2.5 million car journeys from London to Edinburgh.

Our 2024 absolute emissions for GHG scope 3 are 1,460,970 tCO2e including both upstream and downstream emissions.

This has increased from 2023, where our total scope 3 emissions were 1,187,290.

Metric 2

Carbon footprint or emissions intensity

Our emissions intensity for greenhouse gas (GHG) scope 1 and 2 is 52.0 tCO2e per £1m invested in corporate equity and credit

This is the emissions intensity metric, and is represented by the total GHG emissions in CO2 equivalent per million pounds invested, of scope 1 and 2 emissions. Last year our emissions intensity for scope 1 and 2 was 63.1 tCO2e per £1m invested. **now:pensions**' emissions intensity has fallen due to the recent change in strategy, and the nature of our investments being less carbon intensive.

Our 2024 emissions intensity for GHG scope 3 is 390.8 tCO2e per £1m invested for both upstream and downstream emissions.

This is lower compared to our 2023 scope 3 emissions intensity of 524.3 tCO2e per £1m invested.

Metric 3

Investments with an explicit responsible investment objective (as a % of the DGF).

75.2% is the percentage of the total assets (76.3% of the Diversified Growth Fund strategy assets, which is the largest strategy within the scheme) where the investment has an explicit responsible investment objective. This includes green, social, and sustainable bonds, transition focused equity, and investment grade credit strategies.

Metric 4

Corporate equity and credit investments that are SBTi aligned.

30.2% is the percentage of the total portfolio that has targets in place reviewed by the Science-Based Targets initiative, that are in line with the Paris Climate Agreement. This compares to 24.4% in 2023, which demonstrates an increased commitment of portfolio companies to setting decarbonisation targets.

Metric 3

Table 3: Investments with an explicit responsible investment objective

The table below shows our physical investments, highlighting those with an explicit responsible investment objective. Please note, the illustration is based on the average asset exposure for a member with a £70,000 pension pot (members at different stages of their journey will have different asset exposures).

Investments	% of portfolio exposure	£70,000 pension pot	Incorporated in our Metrics 1 and 2	Explicit responsible investment objective (Our Metric 3)
Transition focused equity	60.6%	42,400	Yes	Yes
Transition focused short term bonds	3.7%	2,600	Yes	Yes
Sustainable bonds	10.9%	7,600	No	Yes
Total with an explicit responsible investment objective	75.2%	52,600	-	-
Physical government bonds	13.7%	9,600	Yes (as a separate metric)	No

Metric 1 Metric 2

Table 4: Emissions associated with our corporate exposure

For the purposes of our TCFD report, we report the emissions of both physical exposures to corporate equity and credit (financed emission), and derivative exposures to equity and credit (associated emissions), for the total scheme. Therefore, the total exposure financed (covered by metrics 1 & 2), comes to 78.3% of the total portfolio.

Asset class	% exposure financed	% coverage	Absolute financed emissions tCO2e		Carbon footprint tCO2e per £1m invested	
			Scope 1+2	Scope 3	Scope 1+2	Scope 3
Equity	70%	100%	146,786	1,219,776	43.9	364.5
Credit	8%	72%	47,537	241,194	121.4	616.0
Total	78%	97%	194,322	1,460,970	52.0	390.8

Metric 2 - our emissions intensity metric for scope 1 and 2 is 52.0 tons of carbon dioxide equivalent per million pounds invested in corporates (for physical and derivative corporate exposure).

The corporate carbon intensity per million pounds invested of the total portfolio assets (both corporate assets and other assets) is 40.7 tons of carbon dioxide equivalent, because the portfolio is 78.3% invested in corporates, across both physical and derivative equities and credit (52.0 x 78.3% = 40.7).

Table 5: Government bonds - greenhouse gas (GHG) consumption per person (also known as per capita)

This table shows the GHG consumption per person for the UK government bonds in which we invest (our preferred measure).

Region	Physical bond exposure	Consumption intensity per capita (tCO2e)*	Production intensity per GDP-PPP (tCO2e/million USD)**
UK	11.2%	7.9	116.8

Source: Transition Pathway Initiative, ***ASCOR country assessment results***

*data as at latest available date (2018)

**data as at latest available date (2022)

Please note, physical invested values and carbon data as at 31/03/2024. Derivative invested values as at 31/03/24 using MSCI proxy carbon data at 31/12/2023

Table 6: Sustainable bonds

Region	Sustainable bond exposure
US	3.3%
UK	2.7%
Canada	0.8%
Europe	3.7%
Australia	0.4%
Total	10.9%

This table provides more details of our sustainable bonds.

5.3 Changes from the 2023 to 2024 TCFD report

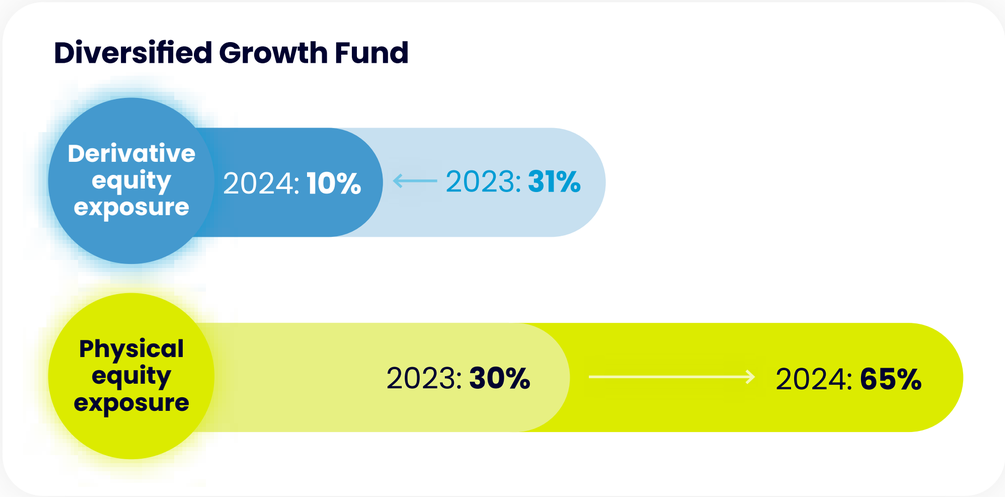
Changes to the investment strategy over the year have been substantial. This requires care when interpreting and comparing results to last year's TCFD report.

Sovereign exposure

Our sovereign exposure has changed substantially with the new strategy, with the removal of both foreign government bond exposure and derivative exposure. Our remaining sovereign exposure is mostly to UK government bonds.

Corporate exposure

In our Diversified Growth Fund portfolio our derivative equity has decreased from 31%, down to 10% in 2024, and our physical equity has increased from 30% of our portfolio exposure to 65%.



The new equity strategy means that a much larger portion of total equity exposure is now managed taking into account climate risk exposures and the contribution to the transition. The substantial increase in direct investments allows us to, in turn, substantially increase our engagement with equities we own. However, this change in strategy means that we don't think this year's numbers should be directly compared with last year's, as it's difficult to measure the true underlying progress of company decarbonisation.

IIn addition, we've implemented a new investment grade credit mandate in the Retirement Countdown Fund and high-yield strategies in the Diversified Growth Fund. In general, credit strategies tend to have higher carbon footprints compared to equity strategies, due to the sector composition of the underlying issuers, with many more industrial and materials sector issuers compared to equity markets. The inclusion of new credit strategies will lead to an increase in the headline carbon intensity and footprint of the portfolios, all else being equal. We note that carbon data coverage in the credit investments is still not as good as in equities. Our investment manager continues to work with data providers to improve this over time.

We continue to note substantial changes in scope 3 estimates of company emissions and at this stage, we remain unconvinced of the reliability of scope 3 emissions, due to lack of reporting and the use of proxies and estimates. With the introduction of initiatives such as the International Sustainability Standards Board (ISSB) IFRS S2 Climate-related Disclosures, we expect the quality of scope 3 disclosures to improve. Unfortunately the US Securities and Exchange Commission backtracked on the need to include scope 3 disclosures by US listed companies, so this will remain a problem for US companies.

For the purpose of our portfolio alignment metric, metric 4, we use SBTi which does require companies to consider scope 3 emissions when setting science-based targets to reduce emissions in line with international goals. It's pleasing to see the increase in the metric year on year, which indicates more companies are setting decarbonisation targets, helping manage our long-term climate risk in line with the CCRO policy.

Whilst scope 3 is a metric we'll continue to monitor as part of our CCRO policy, at this stage, we don't believe the quality or extent of the scope 3 data should inform any changes to our investment strategy.

5.4 The target we've set in relation to the metrics we've calculated, and the performance against our target

Having set out our metrics, we turn to the target that we've set, and how we use our metrics to determine progress towards this.

In 2021, we set the following principal target with respect to the pension scheme.

- We committed to net zero greenhouse gas (GHG) emissions by 2050. This means that the investments we make will not add to the amount of GHG in the atmosphere.
- We also set a mid-term target, committing our investments to 50% emissions reduction by 2030, against 2019 levels.

We review the progress against our target every year, and review the target itself at least every three years, to ensure it remains consistent with the latest scientific thinking, and is appropriately incentivising the necessary economic transition.

To assess the performance of our pension scheme against the target, we consider:

- the scope 1 and 2 GHG emissions intensity of our corporate physical and derivative investments.
- the GHG emissions per person of the government bonds in which we invest, however, are reported separately. The UK government has legislated for net zero GHG emissions by 2050 (see table 4 above).

To meet our target, both absolute emissions and emissions intensity will need to trend to net zero by 2050. However, absolute emissions are a function of the size of assets that we manage. As our portfolio grows due to member contributions, we'll own larger portions of the underlying companies, and therefore be responsible for financing more of their emissions. For this reason, we target emissions intensity (which stays the same regardless of the size of the portfolio, providing all else remains equal).

5.4 The target we've set in relation to the metrics we've calculated, and the performance against our target

We've developed a Net Zero GHG Emissions Decarbonisation Framework with our investment manager, Cardano, which helps the Trustee achieve its decarbonisation targets.

The framework involves a four-stage process:

1.

Influence and support
Through company engagement, policy engagement, and membership of stakeholder groups, we influence and support companies to change, remaining invested in those companies with credible plans.

2.

Avoid or underweight
We avoid companies we think will not successfully make the transition. Compared to a market-weighted index, we underweight or disinvest from companies that we believe are less likely to successfully transition.

3.

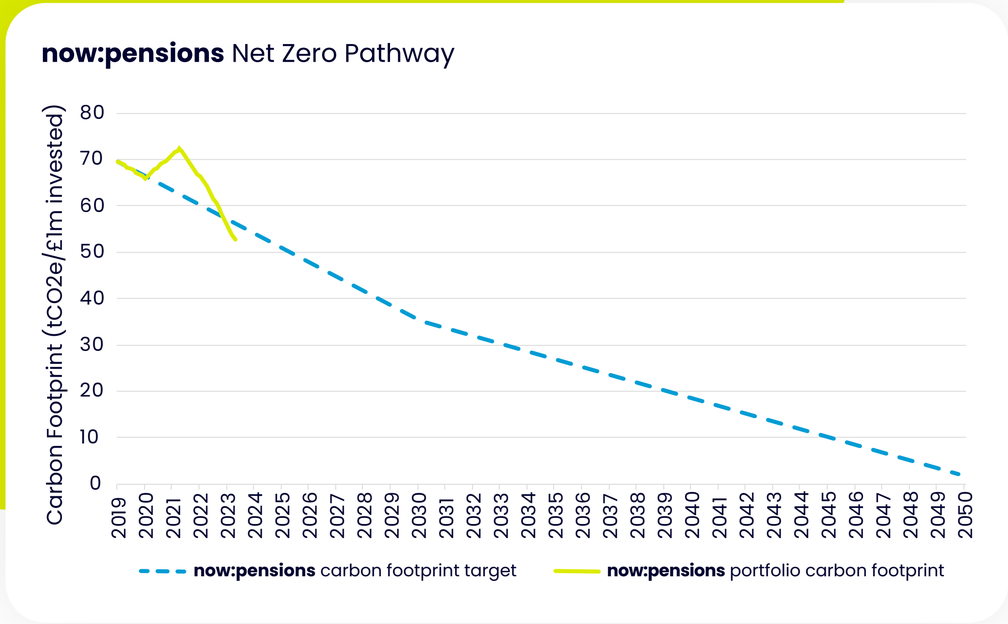
Measure
We measure progress made in the wider economies, as well as our portfolio holdings, towards net zero greenhouse gas (GHG) emissions by 2050. We expect our investment manager, Cardano, to measure and assess the capabilities of our third-party managers, to influence and impact the companies in which they invest.

4.

Re-assess
We assess our portfolio's progress against our planned net zero by 2050 pathway, and decide how our approach should be adjusted.

5.4 The target we've set in relation to the metrics we've calculated, and the performance against our target

Diagram 2: Our net zero pathway



To monitor our progress, we'll use our emissions intensity metric, which is the total greenhouse gas (GHG) emissions per £1m invested for scope 1 and 2 GHG emissions. Whilst subject to market fluctuations, emissions intensity metrics allow us to compare our emissions year-on-year, and help us check we're moving in the direction of achieving our targets.

Fully assessing the progress of the portfolio towards net zero GHG emissions will take some time. Data is limited in some asset classes, so we'll continue to focus first on our corporate equity and credit exposure, where we believe we can have most influence.

2019 is the baseline year because we have confidence in the carbon emissions data from this year and it's also prior to the COVID-19 pandemic, which, due to lockdowns, saw fluctuations in fossil fuel use. We were not able to measure the actual GHG emissions of our current portfolios as of 2019, and our investment strategy has changed considerably since then. We're therefore using the previous strategic asset allocation benchmarks as our starting point for historic 2019 and 2020 emissions.

Diagram 2 opposite shows two lines. The first, the '**now:pensions** carbon footprint target', sets out our target, which is a 50% scope 1 and 2 GHG emissions reduction by 2030, and a 100% scope 1 and 2 GHG emissions reduction by 2050.

The second line shows our actual figures. We'll add to this each year, as part of the preparation of our TCFD report. If economies decarbonise, both lines should track to 50% of 2019 emissions by 2030, and 0 emissions by 2050. If, however, global GHG emissions continue to rise, the lines will diverge. This factor will inform the investment decisions we take going forward.

As illustrated in diagram 2, the investment decisions we've made so far, including our allocations to sustainable bonds and transition focused equity, have helped us make progress towards our target, consistent with our CCRO policy.

To help us track progress against our target of net zero GHG emissions by 2050, Cardano will update the metrics presented above for the Investment Committee (IC) to review at least annually.

5.4 The target we've set in relation to the metrics we've calculated, and the performance against our target

Re-assessing our targets in future

A 2019 baseline year and rapid decarbonisation (50%) by 2030, are consistent with the Paris Climate Agreement to limit warming to 1.5°C, the best long-term financial outcome for our members. However, we note that recent global progress towards this target has been slower than desired.

Our objective is to achieve decarbonisation through the transformation of underlying businesses and government activities, where possible, rather than divestment, because it's in our members' interests to decarbonise the economy as a whole, and by remaining invested we retain our influence on the companies that must transition. We believe it's important to continue to engage with companies and governments, and, where consistent with our return, risk and responsible investment objectives, to supply enabling capital to achieve a transition to net zero greenhouse gas (GHG) emissions globally.

For example, most future GHG emissions will come from emerging markets. Emerging markets tend to have higher carbon footprints, largely because they produce carbon intensive goods consumed by developed markets. The developed world has simply transferred dirty industry to the emerging world. Emerging markets require capital to transition their economies. Decarbonising the portfolio by withdrawing capital from emerging markets is therefore not the best solution, as it will not lead to the achievement of our climate goals.

We'll resist pressure to modify portfolios to meet headline portfolio level decarbonisation targets at the expense of incentivising the necessary real-world transition. Our goal is net zero GHG emissions globally, and we seek to maximise our influence to achieve this.

At the moment we continue to believe that focusing on a 50% reduction by 2030, and net zero by 2050, remains appropriate. However, it may become apparent that the timing of these targets, particularly the interim target, is found to be unrealistic in the coming years. This will mean that the goal of the Paris Climate Agreement (to keep temperature increases limited to 1.5°C) may itself become unrealistic. After all, ahead of COP28 in 2023 the International Energy Agency highlighted that 'the door to 1.5°C warming is closing rapidly'.

Does this mean we should give up? Absolutely not. 1.8°C, for example, would be much better for the planet than 2°C. Likewise, achieving a 50% reduction by 2035 instead of 2030, will be better than failing to achieve that objective at all. However, we'll need to limit the temperature overshoot as much as possible. The direction of the objective will not change, getting to net zero as quickly as possible remains in the best long-term interests of our members. But it's possible that the date by which the world achieves that target will be delayed.

Therefore, we'll continue to review portfolio decarbonisation target dates at least every three years to ensure they remain appropriate. In the meantime, all of our engagement efforts with companies and policy makers will focus on keeping the 1.5°C target alive.

What's next?

We continue to monitor the greenhouse gas (GHG) emissions of our investments and their pathway towards a Paris Climate Agreement aligned transition to net zero. Global GHG emissions are still rising, and so it's possible that the GHG emissions of our investments will increase in the short-term, despite engaging with our investee companies to achieve net zero by 2050. Our CCRO policy will inform the steps that we'll take. We endeavour to:

- Engage with companies, prioritising those firms that present climate change-related risks in our portfolios alongside other systemic sustainability risks, but that are willing and able to adapt to the transition. We expect further attention to stewardship in the months ahead.
- Engage regulators, to enhance the disclosure of GHG emissions of the companies in which we invest and their supply chains, and to legislate for companies to set science-based targets, and publish transition plans.
- Consider potential investments in climate solutions. We already do this in the green bond investments we make, but we'll consider if this can be expanded in future.
- Continue to participate in industry initiatives, such as the Principles for Responsible Investment (PRI), Institutional Investor Group on Climate Change (IIGCC) and Pensions for Purpose, to develop methodologies for investments not covered in our report.
- Assess methodologies and metrics to ensure our approach reflects best practice.
- Undertake training on emerging climate change-related topics, as well as associated topics, such as biodiversity.
- Allocate to investments that help us meet our decarbonisation targets.
- Continue to engage our employers and members on the approach we're taking.

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Information correct as at October 2024. NP/D0286/10/2024

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